



**Factors Influencing  
Customers' Repurchase Intentions  
in the Greek Mobile Telephony Sector**

by

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## ABSTRACT

This study examines the factors influencing customers' repurchase intentions in the Greek Mobile Telephony sector. The main factors, such as service quality, price, risk, service value, customer satisfaction and their relationships were closely examined.

The motivation for this research derived from the fact that customer retention is very important for company profitability, which is particularly true in mature markets. The mobile telephony market in Greece has reached its mature stage and in such markets, companies with an established customer base, achieve higher profitability when they pursue retention strategies rather than strategies to attract new customers.

The main results of this study were based on the analysis of a model using cross-sectional data and eight research hypotheses were proposed. The hypothetico-deductive approach was used and quantitative research was conducted using survey methodology. A pilot research survey was carried out and qualitative focus group research was also conducted. The SERVQUAL instrument was selected for measuring service quality, which included expectations, perceptions and importance weights. This was adapted for the mobile telephony sector on the basis of in-depth interviews with top marketing executives of the three Greek mobile operators, the pilot research survey and the focus group research. Thus, this study also led to the development of an adapted SERVQUAL tool for measuring quality in the mobile telephony sector.

The statistical analysis of the results generally supported the research hypotheses. The results showed that there were relationships between, service quality, service value, customer satisfaction, and repurchase intention. In addition, the results showed that Greek mobile operators did not meet respondents' expectations in any of the SERVQUAL attributes.

This study has contributed to the customer satisfaction and service quality literature by examining empirically the relationships between service quality, service value, customer satisfaction and their influence on customers repurchase intentions and shedding some light on these relationships. It is also one of the few studies to have empirically examined the concept of value, which is widely recognized as of significant importance. In addition, it has contributed to the service sector literature and in particular to the mobile telephony sector, a sector of continually increasing importance, where up to now, little investigation has taken place and there is little insight concerning these issues since no such references can be found in the literature. Furthermore, it is the first to provide an adapted and tested version of SERVQUAL for mobile telephony. Thus, it provides an important addition to the international literature on mobile telephony as it is the only study so far

that has gathered knowledge concerning these issues in the Greek market, where very limited research has taken place in the service sector and where there has been no research in the mobile telephony sector. Finally, in strategic terms, this study with the adapted SERVQUAL will provide important new information and can be a valuable tool for the mobile telephony operators' policymakers and marketing managers and enable them to better define their strategy to achieve customer retention and company growth and profitability.

Further research based on these findings can add to the present pool of knowledge by investigating the extension of the proposed model including additional factors and developing a further refinement of SERVQUAL as a tool for measuring service quality in the mobile telephony sector.

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# CHAPTER 1

## INTRODUCTION

Mobile telephony was introduced in Greece in 1993 and it is considered to be one of the fastest developing countries in mobile telephony penetration rates in proportion to the population (**Newspaper Apogeumatini, 2001**). There are three companies in the Greek mobile telephony sector: Panafon/Vodafone and Telestet which are private companies and Cosmote which is a public company and subsidiary of the Greek Public Telephone Company (OTE).

However, the majority of the Greek mobile telephony operators are losing their customers at high and constantly increasing rates and they are seriously suffering from customer defection (**Panafon, 1999**). The relationship between customer retention and company profitability has been estimated by a variety of researchers, who claim that it is very important in all sectors and it is the key to success for company profitability, success and growth, especially in mature markets (**Zeithaml, Berry and Parasuraman, 1996**). The mobile telephony market in Greece has reached its mature stage, thus, it is crucial for the Greek mobile operators to retain their customers and identify the factors causing defection.

This study comprises the following chapters:

**Chapter 1** is the introduction and gives a brief description of the aim of this study and the methodology applied.

In **Chapter 2** the research problem is presented and the research objectives are analysed in detail. The service sector, and in particular the mobile telephony sector worldwide and in more detail in Greece, are examined. The current situation in the Greek mobile telephony market concerning customer retention is also examined.

In **Chapter 3** the literature review is carried out covering customer repurchase intention which is examined in detail, as well as the relevant factors influencing customers repurchase intentions such as service quality, service value and customer satisfaction. In addition models existing in the literature, linking these factors are presented.

In **Chapter 4** a model of customers assessments of mobile telephony is proposed, including all the factors revealed in the literature review as influencing customers repurchase intention to be examined in the Greek mobile telephony sector. In addition, the research hypotheses are presented.

In **Chapter 5** the methodology used to conduct this study is presented. First the methodological issues are examined and then the methods applied are presented. The methodological issues include an analysis of the research approach, the adaptation process of the selected instrument for measuring service quality in the mobile telephony sector, SERVQUAL, and the presentation of the sampling plan. The methods include, in-depth interviews with marketing experts of the three Greek mobile telephone operators, a pilot survey, the focus group research and the final survey research.

In **Chapter 6** the results of the focus group research and of the final survey research as well are presented.

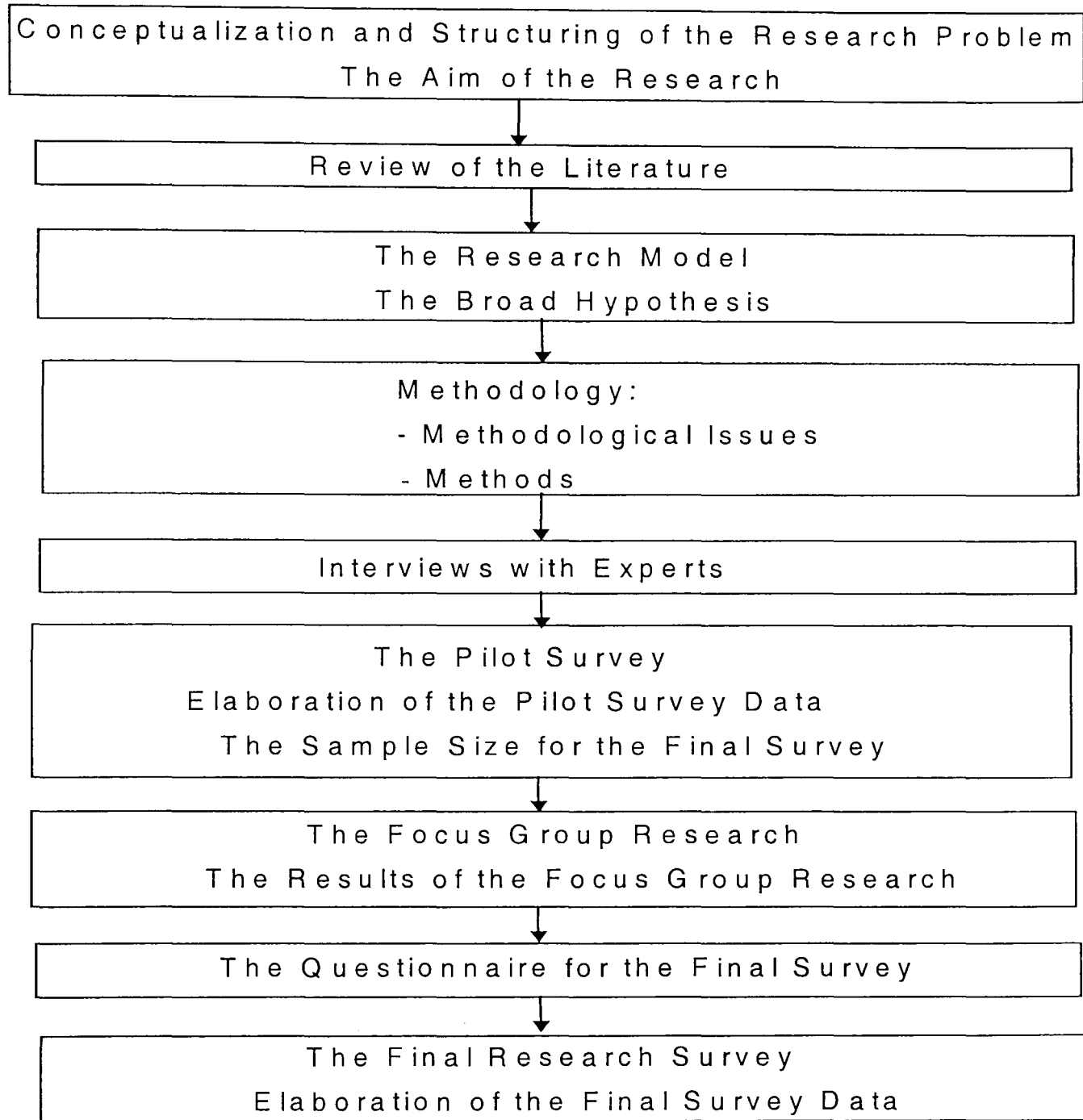
In **Chapters 7, 8 and 9**, conclusions, important recommendations for managers and the implications of the research are presented accordingly.

The research plan of this study is presented below.

## **1.1 The Research Plan**

The research plan for this study is presented in **Figure 1**.

*Figure 1: The Research Plan*



## CHAPTER 2

### THE RESEARCH BACKGROUND

In this chapter the importance of the service sector is analysed, focusing on the mobile telephony service, which is constantly growing worldwide. An analysis of the Greek mobile telephony market and the major players in the market is also conducted. Then, the issue of customer repurchase intention in the mobile telephony market is examined in detail and the research questions of this study are presented.

Mobile telephony has become an important service and is widely used worldwide. However, nowadays, services in general are taking on an increasingly important role in the economy internationally. In the following a brief analysis of the importance of the service sector is presented.

#### 2.1 The Service Sector

As **Philip and Hazlett (1997)** reported, the service sector constitutes around 67% and 71% of the GNP of Canada and USA respectively. In the US, the service sector is the largest component in the economy. The number of jobs in the economy's service sector reached 78 million in 1995, that is about four out of every five private sector non-agricultural jobs. Service sector jobs come from a wide range of industries, including banking and insurance, travel, entertainment, wholesale and retail trade, legal and other business services, information, telecommunications, health care, education, transportation, energy and environmental services, and architectural, construction and engineering services. In addition the service sector contributes significantly to U.S. technological leadership and enhances the global competitiveness of all U.S. firms, including those in the manufacturing sector (**The US Department of Commerce, 2002**).

This significant importance of services, results in an increased need for service companies to satisfy their customers. As **McColgan (1997)** claimed, service is a discipline with its own skills, competencies, and vocabulary. Service is not only a matter of being pleasant to customers but also of understanding the system that makes customer satisfaction possible. This system begins and ends with the customer, that is, it moves from understanding the customer's needs and setting the customer's expectations to identifying alternatives, meeting expectations and measuring results. Thus, customer satisfaction is of prime importance and service quality is also high on a manager's priority scale. This is supported by **Cronin and Taylor (1992)** who argued that there appears to be executive consensus in the United States that service quality is one of the most

important problems for managers. Service organizations generally lag behind their manufacturing counterparts when it comes to embracing total quality management and continuous improvement strategies. This may be largely attributable to the inherent characteristics which are more commonly associated with services, that is inseparability, intangibility, heterogeneity and perishability that make service quality more difficult to achieve and assess. As **Philip and Hazlett (1997)** stated another unique aspect of services is that both service personnel and consumers have a role to play in the 'production and delivery processes'. However, the importance of the customer has only recently been taken into account by service companies in their marketing strategies.

The service marketing literature is quite recent. As **Fisk, Brown and Bitner (1993)** stated, it is only since 1960 that the literature has begun dealing with services. Regan (1963) wrote the first of three services marketing articles to appear in the Journal of Marketing during the 1960s. He described the U.S. as well advanced into a 'service revolution' that would significantly change consumer behaviour. Judd (1964) proposed redefining services and created a services typology. Rathmell (1966) argued that marketing people needed to devote more attention to the service sector. The first book on services marketing was actually a research monograph by Johnson (1964). The first full-length book was authored by Rathmell (1974).

Services can be categorised into groups according to the degree of customer contact and the level of standardisation. As **Bitner and Gwinner (1998)** stated the taxonomy of service proposed by Bowen includes three distinct groups:

*Group 1* contains those services directed at people and characterised by high customer contact with individually customised service solutions (e.g., financial consulting, medical care, travel agency, and hair care services).

*Group 2* includes services directed at an individual's property, where moderate to low customer contact is the norm and the service can be customised only slightly (e.g., shoe repair, retail banking, pest control, pool maintenance).

*Group 3* is composed of services typically directed at people that provide standardised service solutions and have moderate customer contact (e.g., airlines, movie theatres, cafeterias, and grocery stores).

Telephony, including mobile telephony is a service best categorised by Group 3, thus operators have fewer chances for personal contact to satisfy and impress their customers. In the following mobile telephony service will be analyzed in more detail.

## **2.2 Mobile Telephony Services**

As **Olins (1997)** stated, the mobile communications industry has grown significantly and for a lot of people, mobile phones have become a very

important part of their daily life. They carry them everywhere, along with their credit cards and house keys.

Subscribers will use the next generation of mobile phones to send and receive electronic cash, tickets and loyalty points (**Cane, 1997**). Logica, the UK systems integrator predicted that computers will request tickets for public transport, and have them delivered electronically into the phone without the need to queue. The tickets will then be read by new smart card barriers which are already being installed in some cities. Furthermore, mobile commerce will grow as companies develop phones that can download software and data from the Internet. Developments in technology that make multi-function smart cards possible will also fuel the trend as smart cards are used in mobiles. A WebWalker mobile phone is more than just a mobile, it becomes a newspaper, a train timetable, a restaurant guide, a Yellow Pages etc. (**Financial Times, 1997**). In the UK Symbol Technologies has found a way of incorporating a scanner into a mobile phone and a ball-point pen. The idea is to give shoppers portable scanning power at home, in the store or on the move. This will enable them to scan bar-codes on any product and in this way they will be able to create a virtual shopping list. As soon as certain products run out one swipe of the pen scanner across the bar-code will store the information, ready for the next shopping expedition. Products from any sources can be added, shoppers can even scan goods they find when they are travelling around the UK, in shops or a friend's home. As soon as the mobile phone comes within range of a store (supermarket), the network will pick up the shopping list and communicate the information to the back office. Staff will then start packing orders for staple goods while the customer browses for items (**Field, 1998**). However, the more advanced services become, the more reliable and customer friendly they need to be.

Universal Mobile Telephone Standard (UMTS) is aimed at bringing together all existing standards under one umbrella. UMTS whole concept of services will be based on people's lifestyles. Users do not want to see the technology behind the services, they want easy-to-use, customised services. UMTS services have been categorised into three separate sections (**Convergence Europe, 1997**):

1. Basic services such as voice, e-mail, fax, text-chat, ftp, sms and www browsing, are used by everybody.
2. Horizontal services, such as weather, news, travel, what's on, education, entertainment, banking and financial services and advertisements are aimed at the mass market, but they offer little or no added value.
3. Vertical services, such as group-working, database access, administration and secretary support corporate access are niche-oriented and add value to the customer.

Concerning the key roles of the players in this market, as **Convergence Europe (1997)**, claimed they will be:

- a) Manufacturers who provide configurable, operator independent equipment and future products will be customised according to the user, not the network.
- b) Operators who provide access to configured pipes.
- c) Service providers who provide customised and profiled services for the mass market.
- d) Users who will be accessing these services using several different types of intelligent agents.

On the basis of the above it can be concluded that customers expect excellent service for such an integral part of their lives. As **McColgan (1997)** stated, mobile telephony is fast approaching professional status and needs specific tools in order to improve this service.

In the following the significant increase of mobile telephony users in Europe will be presented.

### **2.2.1 Expansion of the Mobile Telephony Customer Base in Europe**

The mobile telephony customer base has been increasing constantly in Europe. In 1998 there were 55 million subscribers and the increase rate was 25,000 new subscribers per week (**MapInfo, 1999**). In the year 2000 in Europe, mobile telephony gained almost 100 million new subscribers, about 50% more than in 1999 (**Waters and Daniel, 2001**). The cellular population is expected to reach 75 million in Europe by 2005 (**Shedd, 1997**). According to the association of German electric engineers VDE, about 40% of the subscribers of European fixed telephone networks will also have a mobile phone by 2005. This expansion means providing better quality in a more complex arena and accurate tools are needed to do this.

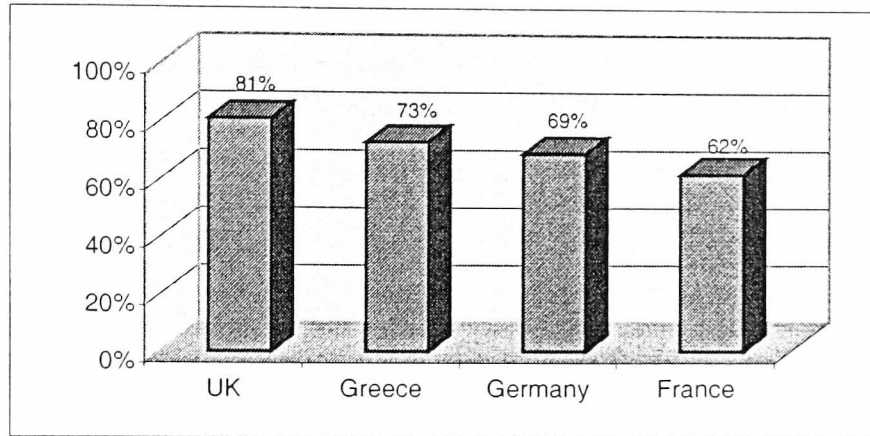
In 1997 in the Scandinavian markets, almost one in three people had a mobile phone and the churn rate (the number of subscribers leaving the network) was only 10%. In Finland and Sweden, more time was spent on mobile phones than fixed lines (**Olins, 1997**). In the UK the total number of cellphone users increased from 5.4 million at the end of 1995 to 6.8 million by the end of 1996, and the trend of steady growth continued. In 1997, one in seven adults over 15, had a mobile phone mainly for their personal use, even if it was provided by an employer. In 1997, in the UK 60% cent of users were male, although twice as many occasional users were women and 20 % of full-time working women had mobiles. Half of all main users (and a third of occasional users) were 35 to 54 years old. Those aged more than 55 were least likely to have a mobile phone, closely followed by those under 25. However a cellphone was still more likely to be owned by a business customer. A survey for 'Marketing Week' found nearly two-thirds of all main users were professionals, although they made up only 45%



of the population. Professionals had higher expectations and needed more advanced services, thus they preferred operators able to offer good service and high value for money (Uhlig, 1997).

The penetration of mobile phones in Western European countries in 2001 is presented in Figure 2.

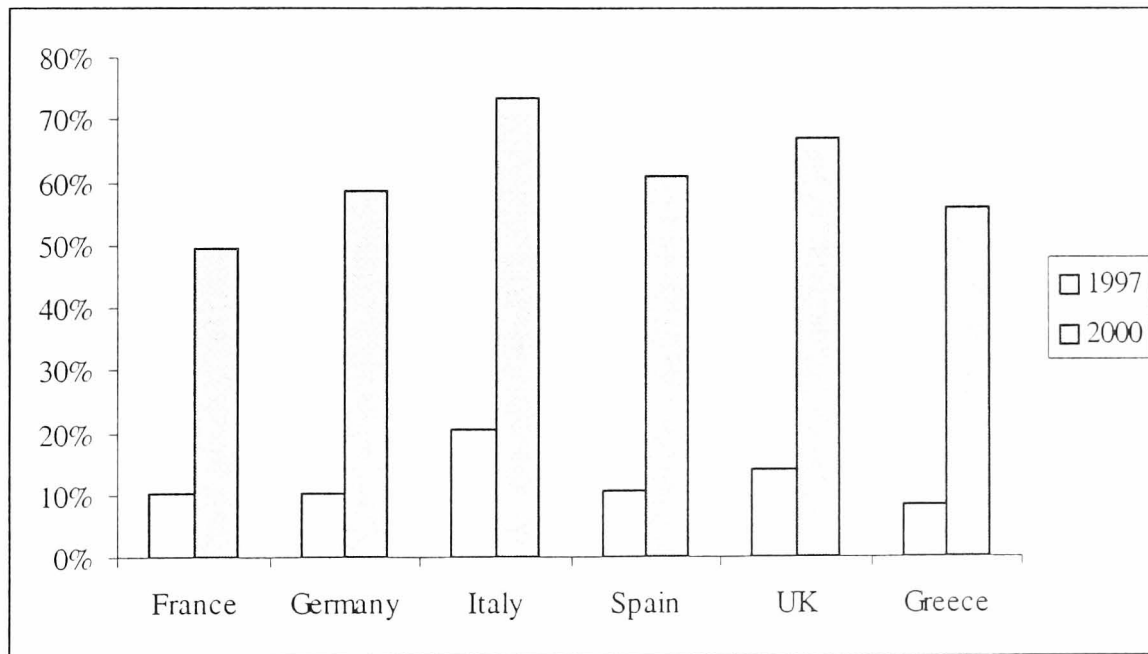
Figure 2: Mobile phone penetration rates in Western Europe in 2001



Source: InfoCom, 2002 & Strategic International (2002).

The penetration of mobile phones in Western Europe in 1997 and 2000 is presented in Figure 3.

Figure 3: Penetration of Mobile Phones in Western Europe in 1997 and 2000



Source: Newspaper Apogeumatini, July (2001)

However, in 2000 the sales of mobile handsets slightly decreased and as the managing director of Nokia claimed, this happened because consumers are waiting for the third generation mobile phones with the new CPRS technology (Waters and Daniel, 2001).

An important issue in mobile telephony is different pricing. Mobile phone service providers design and offer a variety of calling plans with different rates and calling times and consumers must choose the plan appropriate for their expected usage (**Lee, Lee and Feick, 2001**).

Another important issue, which may cause customer loss are health concerns. One of the disadvantages of mobile phones, according to research conducted at Bristol University (UK), are fears that mobile phones can damage health, because microwaves from cellphones may affect memory, or even cause brain tumours (**The Northern Echo, 1998**). In addition, according to the Radiation Centre of Finland, the radiation of the mobile phones, may cause serious damage in the security system of the brain which blocks dangerous substances reaching the brain (**News in.gr, 2002**).

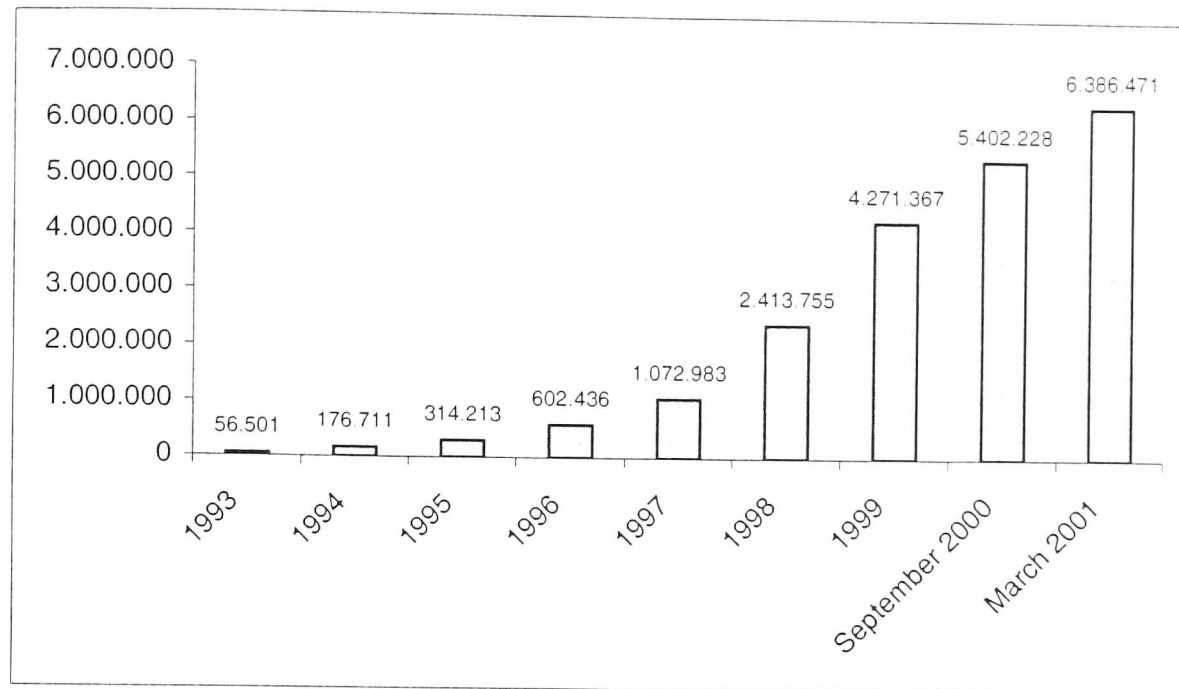
On the basis of the above, it appears that the rapid high growth in the mobile telephony sector is going to continue at a fast pace. This means service operators need the best marketing tools they can find in order to ensure market growth through customer retention and new customers.

### **2.3 Mobile Telephony Services in Greece**

This worldwide expansion in mobile telephony is reflected in local conditions in Greece albeit over a shorter time frame.

In Greece mobile telephony was introduced in 1993 using the GSM standard. Greece is considered to be among the fastest developing countries since the penetration rates of mobile telephony in proportion to the population are increasing rapidly (**Newspaper Apogeumatini, 2001**). The total market reached about 130.5 billion drachmas in 1996. In **Figure 4**, the number of mobile telephony subscribers in Greece for the years 1993 to 2001 is presented.

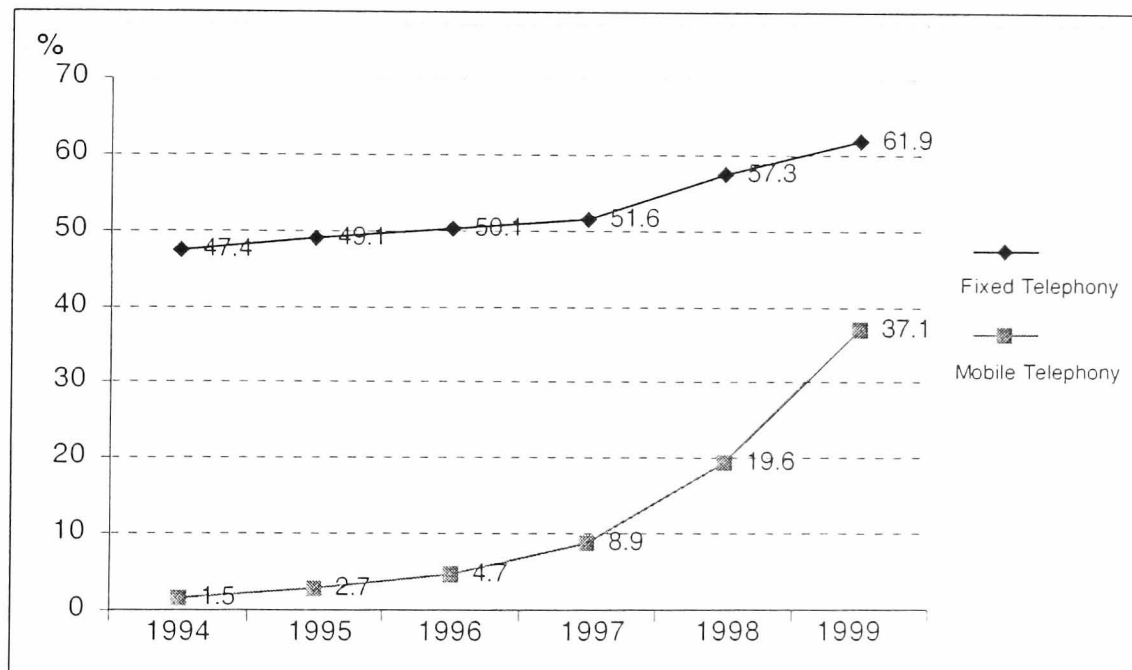
**Figure 4:** Mobile Telephony Users in Greece from 1993 to March 2001



Source: Newspapers Express-Thursday (19 October 2000), *Economia* (18 April 2001).

In **Figure 5**, a comparison of the penetration of fixed and mobile telephony is presented for the time period between 1994 -1999.

**Figure 5:** Comparison Between Fixed and Mobile Telephony, 1994-1999



Source : Newspaper *Naftemporiki*, (9 October 2000).

The penetration of mobile telephony in Greece in 2000 had reached 56% and by March 2001 it reached 59% which almost equalled the penetration rate of fixed telephony (**Gypaki, 2001**). By the end of 2002 the penetration of mobile telephony reached 63.6% (**Greek Ministry of Economy, 2002**).

The main market is divided between three companies: Panafon/Vodafone and Telestet which are private companies, and Cosmote which is a public company and subsidiary of the state-controlled PTT. In March 2001 Panafon/Vodafone had the major share of the market (36.7%) and Telestet had 27.6%. The Greek PTT with its subsidiary Cosmote entered the market at the end of 1997 and achieved 23% penetration in September 1999 and by March 2001 reached 35.7% (Cosmote increased its market share mainly by taking customers from Panafon/Vodafone which in September 1999 had 46% of the market and at the same time Telestet had 31%).

Customers have two choices concerning the pricing of the service, either contract or prepaid. Customers with a contract can choose the level of usage and specific service features that suit their needs. They can discontinue the service at any time they want. They pay both a monthly and a usage-based fee for the service according to the rate plan they have chosen; they also pay an initial fee to purchase the handset. In prepaid telephony, customers pay a fixed amount of money in advance and they can spend it sooner or later according to usage. In March 2001 a significant number of the total customers of the three mobile operators used prepaid mobile telephony. Prepaid users represented 68.3% of the total customers of Panafon/Vodafone, 69.4% of the total customers of Telestet and 43% of the total customers of Cosmote.

On the basis of the above it can be concluded that the three Greek mobile telephony operators appear to be in the same situation with the same needs as the rest of the world's operators in terms of a fast increasing customer base and future growth. This means that offering a high-level service is becoming increasingly important in various ways.

### **2.3.1 Distribution of Mobile Telephony Services in Greece**

Greek operators use service providers and dealers to distribute mobile services which insulates them from their customers. However, they need to monitor service delivery carefully so as to keep control of their service providers, in order to ensure a high level of service that will satisfy their customers.

#### **2.3.1.1 Telestet**

In 1993 Telestet delivered its mobile services only through Mobitel and Mobitel used to distribute the services directly to large clients as well as through the Insurance Agents of Interamerican (a shareholder) to the broad client base. In 1994 Mobitel started using retailers, dealers and owned shops, instead of insurance agents and Telestet started distributing directly to the large clients. By 1997 Telestet distributed the mobile telephony services through Mobitel, wholesalers and directly to the large clients. Mobitel continued to use dealers

and owned shops and the wholesalers used dealers and direct distribution to large clients. By 2001 Telestet had its own shops, Telestet Exclusive.

It can be seen that before 2001, Telestet only had close contact with its large customers and there was only an indirect, not safely controlled contact with the others. However, from 2001 with the introduction of exclusive shops, the company gained direct contact with a larger number of its customers.

#### **2.3.1.2 Panafon/Vodafone**

In 1998, Panafon/Vodafone distributed mobile services through six service providers chosen according to the offers, the size of the market and the potential competition between them. Service providers used dealers. Billing was performed centrally by Panafon/Vodafone and the bills were printed on each Service Provider's paper and were put in envelopes by a single contractor. Service Providers could access the data concerning their customers through common on-line real time system. By 2000 Panafon/Vodafone had its own shops Panafon Emporiki.

Panafon/Vodafone like Telestet before 2000 was insulated from the major part of its customers. However, in 2000 with Panafon Emporiki gained direct control over a larger part of its customers.

#### **2.3.1.3 Cosmote**

For the distribution of Cosmote mobile services, there are exclusive Cosmote shops, Greek PTT (OTE) shops and some master agents. Cosmote has two exclusive Cosmote shops one in Athens and one in Thessaloniki. OTE has 450 shops all over Greece. From the master agents all were exclusive, except one, Germanos. The exclusive agents included Altec (Altcom), Klimatair (Klimaphone), Sanyo Hellas (Sanyocom), Space Hellas-Ideal, (Spacephone).

Unlike the two other operators from the beginning Cosmote had its exclusive shops and had much better direct contact with a larger number of its customers. However, none of the three operators has direct contact with all of its customers.

## **2.4 Customer Repurchase Intention in the Mobile Telephony Sector**

Customer loyalty has been variously defined and measured in the literature. Customer loyalty was defined by **Jones and Sasser (1995)** as the feeling of attachment to or affection for a company's people, products or services. According to the literature loyalty involves attitudinal and behavioural components and can be best described in two ways: in behavioural terms and in attitudinal terms. As **Day (1969)** argued in order to be "truly loyal," the consumer

must hold a favourable attitude toward the brand in addition to repeatedly purchasing it and suggested the use of both attitude and behaviour in loyalty definition.

As a behaviour, customer loyalty has been measured as the customers repeat purchase probability (**Rajshekhar and Moberg, 1997**). The attitudinal approach focused also on brand recommendations, resistance to superior products, willingness to pay a price premium (**Parasuraman, Zeithaml and Berry, 1988**). Loyalty as an attitude cannot be measured with repurchase intent. Intent to repurchase can capture a behavioural component of loyalty, repeat purchase and taps a behavioural intention. Repurchase intent is an outcome of favourable attitudes, not a measure of them. Thus, a combination of attitude and behaviour is needed to measure loyalty.

However, the majority of loyalty studies were operationalised behaviourally as a form of repeat purchasing of a particular product over time. **Jones and Sasser (1995)** used the customers' stated intent to repurchase a product/service as a measure of the behavioural component of loyalty. They argued that intent to repurchase is a very strong indicator of future behaviour.

In this study customer loyalty will be measured in behavioural terms and customer repurchase intention will be examined. **Jones & Suh (2000)** defined repurchase intention as the consumer's possibility to buy the next time the same product/service (s)he already bought and used.

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.

However, it should be mentioned 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 (**Jones and Sasser, 1995; Rajshekhar and Moberg, 1997**). For example, in the mobile telephony sector in France, **Lee, Lee and Feick (2001)**, raised concerns about the time and effort needed when switching to a different provider e.g. filling out forms (transaction costs), costs in time of seeking information on prices, benefits (search costs) and most importantly the need to inform a significant number of people of a new phone number. However, since in Greece the Greek Telecommunications Committee has announced plans concerning the portability of mobile numbers when changing operators, switching costs will not be examined in this study. In addition, there is a great number of shops selling mobile telephony services and all the operators have available web sites with detailed information about their services.

It should also be pointed out that in this study customers' stated intention to repurchase is measured and as it has already been mentioned this does not measure their attitude towards the service and their actual behaviour that is repurchase itself. Thus, although customers stated that they intent 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 refrain them from repurchasing.

#### **2.4.1 Customer Retention Rates in the Mobile Telephony Sector Worldwide**

Mobile telephony operators worldwide have limited direct contact with their customers and it becomes more difficult to retain their customers. Thus, in the mobile telephony sector customer 'churn' (the number of subscribers leaving from an operator) is a major problem (**Cane, 1997b**) and as **Mortished (1997)** agued the sector has failed to generate much customer loyalty.

As **Shedd (1997)** claimed, over the past decade the aim has been to sign up as many customers as possible, but these strategies no longer work and operators must retain and grow with their customers. In addition, **Cane (1997a)** argued that mobility is not enough to win the loyalty of today's mobile phone customers. Churn is having a serious effect on individual companies and on the overall profitability and the development of the sector, due to the economic consequences on operators' profits.

According to the Mobile Users' Survey in the US in 1998, 9.6% of wireless subscribers reported they had switched carriers one year before. That number is considerably higher (15.3%) among those who were using the service just for one year, suggesting that much churn occurs early on, when expectations might not have been met. It was estimated that carrier-to-carrier churn was about 70% of total churn. Nearly one-quarter of wireless subscribers had switched carriers since first becoming users. Among heavy users and business travellers, that figure was closer to one-third. In terms of predicting churn, 26% of current users said they had considered cancelling their wireless service. That number was lower among business users (17%) and this suggested that business users are more 'tied' to their particular device or service. For those users who have already switched carriers, it is probable that they will switch again (**Hill, 1999**). All this shows how important it is for the operators to know and to meet their customers' expectations. In this way they can prevent customers from switching to their competitors.

As **Olins (1997)** claimed, in Europe many subscribers are still not committed to a particular network. In Europe in 1998, churn ran at about 20% annually, with Germany and the United Kingdom having the highest rates, at 25-32% annually.

According to the Yankee Group Europe, of Watford (UK), the average churn rate for Europe has increased by 6% between 1995 and 1997 and continues to grow (**Shedd, 1997**). In the UK, for example, nearly one in three users switched operators or left the network every 12 months (**Olins, 1997**). The technical manager of the Mobility Service's division of the UK mobile operator, Orange, stated that mobile telephony users don't care who the operator is and there is no customer loyalty in mobile communications (**Convergence Europe, 1997**). Furthermore, the general manager of marketing and corporate business at British Telecom, stated that the industry must work harder on retaining customers, by looking to explain changes in the market place and meet customers' needs (**Uhlig, 1997**).

**Shedd (1997)** claimed that research has proved that by reducing churn by 5%, an operator could increase shareholder value by as much as 20%. On the basis of research conducted by Andersen Consulting, customer churn costs operators in US and Europe \$2-4 billion each year. The average acquisition cost for a new customer is \$400 - \$600 and the cost of retaining a customer \$50 - \$100. The new mobile customers in the US and Europe spend little each month and are unlikely to use the additional network-enhanced services that increase operator revenue, therefore it can take an operator up to 13 months to break even on the acquisition costs of a new customer. In addition 60-70% of all churn takes place within the first three months of a customer's service agreement with the operator (**Shedd, 1997**). Thus, companies should invest much on service quality and customer retention.

In Greece, mobile telephony service distributors have little incentive to try to discourage churn and as a result customers are churning at high and constantly increasing rates. For example Panafon/Vodafone in 1998 lost 37% of its customers (**Panafon, 1999**), almost double that of the annual churn in Europe in 1998, which was 20%. Now that the penetration of mobile telephony in Greece has reached its maximum level the three operators are fighting to keep their customers. In March 2001 the churn rate was 27.7% for Panafon/Vodafone and 14.5% for Cosmote (**Kontokolias, 2001**). In the first quarter of 2001 Panafon/Vodafone spent about 20 euros for advertising to attract each one of its new customers. Teletet about 30 euros for each new customer and Cosmote 15 euros.

It is obvious that in the mobile sector as in all sectors customer retention is crucial for companies' success and growth.

According to **Shedd (1997)**, it has been estimated that the most profitable customers are the 20% of customers who represent 80% of the revenues. Therefore the '80/20 law' is applicable. It is very important to keep this 20% loyal rather than try to acquire new customers. Competition is severe and operators are competing for the 20% of profitable customers. Customers have choice and



they can churn from operator to operator at an alarming rate. Operators will have to identify the high-value customers and not allow them to defect.

As **Shedd (1997)** stated high churn is an indication of an industry which has to learn about customer care and management and which has a cavalier attitude to customer loyalty. It can be concluded that this industry has a poor understanding of churn. A major problem is also the structure of the industry where operators use service providers and dealers to distribute mobile services and this insulates them from their customers.

Customer retention is very important (**Chapter 3.1.1**) and many researchers have claimed that it is the key to success for any company. The relationship between customer retention and companies' profitability has been estimated by a variety of researchers such as **Anderson and Sullivan (1990)**, **Fornell and Wernerfelt (1988)**, **Reichheld and Sasser (1990)**, **Reichheld (1993, 1996, 1997)**, **Zeithaml, Berry and Parasuraman (1996)** and other researchers. In addition, the Greek mobile telephony market has now reached its mature stage and as **Zeithaml, Berry and Parasuraman (1996)** stated, the net return on investments could be much higher for retention strategies than for strategies to attract new customers, especially for companies with an established customer base, in mature markets.

On the basis of the above it can be concluded that it is crucial for mobile operators and their profitability and growth, to retain their customers, thus they should identify the factors causing customer churn and improve the service offered to their customers.

## **2.5 The Research Question of this Study**

The aim of this study is to examine the factors, such as service quality, price, service value, customer satisfaction which influence consumer repurchase intention in the Greek Mobile Telephony sector. The results should lead to a better understanding of the factors influencing customer repurchase intention in the Greek mobile telephony sector, a sector that is constantly growing and is seriously suffering from customer 'churn'. A model will be built that will present the relationships between these factors and customer repurchase intention in the Greek mobile telephony sector.

Although many studies have already examined customer loyalty in various sectors, it should also be examined in the mobile telephony sector. The main reason is that this sector differs from the others due to the innovative technology used to offer the service, which is constantly evolving and upgraded. This diversifies users' perceptions of service quality and value. In addition, value added services are continuously growing and are playing an increasingly

important role in customers' evaluation of the service and their buying behaviour.

The developed model could be of use to the Greek mobile telephony operators and perhaps be of use internationally as a tool for marketing and strategic planning purposes.

However, in this study customers' stated intention to repurchase is measured and not repurchase itself, thus it is important to note that although customers stated that they will repurchase, they may not actually do so.

In addition, in this study the deficiencies in the mobile telephony service and customers' unsatisfied needs will be identified. A variety of characteristics of the mobile telephony service (e.g. coverage, customer service, value added services, mobile handsets etc.), will be evaluated for their importance in the quality of the service provided as perceived by customers and customer satisfaction.

Thus, this study might enable the mobile telephony operators in the Greek mobile telephony sector to better define their strategies on important issues such as investing in network extensions, physical facilities, employee training and the introduction of innovative services which should lead to better customer retention and company growth and profitability.

Furthermore, this study may contribute to the services sector literature, a sector of continually increasing importance that has received less attention, since most of the existing studies focus on goods (**Dick and Basu, 1994**). It should be pointed out that the literature on the loyalty issue in the service industry is rather sparse and as **Snyder (1991)** mentioned, studies on service loyalty compared with brand loyalty research, are less numerous.

The relationships between service quality, price, service value, customer satisfaction and customer loyalty have been broadly examined and discussed in the literature, but not in the mobile telephony sector. This study will also empirically examine the relationship between service value and customer repurchase intention, which has not been widely examined in the literature. Furthermore, this study examines the mobile telephony service in Greece where no such research has ever taken place and very limited research exists in general in the service sector.

## CHAPTER 3

### LITERATURE REVIEW

The research undertaken in this study focuses on identifying the factors influencing customer repurchase intention in the Greek mobile telephony sector and developing a model. In order to develop this model three main areas of research were examined: service quality, service value and customer satisfaction. Their influence on customer repurchase intentions/loyalty will be studied and presented in the proposed model. The developed model should be of use to present and future service providers in the Greek mobile telephony sector and perhaps be of use internationally as a tool for marketing and strategic planning purposes. This sector needs to develop a customer retention policy in order to maintain a competitive edge in a rapidly growing, highly-competitive market.

On this basis, all the important factors leading up to customer retention strategies will be examined in this literature review. This review will examine the areas of customer loyalty as well as factors affecting loyalty and consequent purchasing behaviour. These factors include service quality, service value and customer satisfaction. Present distinctions between service quality and customer satisfaction in the literature will also be examined.

#### 3.1 Customer Repurchase Intention and Loyalty

The first section of the review will define in detail what customer loyalty means and analyse the importance of customer loyalty in strategic and economic terms. It will also examine the ways of measuring customer loyalty.

There is a lot of literature drawing attention to the fact that the issue of retaining customers is of significant importance sometimes even more so than attracting new customers. Thus, since the late 1980s more research has been directed at customer retention issues (**Berry, 1983**). As **Alexandris and Palialia (1999)** mentioned, it is widely accepted among practitioners that it is easier to lose a customer than to win one. **Light (1997)** and **Pearce (1996a)** claimed that customer loyalty is the new marketing mantra and customer loyalty management is the goal. In addition, **Miles (1997)**, argued that customer retention has taken over as the 'hot' management topic of the late nineties.

It is important to define customer retention carefully and what it means to a particular industry. As **Reichheld (1993)** argued, each industry has different

needs and priorities so it is important to define what customer loyalty actually is so that each sector can adopt the most appropriate customer retention model.

There are various definitions of customer loyalty. As **Rajshekhhar and Moberg (1997)**, claimed there is a lack of consistency in how loyalty has been defined in the literature. **Jones and Sasser (1995)**, defined customer loyalty as the feeling of attachment to or affection for a company's people, products or services. However, some researchers defined loyalty in behavioural terms and others in attitudinal terms.

Many researchers defined loyalty by including attitudinal measures. Attitudinal measures incorporate consumer preferences and dispositions toward brands to determine levels of loyalty. Loyalty as an attitude is the consumer's relatively enduring affective orientation for a product, store or service (**Parasuraman, Zeithaml and Berry, 1988**). According to the definition of loyalty as an attitude, different feelings create an individual's overall attachment to a product, service, or organisation and these feelings define the individual's purely cognitive degree of loyalty (**Hallowell, 1996**).

Other researchers defined loyalty in behavioural terms. According to these definitions the level of brand loyalty is measured by monitoring the frequency of purchases or the amount of brand switching among consumers in a product category (**Rajshekhhar and Moberg, 1997**).

Other researchers argued that loyalty must be measured as a combination of attitudinal and behavioural dimensions. Customer loyalty, according to the marketing literature, can be defined as an attitude and as behavioural loyalty (**Hallowell, 1996**). In addition, **Baldiger and Rubinson (1996)** and **Pearce (1997)** argued that the definition of loyalty should include both attitudinal and behavioural components. As **Pearce (1997)** claimed, loyalty combines trust and satisfaction which are both attitudinal dimensions. In addition, **Baldiger and Rubinson (1996)** argued, that the attitudinal component refers to the attitude (positive/negative) of the buyers towards the company/organisation and the behavioural component to their buying behaviour. Furthermore, **Dick and Basu (1994)** developed a framework for customer loyalty that combines both attitudinal measures covering attitude strength and attitudinal differentiation and behavioural measures of repeat purchase levels.

This lack of consistency in definition creates a difficult environment within which to pursue this study. Although customer loyalty is both attitudinal and behavioural, attitude is difficult to measure and cannot be measured on a single item scale. In addition, as **Hallowell (1996)** argued, customer loyalty in the service management literature is defined according to the behavioural view and behavioural loyalty is customers' intent to repurchase. Thus, for the purposes of this study on the mobile telephony industry, loyalty will be examined according to the behavioural view.

### 3.1.1 The Importance of Customer Loyalty (Retention) for Companies

According to the literature companies lose significant numbers of their customers every year. However, as mentioned, this should not happen because there are important strategic and economic benefits from customer retention.

#### 3.1.1.1 Strategic Aspects

Customer loyalty is considered an important strategic issue which can help a company to outperform competitors and succeed in the market. As **Reichheld and Sasser (1990)** claimed companies with loyal customers can financially outperform competitors and achieve high market share. In addition, **Griffin (1996)** argued that market position is strengthened because the company is keeping customers away from the competition and the company becomes less sensitive to price competition. As such **Bemowski (1996)** mentioned that the results of a loyalty study conducted by Archetype in 1995 showed that if companies can discover the code for loyalty and offer it to their customers, they can increase their competitive advantage.

Furthermore, as **Reichheld (1996)** claimed customer retention reveals how much real value a company is creating and predicts future cash flow. Years of continuing customer defection will destroy the company's reputation in the marketplace and consumers will be convinced that the company offers inferior value. Thus, companies that develop high levels of customer loyalty can grow and achieve the highest level of profit. This is especially valid for companies with an established customer base in mature markets. As **Zeithaml, Berry and Parasuraman (1996)** argued for these companies, the net return on investments could be much higher for retention strategies than for strategies to attract new customers.

#### 3.1.1.2 Economic Aspects

The relationship between customer retention and profits has been estimated by a variety of researchers in all sectors. Several researchers maintained that the longevity of a customer's relationship favourably influences profitability.

As **Sviokla (1996)** claimed, research into customer retention revealed impressive profit numbers. In addition, **Reichheld (1997)**, argued, that customer loyalty in business can mean a long life of sustained growth and profit for companies.

Companies profits can significantly increase even with a marginal reduction/increase in customer retention rate (**Andreassen 1995, Dawkins and Reichheld, 1990**). As **Reichheld and Sasser (1990)** argued, by retaining just 5% more of their customers companies can boost profits significantly. For example reducing defections by just 5% generated 85% more profits in one bank's branch system and 30% more in an auto-service chain. In life insurance a 5% point increase in customer retention lowers costs per policy 18% (**Reichheld 1993**). In addition, **Heskett et al. (1994)** argued that the lifetime revenue stream from a loyal pizza eater can be \$8,000, a Cadillac owner \$332,000, and a corporate purchaser of commercial aircraft literally billions of dollars. As such **Weiser (1996)** mentioned that British Airways estimated that for one pound it invests in customer retention efforts it receives two pounds back. Furthermore, as **Reichheld (1996)**, argued, reducing customer defections by 5 points e.g. from 15% to 10% per year can double profits. In addition, **Griffin (1996)** claimed that by increasing customer retention by 5% a company can boost profits from 25 to 85%.

According to many researchers, loyal customers are more valuable to companies. As **Lowenstein (1993)** claimed, long-term customers account for the lion's share of a company's profits. In addition, **Pearce (1997)** argued that loyalists are 8.2 times more valuable than the least loyal. Analysis of brands consumer dynamics has demonstrated that the most loyal customers represent some 6% of buyers and 16% of the business.

Companies with loyal customers can avoid the high costs of acquiring new customers. As **Peters (1988)** mentioned, according to a study for the U.S. Department of Consumer Affairs, the efficiency in dealing with loyal customers is greater and selling costs are much lower compared with the cost of winning new customers, on average only 20% as much. In addition, **Hart, Heskett and Sasser (1990)** stated that at Club Med one lost customer costs the company at least \$2,400 and it also has to replace that customer through expensive marketing efforts. They argued that it costs five times more to replace a customer than to retain one. This was reinforced by **Struebing (1996)**, and by **Birt and Hanssens (1996)** who examined this issue, as well as by **Desatnick (1988)**.

There are many reasons that loyal customers are more valuable to companies. One of the reasons is that it costs much to attract new customers. As **Zeithaml, Berry and Parasuraman (1996)** argued capturing new customers is expensive for it involves advertising, promotion and sales costs, as well as start-up operating expenses. Thus, new customers are often unprofitable for a period of time after acquisition e.g. in the insurance industry, the insurer typically does not recover selling costs until the third or fourth year of the relationship.

Another reason is that it is less expensive for companies to serve loyal customers, because there is a decline in costs when serving experienced

customers due to experience-curve effects (**Reichheld, 1996; Reichheld and Sasser 1990**).

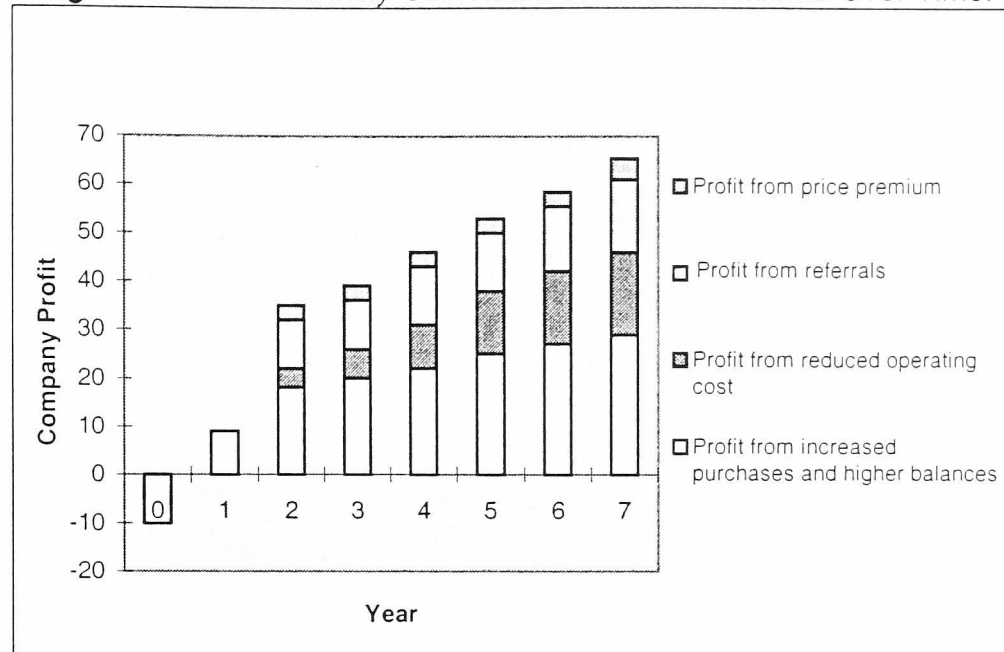
An important reason is also that loyal customers tend to purchase more than new customers. As **Reichheld and Sasser (1990)** stated in the credit card business, a newly acquired customer uses the card slowly at first, but if (s)he stays a second year they become accustomed to using the card and uses it more. Then (s)he purchases even more, which turns profits up sharply. Furthermore, **Seybold (1996)**, claimed that research conducted among on-line shoppers showed that an on-line shopper spends an average of \$162 per purchase and new customers spend an estimated average of \$127 while repeat customers spend about \$251.

Loyal customers are also less price sensitive. As **Light (1997)** and **Reichheld and Sasser (1990)** argued companies with loyal customers can often charge more for their products/services as a premium for the customer's confidence in the business, e.g. many people will pay more to stay in a hotel they know or to go to a doctor they trust. Another reason supported by researchers such as **Aaker (1992)** and **Reichheld and Sasser (1990)** is that loyal customers are more likely to purchase additional products and services.

Loyal customers also engage in positive word of mouth. As **Heskett et al. (1994)**, **Dick and Basu (1994)**, **Koob (1994)**, **Schlesinger and Heskett (1991)** and **Reichheld and Sasser (1990)**, argued, long-time customers provide free advertising, because they engage in positive word-of-mouth over the years and can lead to increased revenues for firms. One of the leading home builders in the United States for example, has found that more than 60% of its sales were the result of referrals.

Another reason supported by researchers such as **Griffin (1996)** and **Pine, Peppers and Rogers (1996)**, is that long-term customers are immune to the pull of the competition and provide insights to the company that can result in new capabilities. Furthermore, researchers such as **Griffin, (1996)** and **Reichheld (1996)** claimed that with customer loyalty employee retention also increases. because of job pride. In **Figure 6**, the reasons why customers are more profitable over time are presented.

**Figure 6:** Reasons Why Customers are More Profitable Over Time.



Source : Heskett, Sasser & Schlesinger (1997).

A company should link customer loyalty to its financial performance. As **Reichheld (1996a)** claimed in this way members and investors will understand the connection between loyalty, profits and cash flow.

Many companies recognize the value of customer retention. As **Miles (1997)** stated, on the basis of the results of Abram Hawkes consultancy study 45% of respondents in organisations with loyalty schemes considered that customer retention activities yield a greater return than investment in advertising.

However, doubts were also expressed by some researchers concerning the advantages of customer loyalty for companies. **Dowling and Uncles (1997)** expressed doubts whether the costs of serving a loyal customer should be lower, as they argued there is no reason that transactions will differ in cost. In addition, they doubted why loyal customers are less price sensitive and argued that they may buy a brand at a higher price because they perceive it to be better. Furthermore, they claimed that loyal customers may spend more with the company and buy more of the product simply because they perceive higher value than less loyal customers. There is also little research to indicate what percentage of loyal customers help a company to market its products and no research is available to demonstrate that loyal customers offer positive comments. However, these were only doubts expressed by these researchers and they lack experimental evidence and support.

On this basis it can be seen that the majority of researchers agree that customer loyalty has a significant positive effect on companies profitability. It is easier for companies to serve loyal customers, they avoid acquisition and start-up costs, loyal customers are less price sensitive, they buy more of the company's



products, engage in positive word of mouth and they can bring in other customers. Thus, achieving customer loyalty is important for the Greek mobile operators profitability. However, loyalty has not only benefits for companies but also customers can gain from being loyal.

### **3.1.2 Reasons for Customer Defections in the Mobile Telephony Sector Worldwide**

The Mobile Telephony sector is not different from the other sectors and where there is still rapid growth, there is an urgent need to discover the reasons for customer defections so as to maintain and increase that growth.

Two important factors causing customer 'churning' in the mobile telephony sector, are price and geographic coverage and a third factor is customer service. In the US, according to a survey conducted in 1998 by the Yankee Group, the most important reason of customer defection was price, 41% switched because of price and 52% declared that lower price was the option most likely to keep them from switching, better coverage was the second most important reason, at 17%, and a new or upgraded phone was cited by 9% (**Shedd, 1997**).

In addition, according to the Mobile Users Survey conducted again in the US in 1998 churn was tightly linked to coverage, since only 6.5% of mainly metro users churned, while it was 17.6% amongst those using the service over a larger geographical area (**Hill, 1999**). Furthermore, the **Yankee Group** survey data in the US (**1998**), revealed that the requirement of having to change phone numbers when switching carriers was a factor that would prevent users from switching, however it was not very significant since only 9% of the users stated that having to change numbers prevented them from switching, while another 13% stated it was a consideration. Thus, it has been shown that phone number portability will slightly contribute to the increase of churn.

In the United Kingdom, the Chief Executive of mobile operator Orange, stated: "The main thing people want, is best coverage, other things are important, but coverage is more important than anything. Yet none of the operators can guarantee reception everywhere in Britain, let alone in the rest of Europe or America". According to research conducted for Orange, amongst 1,500 mobile phone users, 58% switched operators in the hope of improving their coverage (**Olins, 1997**).

According to a survey conducted in Europe in 1998, 40% of the annual subscriber churn was due to customer service (**MapInfo, 1999**). **Cane (1997b,c)** stated that in Europe mobile telephony companies churn is caused by dissatisfaction with the service and discontent over pricing. In addition, companies may disconnect subscribers because of fraud or bad debt. If prices

were closer to what subscribers expect this would both encourage greater use of the phone.

Another cause of churn is the complexity of the tariff structure and billing. As **Uhlig (1997)** and **Nuki (1997)** claimed, with confusion marketing it is impossible for customers to make price comparisons and the cost of a telephone call is so complicated that bargains are not clear-cut. There are so many different charging packages that customers can not know what it will end up costing them. In addition, as **Lee, Lee and Feick (2001)** mentioned some mobile phone operators provide very attractive terms in the beginning but consumers end up with less benefit because of higher cost per unit consumed. Such efforts give the impression of hassling customers. The technical manager of the Mobility Service's division of the UK mobile operator, Orange, stated that the results of market research have shown that users want flat monthly fees and do not want transaction-based billing. In the future, billing will be customised according to the lifestyle the user chooses and users will get only one invoice for fixed and mobile telephone calls, faxes, Internet access etc. (**Convergence Europe, 1997**).

Companies should develop their strategies to solve the problem of customer churn. As **Shedd (1997)** argued mobile operators should improve quality and price to reach the standards of fixed telephony. The brand director of the UK mobile operator Cellnet, mentioned that value-added services will also play an increasingly important role in market development (**Conley, 1997a**).

On the basis of the above it is clear that price and coverage are the major issues causing customer churn in the mobile telephony sector. In addition, customer service is also an important issue. These issues have to be addressed by the Greek mobile operators if they are wishing to retain customers by developing better customer relations and offering value. This study will examine the influence of price on customers repurchase intention and will also try to identify the important service attributes (e.g. coverage, value-added services, etc.) which can drive mobile telephony users to churn.

### **3.1.3 The Role of Social Factors in Building Customer Loyalty**

The complexities of today's society and modern business are obstacles in the drive for customer loyalty.

Many researchers pointed out that the drive for customer loyalty is not something simple. As **Seybold (1996)** stated, with more and more industries selling products/services, the ability to win a customer's loyalty is a very large step to take from simply winning their business loyalty. As **Handy (1996)** claimed, loyalty seems to be dying in the society and this can be seen in the way people treat friendships, community organisations, even marriage. The average

US company loses half its customers in five years, half its employees in four and half its investors in less than one year. Back at the turn of the 20<sup>th</sup> century, Josiah Royce, a Harvard philosopher, outlined a hierarchy of loyalties. At the lowest level was loyalty to individuals. Next came groups. At the highest level he placed practical devotion to a set of values and principles. Since time and information has stripped away most of peoples' old, blind loyalties and people are left with loyalty to principals, they give their loyalty to other people and organisations only when they live up to the principals they prize. In addition, as **Furnier, Dobscha and Mick (1998)** argued, people maintain literally hundreds of one-on-one relationships in their personal lives with spouses, co-workers, casual acquaintances and clearly, only a handful of them are of a close and committed nature, thus one cannot expect people to do anymore in their lives as consumers. Furthermore, **Hollinger (1997)** mentioned that customers are a lot less loyal than they were five or ten years ago. However, another view embraced by **Reichheld (1997)** is that loyalty itself is not gone, but only the unqualified, hierarchical loyalty, the unconditional loyalty that looked so much like obedience toward a company is gone, because free markets have replaced it with earned loyalty.

Thus, it can be seen that social factors and changes in society also play a major role in building and maintaining customer loyalty.

#### **3.1.4 Customer Benefits of Being Loyal**

It is not only companies who benefit from customer loyalty but it is also the customers. Researchers such as **Peterson (1995)** and **Barnes (1994)**, 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**.

*Table 1: Customer Benefits of Being Loyal*

<b>Reference</b>	<b>Benefit</b>
<b>Barlow (1992)</b>	Social benefits associated with personal recognition from employees, customer familiarity with employees and the development of friendship.
<b>Barnes (1994)</b>	Social benefits including feelings of familiarity, personal recognition, friendship, rapport and social support.
<b>Bitner (1995)</b>	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.
<b>Berry (1995)</b>	Risk reduction.
<b>Klemperer (1987)</b>	Economic advantages including special treatment benefits such as reward programmes (e.g. frequent flyers programmes).
<b>Peterson (1995)</b>	Special pricing considerations.
<b>Rosenblatt (1977)</b>	Freedom from having to make decisions.
<b>Sheth and Parvatiyar (1995, p. 256)</b>	Reduction of choices by engaging in an ongoing loyalty relationship with marketers.
<b>Zeithaml (1981)</b>	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.

Research has been conducted to assess what preferences customers have in benefits identified so far. **Bitner and Gwinner, (1998)** examined the importance of the categories of benefits along different service categories. Confidence benefits proved to be the most important, social benefits were the second most and the special treatment benefits were the least important. Confidence benefits proved to be more important in standardised services with little interpersonal contact. Social and special treatment benefits were received more often and rated as more important in services characterised by high employee-customer contact and were received least and rated least important for moderate-contact, standardised-type services.

It should be taken into consideration that customers also calculate the lifetime value of the relationship (**Reichheld, 1996**) and they may remain in a relationship even if they perceive the core service attributes to be less than superior if they are receiving important benefits (**Bitner and Gwinner, 1998**).

Thus, it can be seen that customers also have important benefits from staying loyal to a firm. They derive social benefits such as personal recognition, friendship and social support. There are also confidence benefits, such as faith in the trustworthiness of the provider, reduced anxiety and risk. In addition there are economic advantages including reward programmes, special pricing and costs associated with switching providers that are avoided as well as gaining the freedom from having to make decisions. Mobile Telephony companies should provide these benefits to their customers so as to give them the reasons to stay loyal.

### 3.1.5 Customer Loyalty Measurement

Taking into consideration the importance of customer loyalty it can be concluded that companies should measure customer loyalty. However, for various reasons not all companies assess customer loyalty.

In US for example as **Reichheld (1996a)**, mentioned corporations measure company performance on the basis of cash flow and profit and they rarely study customer retention. In addition, **Rucci, Kirn and Quinn (1998)** argued that in many businesses it is difficult to measure customer retention and many companies are unwilling to expend the time, energy and resources to do it effectively.

It is vital for companies to measure customer loyalty to build and maintain retention. As **Rust and Zahorik (1995)** maintained companies must estimate churn and on the basis of internal company records or primary research calculate the probability of a customer to choose the company on the next transaction or stay with the company until the next period. However, companies should ensure that the measurement process is unbiased. As **Jones and Sasser (1995)** argued, there are forces within the company that will try to distort the process. It should also be consistent so that the company can tailor its improvement programmes to its customers' situations.

According to the literature there are many alternative ways to assess customer loyalty. As **Jones and Sasser (1995)** argued, the ways to assess customer loyalty include, customers intent to repurchase, that is customers future intentions to repurchase a given product/service, however, their responses are simply indications of future behaviour and not assurances. In addition, primary behaviour could be assessed, that is gather information on various customer transactions and measure frequency, amount, retention and longevity that show actual repurchasing behaviour. However, these also are only an indication of changes over time and they can sometimes send the wrong message. Secondary behaviour is another alternative way to assess customer loyalty, that is customer referrals, endorsements and spreading the word of mouth, which are extremely important forms of consumer behaviour for a company.

**Dabholkar, Shepherd and Thorpe (2000), Cronin, Brady and Hult (2000), Andreassen and Lanseng (1997), Danaher and Haddrell, (1996), Rust, Zahorik and Keiningham (1994), Woodside, Frey and Daly (1989),** also considered repurchase probability and word of mouth as the two proxies for customer loyalty. **Zeithaml, Berry and Parasuraman (1996)** claimed that apart from these two proxies, there are another two: spend more with the company and pay price premiums.

Therefore, being able to measure customer loyalty is an important factor in strategic planning for offering service quality with the intention of retaining customers and encouraging repurchasing. There are many proxies for customer loyalty including repurchase intention, positive word of mouth, increased spending and so on. In this study customers repurchase intention was measured and was operationalized with a single measure. However, in the final survey research customers intention to engage in positive word of mouth was also assessed so as to strengthen the validity of the results.

### **3.2 Modelling Consumer Purchasing Behaviour**

As has already been mentioned, customer loyalty can be defined as behavioural loyalty but can also be defined as an attitude. Service quality which will be analysed in **Chapter 3.4**, is also defined as an attitude. In this section, the formation of consumers' attitudes will be explained on the basis of the theory of consumer behaviour. Consumer purchase behaviour is an issue that has been examined by a significant number of researchers since it is vital to any economic system, regardless of market size (**Choe, Pittman and Collins, 1997**).

Many models explaining consumer purchase behaviour have been developed. These models consider attitudes as an important factor, because as **Ehrenberg (1969)** argued, attitudes can influence consumers purchase behaviour. Attitudes were defined by **Ajzen (1988)**, as a predisposition to respond in a given way, favourably or unfavourably, to an object, person, institution or event. The response may be cognitive (expressions or beliefs), affective (evaluations of and feelings towards, the attitude object) or conative (behavioural inclinations and intentions) (**Betts and McGoldrick, 1996**). In addition, **Krech and Crutchfield's (1948)** conceptualised attitudes in terms of an organisation of motivational, perceptual, emotional and cognitive processes. According to **Bolton and Drew (1991)** and **Olshavsky (1985)**, attitude is the customer's global evaluation of a product/service offering rather than an evaluation of a specific transaction.

The formation of attitudes can be examined with multi-attribute attitude models. Attributes are the physical and surface properties of products and services which are used by consumers to sort products into categories. Product/service attributes correspond to specific services or activities (**Rosen and Surprenant**

**1998).** As **Wirtz and Bateson (1995)** stated, there are different types of service attributes: Credence attributes that cannot be evaluated by consumers even after a service has been consumed (e.g. the hygiene conditions in the kitchen of a restaurant). Ambiguous attributes that are perceived and evaluated by the consumer but they can be perceived in more than one way. For example, a messy desk in a travel agency could be interpreted by the consumer with regard to the perception of service quality as: not relevant information, an exceptional occurrence, or a direct indicator of the service quality provided.

One of the multi-attribute attitude models is the Fishbein model. According to this model, the attitude towards a given object is based on the summed set of beliefs about the object's attributes weighted by the evaluation of these attributes (the importance assigned to the attribute). There is also the Ideal-Point model. This model includes information concerning the ideal brand as well as information concerning how existing brands are viewed by consumers (**Engel, Blackwell and Miniard, 1995**). According to the Ideal-Point model

$$A_b = \sum_{i=1}^n W_i (I_i - X_i)$$

$A_b$  = Attitude toward the brand

$W_i$  = The importance of attribute i

$I_i$  = The ideal performance on attribute i

$X_i$  = The belief about the brand's actual performance on attribute i, and

n = The number of salient attributes (**Engel, Blackwell and Miniard, 1995**).

Attitudes and intentions are not static. As **Engel, Blackwell and Miniard (1995)** stated, attitudes can change as a result of unexpected circumstances and situational influences. According to **Kelman, (1961)**, the sources of attitude change are: compliance that arises when an attitude is adopted for ulterior motives such as the desire to make a favourable impression on others; identification that arises when an individual adopts an attitude in order to establish or maintain a satisfying relationship with others; internationalisation that occurs when the new attitude is embraced as part of a cluster of attitudes because the individual feels comfortable subscribing to that attitude.

Adaptation level theory provides a useful framework for explaining the changes in attitudes. It postulates that prior experience with a phenomenon provides an anchor for subsequent judgements, and that exposure to stimuli above/below the adaptation level modifies these judgements (**Helson 1964**). Thus a customer's attitude about a service offering at time t depends on his or her prior attitude, modified by his/her perceptions of current performance, prior expectations about performance and the discrepancy between the expectations and subsequent perceptions. As **Bolton and Drew (1991)** found out, a customer's attitude about the telephone service depends greatly on their prior attitudes, but the effect of prior attitudes is smaller immediately after the service

change than six months later. Service changes becomes noticeable only in the long run and they do not result in immediate improvements in the customers' global evaluations of service offerings. Attitudes seem to depend more heavily on perceptions of current performance and disconfirmation during the actual service change period than in periods of no change.

On the question of loyalty, a customer may denote loyalty but not actually behave in a loyal way and may not repurchase. As **Heylen, Dawson, and Sampson (1980)** argued, a variety of factors other than attitudes and external to the models of the subjective expectancy utility theories, indirectly influence behavioural intention and behaviour. Thus, there is a complex set of factors that influence purchasing and shape the decision-process behaviour. As **Engel, Blackwell and Miniard (1995)** argued, such factors include: *Individual differences* including consumer resources (economic such as income, wealth, credit; temporal such as time available and cognitive such as information processing abilities), knowledge (product knowledge, purchase knowledge, usage knowledge), attitudes, motivation and involvement, personality, values and lifestyle; *Environmental influences* such as culture, social class, personal influence (reference group, word-of-mouth influence), family, situation (physical and social surroundings, time, task, antecedent stated).

Thus, behaviour is sometimes affected by pressures in the social environment more than by personal attitudes. The theory of reasoned action by **Fishbein and Ajzen (1975)**, recognises the potential influence of both attitudes and social influences. According to this theory a person's intention to perform a behaviour is the immediate determinant of the action. Behavioural intention is in turn a weighted sum of two determinants: attitude toward performing the behaviour (that is how favourable or unfavourable the person is towards the behaviour) and subjective norms regarding the behaviour. Attitude toward the behaviour is a function of the belief that performing the behaviour will lead to certain consequences and the person's evaluation of those consequences (**Becker, Randall and Riegel, 1995**). The social component of Fishbein and Ajzen's model, the subjective norm, reflects the perceived social pressure to perform or not perform the behaviour. Subjective norm is a function of the person's beliefs about whether significant others (people who the individual considers important) think (s)he should perform the behaviour, weighted by the person's motivation to comply with those significant others (**Sheppard, Hartwick and Warshaw, 1988**).

However, subjective norms as operationalized by the theory of reasoned action, only captures the cognitive component of norm acceptance. Other conditions, such as time lag between attitude and behaviour, should also be taken into consideration (**Becker, Randall and Riegel, 1995**). The ability to predict future behaviour depends on the time interval between when attitudes and intentions are measured and when the to be predicted behaviour actually occurs. As the time interval increases the opportunity for change becomes greater, so attitudes



and behaviours are very good predictors when they are measured at a time relatively close to when the behaviour is to occur (**Engel, Blackwell and Miniard, 1995**).

Behaviours should be performed under a person's volitional control and if not it may not lead to accurate predictions (**Fishbein and Stasson, 1990**), but in most cases behaviour is not fully volitional. The importance of volitional control has led **Ajzen (1985)** to the theory of planned behaviour. According to this theory the determinants of intention are: attitude toward the behaviour, subjective norm and the degree of behavioural control, that is the person's belief about how easy it would be to perform the behaviour. Furthermore, **Ajzen (1985)** suggested that the discrepancy between behavioural intention and behaviour may be caused by factors that are internal to the individual such as skills, abilities, emotions, but also by external factors such as time, opportunity and dependence on others. These factors may prevent or delay the performance of the behaviour and the behavioural intention may remain. When perceived behavioural control is low it is unlikely to form strong intentions to perform the behaviour. Concerning emotions **Patterson and Spreng (1997)** maintained that they are a key component and have a serious impact on behaviour.

**Heylen, Dawson and Sampson (1980)** proposed the implicit model where an innate, bio-energetic imprint (inner world), lies at the basis of all behaviour and this imprint consists of instincts, drives and needs. These motivate and compulsively and unconsciously drive the behaviour of consumers. Freud called this imprint libido and biologists localise it in human genes (**Dawkins, 1976**). Living in society is only possible if the individual adjusts the gratification of his bio-energetic drives to the cultural and socio-normative requirements of society (**Badcock 1980**). The model thus combines human biological drives with social dynamics and the biogenetic drives are modified into socially acceptable behaviour, thereby providing the individual with a range of potential behavioural strategies. The juxtaposition of the biological and social axes identify the implicit space, within which all behavioural strategies, combinations of the biological and the social can be mapped (**Heylen, Dawson and Sampson, 1980**).

Concerning the buying process of consumers, **Gutman (1982)** proposed the means-end theory that provided a view of how consumers evaluate product/service alternatives in a choice situation. On the lowest level are the product/service attributes. On the next level in the hierarchy are consequences which are defined as the result accruing directly or indirectly to the consumer from consumption of a product. On the final level are values, which are defined as desired end-states such as margins, shifting functions among partners, reducing competition and shared systems (**Rosenberg and Van West, 1984**).

However the buying process of consumers according to **Engel, Blackwell and Miniard (1995)** also encompasses other stages. These stages include, need recognition, search for information, information processing, pre-purchase

alternative evaluation, purchase, consumption, post-purchase alternative evaluation and divestment. Thus, decision process behaviour does not cease once a purchase is consummated and further evaluation takes place in the form of comparing product or service performance against expectations.

As mentioned above, customer loyalty and service quality can be defined as attitudes. On the basis of the literature, attitudes are considered an important factor influencing consumers purchase behaviour. Multiattribute attitude models examine the formation of attitudes and these models include the Fishbein model and the Ideal-Point model. However, apart from attitudes, behaviour is sometimes also affected by pressures in the social environment and in some cases it is not fully volitional. Factors which are internal to the individual such as skills, abilities, emotions, but also external factors, such as time, opportunity and dependence on others, may cause the discrepancy between behavioural intention and behaviour. In this study service quality will be defined and measured as an attitude. However, loyalty as already mentioned can be defined in behavioural terms and it will be defined as behavioural loyalty, that is, customers' repurchase intention.

### **3.3 Factors Influencing Repurchase Intention and Loyalty and Related Models**

There are a number of researchers who claimed that there is a lack of studies investigating the link between perception measures (service quality, satisfaction, intentions) and action measures (purchase loyalty, purchase volume, word-of-mouth behaviour and long term customer relationship profitability). Among these researchers are **Taylor and Baker (1994)**, **Storbacka, Strandvik and Grönroos (1994)** and **Hallowell (1996)**. Nevertheless, there is some literature examining the relationships between companies' profitability customer loyalty, customer satisfaction, service value and service quality.

A number of researchers have investigated the relationships between service quality, service value, customer satisfaction and customer retention (customer loyalty) and further customer retention on profitability in various sectors. This thesis will investigate these relationships in the mobile telephony market and will help further this area of study.

In the following, some of the models proposed by various researchers concerning these relationships, will be examined. The examined models are in various sectors and only one in the mobile telephony market examining just the relationship with customer satisfaction and repurchase intention. The examined models are grouped in four different categories. The first category includes the models that examine the relationship between customer satisfaction and repurchase intention and loyalty. The second category includes the models that

apart from the relationship between customer satisfaction and repurchase intention/loyalty examine also service quality which influences customer satisfaction. The third category introduces the concept of value as a mediator between service quality and customer satisfaction. Finally, the fourth category examines the relationship between service quality and repurchase intention/loyalty. In this study, the proposed model for mobile telephony, was built on the basis of the models described below and was then empirically tested.

### **3.3.1 Group of Models relating customer satisfaction and repurchase intention/loyalty**

The link between customer satisfaction customer loyalty and profitability was examined by some researchers such as **Rust and Zahorik (1993)** and **Hallowell (1996)**, in the banking sector and **Oliver (1980)** in the health sector, They all maintained that customer satisfaction influences customer loyalty which in turn influences companies profitability. In addition, **Lee and Feick (2001)** in their study in the mobile telephony sector, supported the strong relationship between customer satisfaction and loyalty.

#### **3.3.1.1 Models Linking Customer Satisfaction to Loyalty and to Company Profitability in banking**

Some researchers argued that there is a link between customer loyalty and customer satisfaction and that customer satisfaction is an antecedent of customer loyalty. However they did not examine service quality. They also linked customer loyalty to market share and company profitability which were considered the consequences of customer loyalty. They tested their proposed models in the banking sector.

Among these researchers are **Rust and Zahorik (1993)** who developed a model and linked customer satisfaction to customer loyalty, aggregate retention rate, market share and profits. According to the model, retention rate was the most important component of market share and it was driven by customer satisfaction. They tested the model in a retail banking setting and interviewed a random sample of 100 retail banking customers (about one fourth of them had switched banks because of dissatisfaction), in a metropolitan area by telephone. Results showed that the model succeeded in sequentially linking satisfaction to customer loyalty, aggregate retention rate, market share and profits. The model also measured the dollar value of changes in customer satisfaction since they managed to translate value into the language of revenues and costs. They provided a mathematical framework for making accountable resource allocation to improve customer satisfaction. Therefore they were able to determine the spending levels on each satisfaction element which would maximise profitability.

The model could demonstrate the value of pursuing cultural revolution in companies by showing the magnitude of the expected improvement in market share, while pinpointing the areas of customer satisfaction which require the most immediate attention.

In this study data were collected with the cross-sectional data collection approach. However, in assessing this study it can be said that since the satisfaction ratings were collected after the fact, some of the responses might not have been accurate due to bad memory. In addition dissonance might cause respondents to exaggerate differences between their current and former providers. Though, the advantage of this study is that the model developed can be used by companies that have a strong customer service orientation for further improvements in customer ratings and by companies with weak customer service cultures to demonstrate the value of making changes in the ways they do business, in terms of increased customer retention, market share and profits.

In addition, **Hallowell (1996)** examined the relationships between customer satisfaction, customer loyalty and profitability in a retail bank setting. He hypothesised that customer satisfaction is related to customer loyalty and that customer loyalty is related to profitability. Customer satisfaction data were collected through a mail survey from 12,000 retail banking customers in 59 divisions from multiple branches. Customer loyalty data were collected by the divisions on the length of the relationship and on cross-selling. Profitability data for each division were provided by the bank's treasury function. He employed four measures of customer loyalty and two sets of measures for customer satisfaction. For customer loyalty he employed the length of the relationship (from the reported customer retention rates and mean customer reported relationship tenure) and relationship depth, which was measured by dividing cross-sell rates, which recorded the percentage of customer households with multiple accounts and multiple services. For customer satisfaction he employed a single overall measure of customer satisfaction, additional questions on specific aspects of service at the bank for satisfaction with service and also satisfaction with price. This was based on the fact that perceived value is a function of perceived quality and price and on the basis of the literature differing levels of perceived value result in differing levels of customer satisfaction. Profitability was measured with Return on Investment (ROI) and Non Interest Expense as a percentage of Total Revenue (NIE/R).

The results of the statistical analysis supported the relationship between customer satisfaction and customer loyalty. As hypothesised, satisfaction/loyalty relationship was evident for the four measures of customer loyalty and for both measures of customer satisfaction applied. The findings also supported the relationship between customer loyalty and profitability. However, the analysis neither confirmed nor denied that the relationship path from customer satisfaction to customer loyalty to profitability is stronger than the direct customer satisfaction profitability relationship.

In assessing this study it can be said that it differs from the other studies because customer satisfaction data and customer loyalty data were not collected simultaneously or were from the same source, that is they were not both answered by the customer and this might have caused bias in the results. However, in this way customers' actual repurchase behaviour was traced and not just their intentions. Furthermore a large sample was used and multiple measures were employed for the constructs investigated.

### 3.3.1.2 Models Linking Customer Satisfaction to Purchase Intention in the health sector

The link between customer purchase intention and customer satisfaction was examined in the health sector.

**Oliver (1980)**, examined the relationships between expectations, disconfirmation, satisfaction and attitude and purchase intention. He proposed a model expressing consumer satisfaction as a function of expectations and expectancy disconfirmation after purchase, then satisfaction/dissatisfaction influenced post-purchase attitude which was also influenced by pre-purchase attitude and then attitude influenced post-purchase intention. The study was carried out by mailing a questionnaire measuring expectations, attitudes and intentions towards flu inoculation to 2,000 residents of a south-central city in the US and 1,000 University students, before the vaccine became available. Then 80% and 66% of them respectively were given the flu shot. Thus two groups were formed one vaccinated and one non-vaccinated. Each one of the groups was contacted twice, in a pre-test and a post-test. At the end of the flu season the same residents and students were sent a second questionnaire and were asked about their feelings toward the federal flu programme and flu shots. Expectations were measured as the perceived belief probabilities attributed to eight consequences of receiving the flu shot. Disconfirmation was captured on a 'better than expected' "worse than expected" scale (measured disconfirmation). The satisfaction measure included emotional items such as references to the respondents outright satisfaction, regret, happiness and general feelings about the decision to receive or not to receive the flu shot. Attitude was captured with a 9-item scale (pre-exposure and post-exposure) and behavioural intentions with a continuous measure by asking respondents the chances that they would get a flu shot in the future (it was measured before and after the exposure).

The results over the two samples and the two usage groups, showed that post-exposure intention was related to post-exposure attitude in all cases and to satisfaction in three cases and to pre-exposure intention, also in three cases. The results also showed that satisfaction was related to disconfirmation in all cases and with pre-exposure attitude in two cases and expectations in one case (in the inoculated group). Post-exposure attitude was a function of satisfaction in

all sample groups and a function of disconfirmation in the inoculation groups. Pre-exposure attitude was used as an adaptation level for post-exposure attitude. Disconfirmation was found to be unrelated to any pre-exposure variable in all cases. The post-exposure results of the non-inoculation group closely resembled those obtained with the inoculated group.

In assessing this study, it can be said that the researcher conducted a true longitudinal study (see **Chapter 3.4.2.4.2**) with a large sample which made the research more difficult from a practical point of view. However, because of the particular service examined it differed from the other studies. Overall, it gave a useful insight into the role of attitude as a mediator between satisfaction and intentions.

### **3.3.1.3 Models Linking Customer Satisfaction to Loyalty in the Mobile Telephony Sector**

In the mobile telephony sector little research has taken place on these issues. However some research has been carried out which examined the impact of customer satisfaction and switching costs on customer loyalty.

**Lee, Lee and Feick (2001)** investigated the impact of switching costs on the customer satisfaction-loyalty link in the mobile telephony sector in France. They conducted personal interviews with 256 mobile telephony users from the Paris metropolitan area. To measure customer loyalty, they used three measures: repurchase intent, resistance to switching to a competitor's product that is superior to the preferred vendor's product, and willingness to recommend the product to friends and associates. For customer satisfaction they used: the pricing plan, core services (coverage of the calling area and clarity of sound), and value-added services (precision of billing service and easy access to provider). Switching costs were measured as the consumers' perceived difficulty in switching. Their research findings showed that switching costs play a significant moderation role in the satisfaction-loyalty link. They found that for a given level of satisfaction customers might have two different levels of loyalty depending on the level of switching costs. They classified subjects into three levels of 'plan type' according to the amount of calling time that the customer chose at the time of the contract: economy (less than two hours), standard (from two to four hours), and mobile-lovers (more than four hours). They found that switching costs played a significant moderating role in the satisfaction-loyalty link only for the economy and standard groups. For mobile lovers, switching costs did not affect loyalty. The consumers in the economy and standard group considered the quality of core services most important and mobile lovers showed a strong attachment to value-added services and were less sensitive to pricing aspects of services. The level of satisfaction on pricing was much less significant for heavy users than for regular users.

In assessing this study, it can be said that although the researchers tested their hypothesis empirically, their sample was rather small if the total number of the mobile users in France is taken into consideration. However, they used multiple items to operationalize loyalty. The results provided an important insight into the role of switching costs in customer satisfaction/loyalty link in the mobile telephony sector.

### 3.3.2 Group of models relating service quality, customer satisfaction and repurchase intention/loyalty

Many researchers such as **Woodside Frey and Daly (1989)** in the health sector, **McAlexander, Kaldenberg and Koenig (1994)**, also in the health sector, **Taylor and Baker (1994)**, in the service industry, **Dabholkar, Shepherd and Thorpe (2000)**, in a pictorial directory, claimed that customer loyalty is influenced by customer satisfaction which is then influenced by service quality. Thus, the relationship is from service quality to customer satisfaction to purchase intentions. Thus, they maintained that service quality is an antecedent of customer satisfaction and higher levels of perceived service quality result in an increased consumer satisfaction.

Some other researchers such as **Bitner (1990)** in travel services, argued that the relationship is from customer satisfaction to service quality to behavioural intentions. According to these researchers, satisfaction with specific transactions leads to overall quality perception, a global assessment (an attitude), so, an accumulation of transaction-specific assessments leads to a global assessment. The term "transaction" represents an entire service episode (e.g., a visit to a fitness centre or a barber shop) or discrete components of a lengthy interaction between a customer and firm (e.g., the multiple encounters that a hotel guest could have with hotel staff, facilities, and services). Therefore, the direction of the relationship according to these researchers is from customer satisfaction to service quality. In addition, **Cronin and Taylor (1992)** although they hypothesised that satisfaction is an antecedent of service quality, their results indicated the opposite. Thus, it can be seen from the literature, that while recognising service quality and consumer satisfaction as essential factors in determining customer purchase intention there is inconsistency in their interrelations.

The link between service quality and purchase intention was also examined. Some researchers such as **McAlexander, Kaldenberg and Koenig (1994)**, investigated the relationship between service quality and behavioural intentions and supported that there is a direct link between service quality and purchase intention.

**Anderson, Fornell and Lehmann (1994)** gave a useful insight into the influence of quality and expectations on customer satisfaction as well as the influence of customer satisfaction on company profitability in a variety of sectors.

### 3.3.2.1 Models Linking Service Quality to Customer Satisfaction and to Company Profitability

Some researchers argued that there is a link between service quality and customer satisfaction and considered service quality as an antecedent of customer satisfaction. They then subsequently linked customer satisfaction to company profitability.

These researchers are **Anderson, Fornell and Lehmann (1994)** who investigated the nature and strength of the link between customer satisfaction and economic returns. They discussed how expectations and quality should affect customer satisfaction and why customer satisfaction in turn should affect profitability. They proposed that a company's profitability is positively affected by customer satisfaction. Customer satisfaction in turn is positively affected by quality as perceived by the market. The market's expectation of the quality of a suppliers offering should have a positive effect on customer satisfaction. They also hypothesised that the market place has adaptive expectations concerning the quality of a supplier's offering and the size of the adaptive updating effect should be small. Finally, it was proposed that the impact of perceived quality on overall customer satisfaction should be relatively greater than the impact of expectations about quality. To test their hypotheses, they used both an empirical forecast and an analytical model. They used data from the annual indices of firm-level expectations, quality and customer satisfaction which are available by the SCSB. This is a project run by the National Quality Research Centre (NQRC) at the University of Michigan Business School and the International Centre for Studies of Quality & productivity (ICQP) at the Stockholm School of Economics. It collects data from the 77 firms belonging in various sectors, which are the largest share firms in each sector. To obtain a representative sample of customers for each firm, a computer-aided telephone survey is used and then multiple measures for each construct are collected through a questionnaire. The SCSB measures were combined with economic return data such as ROI (return on investment).

The results generally confirmed their hypotheses. Both quality and expectations had a positive impact on customer satisfaction. Quality had the greatest impact on customer satisfaction and the effect of expectations on customer satisfaction was significant but relatively small. Return on investment was strongly affected by customer satisfaction. They demonstrated the economic benefits of increasing customer satisfaction and concluded that firms that actually achieve customer satisfaction can also enjoy superior economic returns.



In assessing this study it can be said that it was based on existing data provided by the SCSB and examined only customer satisfaction as influencing economic returns and not other factors such as customer loyalty. However, it gave a useful insight into the influence of quality and expectations on customer satisfaction as well as the influence of customer satisfaction on company profitability.

### 3.3.2.2 Models Linking Service Quality and Customer Satisfaction to Customer Purchase Intention

More researchers examined the relationship between service quality customer satisfaction and purchase intention without including the concept of service value.

**McAlexander, Kaldenberg and Koenig (1994)** explored the relationship between service quality, purchase intention and customer satisfaction in a healthcare setting. They also examined the efficacy of four models for measuring healthcare service quality and specifically dental practices. The four models were SERVQUAL, measuring consumer service expectations and perceptions, a weighted SERVQUAL model, a SERVPERF model measuring performance only and a weighted SERVPERF model. Their sample consisted of 996 patients from two independent general practice dental offices. They used a modification of SERVQUAL to measure service quality. The analysis of the results showed that the SERVPERF model was superior to the SERVQUAL model for measuring the provision of dental healthcare services. Dental healthcare consumers' perceptions of quality were heavily influenced by provider performance assessments. Their results also showed a positive path relationship between overall service quality and satisfaction, but a negative path relationship between satisfaction and overall service quality. They also found that patient satisfaction had a significant effect on purchase intentions. Service quality as well had a direct significant effect on purchase intentions. Although the direct impact of patient satisfaction on purchase intentions was greater than that of overall service quality on purchase intentions, overall service quality had a greater total effect on purchase intentions.

This study was cross-sectional and in assessing the study, it can be said that the results were empirically tested and a large sample was used. Furthermore, the researchers tested four instruments for measuring service quality in the sector of healthcare. An interesting finding was that service quality had a direct significant effect on purchase intentions. However, service value was not included and examined in the model.

In addition, **Taylor and Baker (1994)** analysed the relationship between service quality consumer satisfaction and purchase intention. They hypothesised that the interaction between service quality and consumer satisfaction will explain more of the variance in consumers' stated purchase intentions than the direct

influences of either service quality or satisfaction alone. They conducted a survey across four different service industries (recreation amusement park services, airlines services, distance telephone services and health care) and conducted 426 personal interviews using a convenience sampling method. In their questionnaire they included three measures for service quality, four measures for customer satisfaction and three measures for purchase intention. For three of the industries (with the exception of health care) a significant interaction effect was found. Thus, they concluded that satisfaction moderated the relationship between service quality and purchase intention. In addition, the positive influence of service quality on purchase intentions was greater when satisfaction was also greater. Therefore, the highest level of purchase intentions was observed when both service quality perceptions and satisfaction judgements were high. They concluded that a full understanding of consumers' purchase decisions in service environments required an extension in marketers' perceptions beyond viewing service quality and consumer satisfaction as simple intervening variables to viewing the constructs as largely moderating variables.

In assessing this study it can be said that the researchers empirically tested their hypothesis and used a large sample from four different service industries. However, they did not examine the concept of service value and they operationalized service quality with only three measures which are rather too few to adequately capture this construct.

Furthermore, **Dabholkar, Shepherd and Thorpe (2000)** developed a comprehensive model of service quality including an examination of its antecedents, consequences, and mediators. They hypothesised that customer satisfaction mediated the effect of service quality on behavioural intentions rather than both having an independent effect on behavioural intentions. They also examined whether factors relevant to service quality act as its antecedents rather than its components and supported that the antecedents model is superior to the components model. Furthermore, they examined whether perception measures are superior to measured and computed disconfirmation measures (calculation of perceptions-expectations gap) and whether measured disconfirmation is superior to computed disconfirmation and if a cross-sectional research design is superior to a longitudinal design.

The study consisted of collecting data through telephone interviews from 500 directors of churches who were customers of the pictorial directory division of a national photographic company. They used a longitudinal setting and expectations were asked before service delivery. After the service delivery half of the respondents were asked about their perceptions of the service and half about their perceptions compared to their expectations (measured disconfirmation). The respondents were also asked about their satisfaction and behavioural intentions. They operationalized service quality by adapting SERVQUAL and by using an overall quality measure, customer satisfaction was captured with one measure and behavioural intentions with two measures,

intentions to use the service in the future and intentions to recommend it. Their results showed that although service quality had an impact on behavioural intentions, customer satisfaction acted as a strong mediator. Furthermore, their results found support for the antecedents model of service quality conceptualisation. Their results also indicated that perception measures are superior to measured and computed disconfirmation measures and that a cross-sectional design is superior to a longitudinal design for understanding and testing service quality.

In assessing this study it can be said that the true longitudinal setting used in this study made the research, from a practical point of view, more difficult and complicated. In addition, only directors of churches were used as subjects. An advantage is that they adapted SERVQUAL to measure the quality of the service under investigation. However, other variables such as service value could also have been examined in their model.

**Cronin and Taylor (1992)** examined the relationship between satisfaction and service quality and the link with purchase intentions and they proposed that satisfaction is an antecedent of service quality. They assessed the service quality offered by two firms in each one of four industries: banking, pest control, dry cleaning, and fast food and they conducted personal interviews with 660 customers. They used a performance based measure of service quality (SERVPERF), a performance measure weighted by importance (weighted SERVPERF) and SERVQUAL weighted by importance, including expectations and perception. They used a single item to measure customer satisfaction and a basic repurchase intent measure. Although they hypothesised a priori that satisfaction is an antecedent of service quality, the empirical results of their LISREL-based analysis indicated the opposite. For each of the four service industries they investigated, they found that service quality appeared to be a causal antecedent of consumer satisfaction. Thus, consumer satisfaction was not an antecedent of service quality but empirical support was provided that perceived quality leads to customer satisfaction. Service quality had a significant effect on customer satisfaction in all four samples, consumer satisfaction had a significant effect on purchase intentions in all four samples and service quality did not have a direct significant impact on purchase intentions in any of the samples. Their results also showed that SERVPERF performed better than SERVQUAL.

This study was cross-sectional and in assessing this study, it can be said that an advantage is that the results were empirically tested. In addition, SERVQUAL and SERVPERF were used for measuring service quality and their performance in service quality measurement was compared. An interesting finding is that although the authors had hypothesized that customer satisfaction is an antecedent of service quality their results indicated the opposite. In addition service quality did not have a significant direct impact on purchase intentions. However, other variables such as service value could also have been examined.

**Woodside, Frey and Daly (1989)** examined the relationships between service quality perceptions, consumer satisfaction judgements and behavioural intentions in the health care sector. They developed a model suggesting that service quality influences customer satisfaction which in turn influences repurchase intention. Their sample consisted of hospital patients and they used a measurement scale of service quality adapted for hospital stays and used a single basic repurchase intent measure. Their results showed that service quality has a strong association with consumers' intention to return to the same hospital services provider. However, their results also showed that consumer satisfaction is an intervening variable that mediates the relationship between service quality judgements and purchase intentions, that is the relationship is from service quality to customer satisfaction to purchase intentions.

In assessing this study it can be said that an advantage is that the results have been tested empirically. In addition, service quality was measured with a measurement scale specifically adapted for the service under examination, however, repurchase intention was operationalized with a single measure. Furthermore, they could have included other variables such as value which influence customer satisfaction and repurchase intention in their model.

**Bitner (1990)** proposed a model suggesting that a consumer's pre-attitude will influence expectations about the outcome of a particular service encounter. Then consumers immediate reaction after consumption will depend on the comparison of prior expectations and perceived performance and will result in confirmation of expectations or in positive/negative disconfirmation. Furthermore, casual attributions for disconfirmation will mediate customer satisfaction (attributions are what people perceive to be the cause behind their own behaviour, the behaviours of others or the events they observe). Then service encounter satisfaction will influence perceived service quality (an attitude) which in turn will influence behavioural intentions. The model was tested with a role-play experiment using 145 travellers at an international airport. Subjects read a travel agency failure story and were instructed to imagine that they were the traveller in the story. Two hypothesised conditions of the travel agency were presented to the subjects: one organised and one disorganised. After reading the story subjects responded to measures of attributions, attitude, satisfaction and intended behaviours. Two disconfirmation measures were used, two measures of control attributions and two of stability attributions, two measures for satisfaction and a 7-item scale for service quality. Behavioural intentions were operationalized with four items (likelihood to recommend, intention to repurchase, switch and complement). The results of the statistical analysis in general supported the proposed model, consumer attributions mediated disconfirmation and satisfaction which then influenced service quality which in turn influenced behavioural intentions.

In assessing this study it can be said that it was conducted with a role-play experiment and empirical research to substantiate the relationships between satisfaction, service quality and behavioural intentions was lacking. Furthermore, not all possible antecedents of service encounter satisfaction were included such as service value and many additional factors influencing perceived service quality might exist as well.

### **3.3.3 Group of models relating service quality, service value, customer satisfaction and repurchase intention/loyalty**

A number of researchers such as **Storbacka, Strandvik and Grönroos (1994)**, **Heskett et al. (1994)**, **Liljander and Strandvik (1995)**, **Patterson and Spreng (1997)**, included the concept of perceived value in the chain of these relationships and supported that the relationship is from perceived quality, to service value to customer satisfaction to behavioural intentions. **Bolton and Drew (1991)** asserted that the relationship is from customer satisfaction to service quality to service value to purchase intentions. Furthermore **Cronin, Brady and Hult (2000)** argued that there are also direct relationships between quality, value and purchase intention. However, **Fornell et al (1996)**, found that the impact of quality on overall satisfaction was greater than the impact of value in all the sectors they examined.

#### **3.3.3.1 The Service-Profit Chain Model**

**Heskett et al. (1994)** argued that there is a link between customer loyalty, customer satisfaction and service value and they also linked customer loyalty to company profitability.

They developed the service-profit chain concept which established relationships between profitability, customer loyalty and employee satisfaction, loyalty and productivity. The service-profit chain concept was developed from analyses of successful service organisations (e.g. Southwest Airlines, Banc One etc.). According to the links in the chain profit and growth are stimulated primarily by customer loyalty. Loyalty is a direct result of customer satisfaction. Customer satisfaction is largely influenced by the value of services provided to customers. Value is created by satisfied, loyal and productive employees. Employee satisfaction results primarily from high quality support services and policies that enable employees to deliver results to customers. Thus, the components of the service-profit chain are: internal quality (support services and policies), employee satisfaction depending on employee loyalty (retention) and employee productivity, value of external services, customer satisfaction, customer loyalty and profitability and growth.

In assessing the service-profit chain it can be said that it placed importance on employees and the company processes that determine service quality and a major advantage is that the study examined the concept of value which has not been widely investigated in the literature. However, a drawback is that it was not empirically tested and it should be tested in various service sectors.

### **3.3.3.2 Models Linking Service Quality and Value to Customer Satisfaction, Loyalty and Company Profitability**

Some researchers argued that there is a link between relationship longevity and relationship strength, customer satisfaction, service value and service quality. They also linked customer loyalty to market share and company profitability which were considered the consequences of customer loyalty. They also included service value as an intermediate variable in their models, which has not been widely investigated in the literature.

Among these researchers are **Storbacka, Strandvik and Grönroos (1994)** who proposed a model according to which service quality leads to customer satisfaction, which leads to relationship strength, then to relationship longevity, which finally leads to customer relationship profitability. They suggested that customer satisfaction is related to service quality, however, in some cases although service quality can be judged low customers are satisfied, and this is due to other factors such as low sacrifice. In addition, service quality may be high but customers are not satisfied because the price is not perceived to correspond to the received quality. Satisfaction is thus related to perceived value. They emphasised the importance of price especially for services. They also concluded that relationship strength is very important because organizations with low relationship strength are exposed to competitive action. They suggested that one way to achieve strong relationships and thus long relationships, is to ensure that customers are satisfied. Furthermore, they concluded that relationship longevity is of great importance to the provider both from an efficiency and profitability point of view.

In assessing this model it can be said that it was innovative in introducing relationship strength as an antecedent of relationship longevity, however an important drawback is that it was not empirically tested and the proposed links require further research.

### **3.3.3.3 Models Linking Service Quality and Value to Customer Satisfaction, Purchase Intention/Loyalty**

Some researchers argued that there is a link between customer purchase intention (they defined loyalty on the basis of the behavioural view) and other factors which are considered as its antecedents including customer satisfaction

service value and service quality. Thus, they also included service value as an intermediate variable in their models, which has not been widely investigated in the literature.

Among these researchers are **Patterson and Spreng (1997)** who examined the impact of perceived value in concert with satisfaction and repeat purchase intentions in professional business services. They submitted that perceived performance will be positively associated with value and that value will be positively associated with repurchase intentions. They also hypothesised that each perceived performance dimension will be positively associated with satisfaction and that satisfaction will be positively associated with re-purchase intentions. In addition, that each performance dimension will be positively associated with value. The technical (outcome) dimension of perceived performance will have a greater impact on overall satisfaction and on perceived value than any of the functional (process) dimensions for professional business services. Value perceptions will be a positive, direct antecedent of satisfaction and value will be completely mediated via satisfaction and only indirectly influence repurchase intentions. Satisfaction will be the sole direct antecedent of repurchase intentions for professional business services. The actual research consisted of sending mail questionnaires to 207 client organizations of three consultancy firms and one public organisation which was a heavy user of consultants. They used fourteen attribute items to capture performance, specifically adapted for the service and they calculated importance weights for each dimension by asking respondents to complete a constant-sum importance scale of 100 points. They measured satisfaction with three items, value with one single item and behavioural intention with one question asking respondents to state their repurchase intention. Their results supported the model and generally confirmed their hypotheses. Their findings showed that the effects of performance on intentions were completely mediated by value and satisfaction. In addition, value was completely mediated through satisfaction in influencing repeat purchase behaviour. They asserted that the inclusion of the value construct in models provides a richer portrayal of the dynamics surrounding satisfaction evaluations and intentions, since shortcomings in service performance may be offset by perceived reductions in sacrifices such that clients receiving less than expected performance may still be satisfied.

In assessing this model it can be said that its advantage is that it was tested empirically and used both private and public organizations in the sample. In addition, they also used fourteen attribute items to capture performance that were adapted for the service under examination. They also examined separately the impact of the technical and the functional dimension of perceived performance on value and satisfaction. Furthermore, it was the first study to incorporate and examine value in a business-to-business setting.

In addition, **Liljander and Strandvik (1995)** proposed a model examining the relationship between performance, value, satisfaction and purchase behaviour.

The basic idea behind their model was the division into two levels: an episode and a relationship level. They suggested that satisfaction was affected by perceived value. They defined value as a combination of perceived service quality and perceived sacrifices. They considered sacrifice to be an important part of the satisfaction process. Thus, if the perceived quality and the perceived sacrifices connected to one episode were in balance, or if quality exceeded sacrifice the customer perceived high value and was satisfied. The value perception also affected the general image of the service provider. The image in turn affected the predictive expectations of the next service episode. They also suggested that the perceived performance of the episode can affect episode quality either directly or indirectly through disconfirmation. Relationship quality can in the same way as episode quality be determined by direct or inferred disconfirmation or by relationship performance alone. In addition, they suggested that tolerance zones can be present capturing the accepted variance of performance at the relationship level [*the zone of tolerance as defined by Woodruff, Cadotte and Jenkins (1983) is the interval around a performance norm (norms are standards in the form of norms, e.g. brand performance based norms, product performance based norms) within which perceived performance is likely to be considered equivalent to the norm. Perceived brand performance which is above or below the norm but within the indifference zone leads to confirmation. Positive or negative disconfirmation results when perceived brand performance is outside the zone*]. Furthermore, they proposed that relationship quality can affect commitment directly or through perceived value. Positive commitment can be seen as intentions leading to behaviours such as positive word-of-mouth and also negative commitment can be present leading to negative word of mouth. Both commitment and purchase behaviour were proposed to be related to bonds that the customer has with the service provider. They suggested that ten bonds existed between customers and companies which could prevent customers from switching even when they were not pleased with the service. The first five bonds are: legal, economic, technological, geographical and time bonds. These bonds cannot easily be influenced by the customer but can be managed by the service firm. The other five bonds are: knowledge, social, cultural, ideological and psychological bonds. They are difficult to be measured and managed by the firm and they are directly connected to the customer's values and preferences. On this basis it can be seen that according to the authors, value was an intervening variable between quality and satisfaction which in turn influenced behaviour.

In assessing this study it can be said that the model proposed is more complete because the researchers included the concept of value and they proposed the division into an episode level and a relationship level. Furthermore, they suggested that bonds could also influence customers' behaviour. A drawback is that the model was not tested empirically.

Furthermore, **Bolton and Drew (1991)** developed a multistage model of the determinants of perceived service quality and service value and they linked



repeat purchase intentions to value in their study of local telephone services. Their model proposed that service attributes which were influenced by organisational, engineering attributes, personal needs, word of mouth and past experiences, in turn affected perceptions of performance levels and expectations, which both affected disconfirmation, then they all affected satisfaction which influenced service quality (also affected by disconfirmation) which in turn influenced service value (also affected by sacrifice and customer characteristics) which affected intentions which finally affected behaviour. They pointed out that value is the key linkage between perceived quality or performance and behavioural intentions. Customers' evaluations of local telephone services were hypothesised to depend on performance and disconfirmation because exploratory research confirmed that customer expectations about telephone service were not actively processed. They interviewed 1,408 telephone customers. Their survey elicited direct measures of disconfirmation. Their results confirmed the hypothesised model and showed that the most important determinant of perceived service value was quality. Customers' assessments of service value were positively related to their evaluations of service quality and customers assessment of overall service quality was directly affected by perceptions of performance.

In assessing the model it can be said that an advantage is that it was tested empirically and value was also incorporated into the model. Furthermore and more importantly, SERVQUAL was adapted for the telecommunications sector. However, only a direct measure for disconfirmation was used and expectations were not measured separately. Single measures were also employed for each model construct (apart from service quality), whereas a multiple measure could have been more appropriate.

**Cronin, Brady and Hult (2000)** developed a model to conceptualise the effects of quality, satisfaction and value on consumer behavioural intentions. They argued that the consumer decision-making process for service products is best modelled as a complex system that incorporates both direct and indirect effects on behavioural intentions, thus their model considered also the direct effects of quality, value, and satisfaction on behavioural intentions. They assessed the relationships between the identified constructs across multiple service industries by conducting two studies that investigated six service industries and utilised different samples. The first study investigated three industries: spectator sports, participation sports and entertainment. The second study investigated another three industries: health care, long distance carriers and fast food. Multiple service providers were chosen in each industry and the studies were conducted in the same medium-sized metropolitan area. They used a 10-item scale to measure service quality which derived from the original 10 SERVQUAL dimensions. In their questionnaire they included also two direct measures of value, two sets of items for satisfaction and three items for behavioural intentions. Their results indicated that value is largely defined by perceptions of quality and less defined by acquisition costs with the lone exception of the fast

food industry. Quality affected perceptions of value and satisfaction and also influenced behavioural intentions directly. Service quality had a direct effect on consumers' behavioural intentions in four of the six industries with the exceptions being the health care and long-distance carrier industries. Service value lead to satisfaction and the service value behavioural intentions relationship was significant in all six-industry samples. Satisfaction influenced behavioural intentions directly in all industries except health care. In addition to the direct effects, they also considered the indirect effects that service quality and service value had on consumers' behavioural intentions (i.e., service quality through service value and customer satisfaction and service value through customer satisfaction). The results indicated that these indirect paths were consistently significant across industries and multiple methods.

In assessing this model, an important advantage is that it was empirically tested and two studies were conducted to ensure the cross-relation of the results. Another important issue is that it examined also the direct effects of quality, value, and satisfaction on behavioural intentions. In addition, the relationships between the constructs across multiple service industries were assessed and multiple measures were employed to operationalize the constructs investigated.

**Fornell et al (1996)** introduced the American Customer Satisfaction Index (ACSI) which provides a measure for the companies past and current performance as well as their future financial health since it is an indicator of financial performance. ACSI is embedded in a system of cause and effect relationships. The chain of relationship run from the proposed antecedents of overall customer satisfaction that is expectations, perceived quality and value to the proposed consequences of overall customer satisfaction, that is customer complaints and loyalty. ACSI was designed to be representative of the nations economy as a whole, thus the seven major economic sectors Manufacturing/Non-Durables, Manufacturing/Durables, Transportation/Communication/Utilities, Retail, Finance/Insurance, Service and Public Administration/Government were included. Within each sector the largest companies were included and interviews were conducted with 250 customers of each one. Three expectation measures were collected: overall expectations and expectations regarding customisation and reliability. Customers recent experiences were rated using three measures: overall perceived quality and perceived customisation and reliability. Two questions tapped perceived value: quality relative to price and price relative to quality. Overall customer satisfaction was operationalized through three measures: an overall rating, the degree to which performance fell short or exceeded expectations and a rating of performance relative to the customers' ideal product/service. Customer complaints were measured by whether customers had complained formally or informally. There were also two measures for customer loyalty: repurchase likelihood and a combination of two variables, the degree to which a firm could raise its prices before the customers would not choose to buy again and the

degree to which a firm could lower its prices before the customers would definitely choose to buy again.

The authors evaluated the model for the seven sectors for which data are collected. The model was estimated for each firm and the results were aggregated to industry and sector indices and to an overall national ACSI, however they also treated each sector as a sub-segment of the overall ACSI population. In particular they discussed the relative importance of customisation and reliability, the predictive nature of expectations, and the relative importance of price and quality. They concluded that customisation is more central to customer expectations and perceptions of quality than reliability. In addition, expectations proved to be largely rational in that they predicted quality, value and customer satisfaction. Furthermore, the impact of quality on overall satisfaction was greater than the impact of value, in each one of the seven sectors. Thus, they concluded that although value may be more central to the formation of customers initial preferences and choice, quality is more central to the consumption experience itself. Price driven satisfaction was highest for the sector Transportation/Communications/Utilities, in which competition is relatively commodity based and price plays an important role. Concerning the satisfaction loyalty link they concluded that price-driven satisfaction ratio should be associated with the degree of loyalty, with the exception of Manufacturing/Non durables and the Transportation/Communications/Utilities sectors, where they found repurchase likelihood to be high. These mixed findings suggested that additional research was needed.

In assessing this study it can be concluded that although in the system of cause and effect relationships on which ACSI is embedded, the chain of relationship runs from expectations, perceived quality, value to overall customer satisfaction, customer complaints and loyalty, the researchers found that in the seven sectors they examined, the impact of quality on overall satisfaction was greater than the impact of value. This study played an important role by providing a measure of companies financial performance. The proposed model was more complete because it included the concept of value. In addition, it was tested in seven sectors and comparisons were made between sectors.

#### **3.3.4 Group of models relating service quality and value with repurchase intention/loyalty**

Researchers such as **Headley and Miller (1993)**, **Boulding et al (1993)**, **Zeithaml, Berry and Parasuraman (1996)**, **Ennew and Binks (1996)**, **Kangis and Zhang (2000)**, investigated the relationship between service quality and behavioural intentions and supported that there is a direct link between service quality and purchase intention. **Chang and Wildt (1994)**, **Zeithaml (1988)**, and **Cronin et al. (1997)** supported the link from perceived quality, to service value to purchase intentions.

#### 3.3.4.1 Models Linking Service Quality to Customer Purchase Intention

Some other researchers argued that there is a link between customer purchase intention and service quality and did not examine the concepts of customer satisfaction and service value.

Among these researchers are **Headley and Miller (1993)** 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 using the service at all. Their aim was to explore the possibility of a link between service quality and intent towards a range of future consumer behaviours. To measure service quality, they adapted the SERVQUAL scale for medical care services and they also used a single overall service quality measure. They sent mail questionnaires to 967 patients twice, one before the visit to the clinic to ask about their expectations and one after the visit to ask about their perceptions. Their findings indicated that significant relationships existed between perceived service quality, measured as a difference between pre-and post encounter opinion and intent to repurchase, compliment, complain, recommend, switch and not use medical care service. The confirmation of anticipated relationships between perceived service quality and various consumer intentions suggested that perceived higher service quality will generate favourable intentions (e.g., repurchase, complementing) and that perceived lower service quality will lead to unfavourable intentions (e.g., complaining, switching and non-use of any services). They also concluded that service quality as measured by SERVQUAL was positively related to an overall service quality measure.

In assessing this study, it can be said that the researchers conducted a true longitudinal study in order to capture real expectations of service. They contacted their potential respondents prior to a scheduled appointment at a certain clinic to capture their pre-encounter expectations. After the appointment with the clinic they contacted the same respondents and gathered their post encounter perceptions. This, from a practical point of view, is very difficult to implement, especially in a medical care setting. Furthermore, SERVQUAL was adapted for a clinic setting and they also used a more complete range of possible behaviours (repeat purchase, complementing, complaining, etc.).

In addition, **Boulding et al. (1993)** developed a behavioural process model of perceived service. According to the model, individuals enter into each service transaction with an initial set of expectations about what will and should happen on each of the dimensions of service. These initial expectations and the actual delivered service then lead to cumulative perceptions of the delivered service in each dimension, as well as updated expectations about each dimension for what will and should occur in future transactions. Finally, perceptions of the dimensions of service contribute to an overall assessment of the level of service

quality, which in turn leads to behavioural intentions and willingness to recommend.

The authors tested the model with data from two different studies. The first was a laboratory experiment involving two simulated visits to a hotel and 107 business professionals participated. They were asked to indicate their will and should expectations before 'visiting' the hotel and then after reading a description of their stay they were asked to indicate their perceptions. Quality assessments were made on a 100-point scale and on the basis of SERVQUAL dimensions. For behavioural intentions they used two measures, repeat business and willingness to provide favourable word of mouth. Empirical findings indicated that will expectations influenced positively perceptions of quality and should expectations negatively. Furthermore, service quality perceptions influenced positively behavioural intentions.

The second study was a field study concerning quality of an educational institution and data were obtained from 117 customers. They adapted SERVQUAL for educational services to measure quality and used six items of intended behaviours, grouped into a single index measure. The results of this study showed that perceptions of quality related positively to the index of behavioural intentions. Furthermore, they showed that prior expectations of what service will occur, positively influenced perceptions of delivered service and prior expectations of what service should occur negatively influenced these perceptions.

In assessing this study, it can be said that the researchers conducted two studies to crosscheck their results. The first was a longitudinal study, which however was only a laboratory experiment and there was the problem of the role-play of the participants. However, the second study, which was a cross-sectional field study, supported the results of the experiment. Furthermore, SERVQUAL was adapted for educational services and multiple measures were used to operationalize behavioural intentions.

Furthermore, **Zeithaml, Berry and Parasuraman (1996)**, developed a conceptual model which depicted the behavioural consequences of service quality. They proposed that the relationship between service quality and behavioural intentions was positive (negative) for favourable (unfavourable) behavioural intentions and had different slope below and above the zone of tolerance. In addition, they predicted that favourable (unfavourable) behavioural intentions were highest (lowest) for customers experiencing no service problems and highest (lowest) for customers experiencing service problems that were resolved and lowest (highest) for customers experiencing service problems that were not resolved. They operationalized service quality using SERVQUAL (including perceptions and adequate and desired level expectations), a single item measure of overall service quality and two questions to measure whether respondents had experienced a recent service problem and if it was resolved.

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. It was a 13-item scale grouped in four categories: word of mouth, purchase intention, price sensitivity and complaining behaviour. The model was empirically examined and the customers of four companies (computer manufacturer, retail chain, automobile insurer and life insurer), were surveyed by mail and 3,069 questionnaires were gathered.

The results showed strong evidence that customer behaviour intentions were strongly influenced by service quality. Improving service quality could increase favourable behavioural intentions and decrease unfavourable intentions. They also revealed differences in the nature of the quality-intentions link across different dimensions of behavioural intentions. Customers experiencing no service problems had the strongest levels of loyalty intentions and the weakest switch and external response intention. Among customers who experienced recent service problems those who received satisfactory resolution had significantly higher loyalty and more intentions and significantly lower switch and external response intentions than those with unresolved problems. Effective service recovery proved to significantly improve all facets of behavioural intentions, however it does not restore intentions to the levels expressed by the customers not experiencing service problems.

In assessing this cross-sectional study, it can be said that an advantage is that the researchers examined their model empirically with a large sample and in a multi-company context. In addition, SERVQUAL which is a multi-item measure, was used to operationalize service quality and an extensive behavioural intentions battery distinguishing intentions into favourable and unfavourable.

**Ennew and Binks (1996)**, explored the relationship between service quality, customer relationships and customer loyalty and retention in the banking sector. They examined factors affecting customer retention and defection and the extent to which these were influenced by service quality. They specified a model in which the likelihood of considering a change of bank was a function of perceived quality including product and business characteristics and the overall banking relationship. They hypothesised that the potential to defect would be negatively related to the quality of the service and the quality of the overall banking relationship. They used as their subjects 16,000 small and medium sized companies, all business customers of the UK banks. The study focused on loyal customers and partially loyal, those that had considered changing bank. They identified the factors distinguishing the retained from the potential defectors (taking into consideration the aspects of functional and technical quality) and identified three broad types of variables. The first category consisted of the features of the product, the second concerned the overall service quality (including both product and process dimensions) and the third focused on the overall banking relationship with retained/loyal customers. In addition, five firm

specific customers characteristics, age, size, profitability, financial difficulties and current bank were examined.

The model provided support for the hypothesis that loyalty/retention is influenced by service quality and customer relationships. Service quality was identified as an important factor which should contribute to an organisation's ability to retain loyal customers and thus contribute to improved organisational performance. Evidence concerning the positive image of aspects of functional and technical quality on loyalty and retention was provided and functional quality proved to be at least as important as technical quality.

In assessing this study, it can be said that the researchers empirically tested their hypothesis using a large sample. However, quality was measured by only using perceptions and expectations were not included. Despite that, the study provided evidence concerning the impact of functional and technical quality on customer loyalty.

**Kangis and Zhang (2000)** explored the link between service quality and customer retention in banking. They approached 490 bank customers in Guildford, Surrey in the UK and obtained 145 useable questionnaires. They used SERVQUAL instrument to measure service quality and considered three measures as proxies to service quality an overall service quality measure, difference ratings between expectations and perceptions and performance only ratings. They measured the stated intention to repurchase as a direct question rather than the repurchase itself. 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. Furthermore, their results showed that the correlation between repurchase intention and the single overall measure of service quality was higher than the correlation between difference scores and repurchase intention. This was a cross-sectional study which measured both customers expectations and perceptions at the same time.

#### **3.3.4.2 Models Linking Service Quality and Value to Customer Purchase Intention**

Some researchers argued that there is a link between customer purchase intention and service value and service quality, which were considered as antecedents of customer purchase intention. However, customer satisfaction was not a factor investigated in these models.

Among these researchers are **Chang and Wildt (1994)** who examined the links between price, product attribute cues, perceived quality and value and purchase intention, as well as the effects of internal reference price, objective price and perceived price on these links. They conducted a laboratory experiment for a student housing service unit and a PC purchasing unit. Their subjects were 425

upper-division business students from two State Universities and they gave them material to read and then asked them questions. They also asked for importance weights for all product attributes. They measured price using separate measures for objective and internal reference price. They measured perceived quality using two overall quality measures and a measure of comfort for apartments and of dependability for PCs. Perceived value and purchase intention were measured using a single item. Their empirical findings indicated that perceived price was positively influenced by objective price and negatively influenced by reference price. Furthermore, the influence of objective price on perceived quality was lessened in the presence of substantial direct product attribute information. Perceived price and perceived quality influenced perceived value and perceived value positively influenced purchase intention. Thus, perceived value mediated the influence of perceived price and perceived quality on repurchase intentions. However both perceived price and perceived quality had direct effects on purchase intentions. They concluded that this direct effect might imply that the formation of purchase intentions is more complex than might have been expected and that factors in addition to perceived value might deserve investigation.

In assessing this study it can be said that the study was merely a laboratory experiment and only students were used as subjects, so this might have biased the results. Furthermore, the researchers could have included other variables to examine in their model such as customer satisfaction. In addition, only a few items were used to measure service quality and the other variables examined were operationalized with one single item.

In addition, **Zeithaml (1988)** related the concepts of price, quality and value defined from the consumer's perspective in a model. She conducted the exploratory investigation in the product category of beverages. She asserted that purchase was influenced by perceived value which was influenced by perceived quality, perceived sacrifice (influenced by perceived monetary price and perceived non monetary price), high-level abstractions, intrinsic attributes and extrinsic attributes. Perceived quality was influenced also by intrinsic and extrinsic attributes and perceived monetary price (influenced by objective price). Intrinsic cues involve the physical composition of a product and in a beverage they included flavour, colour, texture and degree of sweetness. Extrinsic cues were product related but not part of the physical product itself and included price, brand name and level of advertising. High-level abstractions include high personal values such as prestige and convenience. To support her model, she used evidence from past research and also conducted one focus group interview with a company and 30 in-depth interviews with consumers. The results of the interviews and the research evidence showed that perceived quality was positively related to perceived value and perceived sacrifice negatively related to perceived value. In addition, perceived value was an intervening construct in the relationship of quality with purchase intentions.



In assessing this study it can be said that a major drawback is that it was based on evidence from the existing literature and the proposed model was not empirically tested and only relatively few interviews were conducted.

Furthermore, **Cronin et al. (1997)** maintained that service value when added to models of consumer decision making for services increases the ability of these models to explain variance in purchase intentions above that accounted for by consumers' perception of service quality and the sacrifice made to acquire it. They argued that a direct measure of service value should be added between service quality and purchase intention in models. They also examined the best way to conceptualise and measure service value. They hypothesised that service value is best modelled as a value added function, that is as a trade-off between the 'give' and 'get' components. The 'get' component includes service quality and the 'give' component includes apart from price also the total sacrifice, that is time, effort and risk. They conducted two studies investigating different service organisations and utilising different research samples, however using identical survey instruments in each study. In the first study they examined hedonic services (meeting consumers discretionary, recreational and entertainment needs) and in the second study utilitarian services (satisfying consumers needs for health care, communication and food). The two studies were conducted in the same medium sized metropolitan area. They used a 10-item scale to measure service quality which derived from the original 10 SERVQUAL dimensions. Their empirical analysis showed that the value added model represents the best model of service value. Their results also offered strong support for the idea that the addition of a direct measure of service value to models which are defined solely by service quality and sacrifice increases the ability of the model to explain variance in consumers repurchase intention.

In assessing this study it can be said that an advantage is that it examined the concept of value, which has not been widely examined in the literature. In addition, in order to ensure the best possible cross-validation and generalisability of the results, the researchers conducted two studies investigating different service organisations and utilising different research samples. However, identical survey instruments were used in each study. Furthermore, they measured service quality with SERVQUAL which is a multi-item measure.

### **3.3.5 Overall Assessment of the Models**

From the models presented in **Chapter 3 (sections 3.3.1-3.3.4)**, it can be seen that there are various and conflicting views about the relationships and causal order between the factors influencing customer purchase intention/loyalty.

The existing models in the literature examine customer repurchase intention/loyalty, in other sectors and not the mobile telephony sector. A group of

these models supported that customer loyalty is influenced by customer satisfaction (**Chapter 3.3.1**), another group supported that customer satisfaction is influenced by service quality (**Chapter 3.3.2**). Most of the researchers supported that the relationship is from service quality to customer satisfaction to purchase intentions. Thus, they maintained that service quality is an antecedent of customer satisfaction and higher levels of perceived service quality result in an increased consumer satisfaction. However, other researchers supported that the direction of the relationship is from customer satisfaction to service quality. Thus, it can be seen from the literature, that while recognising service quality and consumer satisfaction as essential factors in determining customer purchase intention there is inconsistency concerning their interrelation.

Other group of models included the concept of perceived value in the chain of these relationships and supported that the relationship is from perceived quality, to perceived value to customer satisfaction to behavioural intentions (**Chapter 3.3.3**). In addition, **Bolton and Drew (1991)** asserted that the relationship is from customer satisfaction to service quality to service value to purchase intentions. Thus, it can be concluded that there are conflicting views also here.

A fourth group of models (**Chapter 3.3.4**) supported that there is a link between service quality and purchase intention. Researchers such as **Headley and Miller (1993)**, **Boulding et al (1993)**, **Zeithaml, Berry and Parasuraman (1996)**, **Ennew and Binks (1996)**, **Kangis and Zhang (2000)**, investigated the relationship between service quality and behavioural intentions and supported that there is a link between service quality and purchase intention. In addition, **McAlexander, Kaldenberg and Koenig (1994)**, supported the link between service quality and purchase intention.

From those four groups of models, it can be seen that the main factors influencing customer purchase intention are service quality, service value and customer satisfaction. However there is a lot of conflict in the literature concerning their interrelation and their order in influencing purchase intentions.

Furthermore, **Dodds, Monroe and Grewal, (1991)** developed a model and used perception of value in a pre-purchase situation and maintained that value might directly influence willingness to buy since consumers may refrain from purchasing a product if the price is outside their range or the price signals that the quality is inferior. Thus, it can be concluded that there are also links between value and purchase intention.

This study will examine all the factors revealed in the studies presented above as influencing customer repurchase intention/loyalty in other sectors, in the mobile telephony sector. In addition, on the basis of the discussion in the literature concerning the relationships between these factors a model will be postulated.

In the following the factors revealed as influencing customer repurchase intention/loyalty such as service quality, service value and customer satisfaction, will be individually analysed. The definition of the factors will be given as well as the various ways proposed in the literature concerning their measurement in order to identify the most appropriate to adopt it for this study.

### **3.4 The Importance of Service Quality**

Service quality is an important issue for all companies all over the world and the drive for service quality is present in the majority of strategic and marketing plans. Service quality helps to ensure customer retention and gives a company a competitive edge in the market.

Many researchers emphasized the importance of service quality. As **Bitner and Hubbert (1994)**, claimed the drive for quality in products and services is apparent worldwide. In addition **Fisk, Brown and Bitner (1993)** argued that the most researched area in services marketing is service quality.

Many companies see quality as a strategic weapon in their competitive battles. As **Eccles (1991)** stated in the 1980s, the financial records of many companies' deteriorated because of declines in quality and customer satisfaction. Quality is equally important in products and in services. As **Reichheld and Sasser (1990)** stated, just as the quality revolution in manufacturing had a profound impact on the competitiveness of companies, the quality revolution in services can create a new set of winners and losers. The winners will be those who lead the way in managing toward zero defections.

In the mobile telephony sector, service quality is a very important issue. Nowadays advanced technology is used and hi-tech networks as well as hi-tech mobile handsets are available from all the operators. Thus, a key factor that can differentiate an operator and offer a competitive advantage is service delivery and customer service.

#### **3.4.1 The Definition and Measurement of Service Quality**

In order to produce consistent research results, service quality needs to be defined. However, numerous researchers have had difficulty in doing this. Service quality is extremely problematic and the literature has been inconsistent in the conceptualisation of service quality. However, measuring service quality is important for companies because they can create strategies to fill the gap between customer expectations and actual experience, thus leading to better customer retention as it will be shown in this study.

### 3.4.1.1 Definition of Service Quality

Service quality is an abstract and elusive construct because of three features unique to services: intangibility, heterogeneity and inseparability of production and disposition of the service (**Parasuraman, Zeithaml and Berry (1985, 1988)**). As **Teas (1993a)** mentioned according to the dictionary of Psychology (Chaplin 1981) the definition of quality is 'the relative level of goodness or excellence of anything'.

Many researchers embraced the view that it is difficult to define and measure service quality (**Parasuraman, Zeithaml and Berry 1985, 1988; Carman, 1990**). As **Philip and Hazlett (1997)** concluded, it is notoriously difficult to produce an all-embracing definition of service quality. In addition, **Boulding et al. (1993)** stated that obtaining objective measures for the actual service is difficult and the actual service delivered varies from person to person and server to server.

The service quality literature views service quality as an attitude. As **Olshavsky (1985)** and **Bolton and Drew (1991)** argued, service quality is considered to be more congruent with a long-term attitude. In addition, **Parasuraman, Zeithaml and Berry (1985, 1988)** proposed that service quality is an overall evaluation similar to attitude and defined service quality as a global judgement or attitude relating to the superiority or excellence of the service and not directly connected to particular incidents. As such **Zeithaml (1988)**, **Bitner and Hubbert (1994)**, **Taylor and Baker (1994)** and **Teas (1993a)** proposed the definition of service quality as the consumers overall impression of the relative inferiority/superiority of the organisation and its services.

However, some researchers argued that service quality can be examined meaningfully from both transaction specific as well as global perspectives. Among these researchers are **Teas (1994)**, **Parasuraman, Zeithaml and Berry (1994b)**, **Anderson and Fornell (1994)**, **Bitner and Hubbert (1994)** and **Rust and Oliver (1994)** who argued that service quality exhibits global and consumer specific forms.

Another important issue that companies should take into consideration is that the customer should judge service quality. As **Kordupleski, Rust and Zahorik, (1993)** stated the customer is the ultimate judge of quality and the customer side of quality involves the needs, satisfaction and buying behaviours of the customers. This was reinforced by **Maruca and Halliday (1993)** who agreed that the quality of a product/service is whatever the customer perceives it to be and there can be a big difference between excellence as defined by developers of a new product/service and perceptions of excellence as defined by customers.

On this basis, it can be concluded that it is difficult to define and measure service quality. The service quality literature conceptualises service quality as a global assessment similar to an attitude. However, some researchers maintained that service quality can be examined from both transaction-specific as well as global perspectives. As it has already been mentioned in this study service quality will be defined and measured as an attitude. Apart from the different conceptualisations of service quality as an attitude and as a transaction specific assessment, there is conflict in the literature concerning the way service quality should be measured.

### 3.4.1.2 Measurable Components of Service Quality

There are a number of different components/dimensions which constitute service quality and could be measured. These components have been grouped in various combinations by different researchers and by measuring these components service quality is measured.

The various components of service quality as stated by the different researchers are presented in **Table 2**.

*Table 2: Components of Service Quality*

Reference	Components of service quality
<b>Lehtinen and Lehtinen (1982)</b>	Interactive, physical and corporate quality.
<b>Gronroos (1982)</b>	<i>Technical</i> : concerned with the outcome of the service encounter (focusing on 'what' the service delivers) <i>Functional</i> : concerned with the process of service delivery (focusing on 'how' the service is delivered) <i>Reputational</i> : a reflection of the corporate image of the service organisation
<b>Parasuraman, Zeithaml and Berry (1985)</b>	The service 'outcome' and 'processes'.

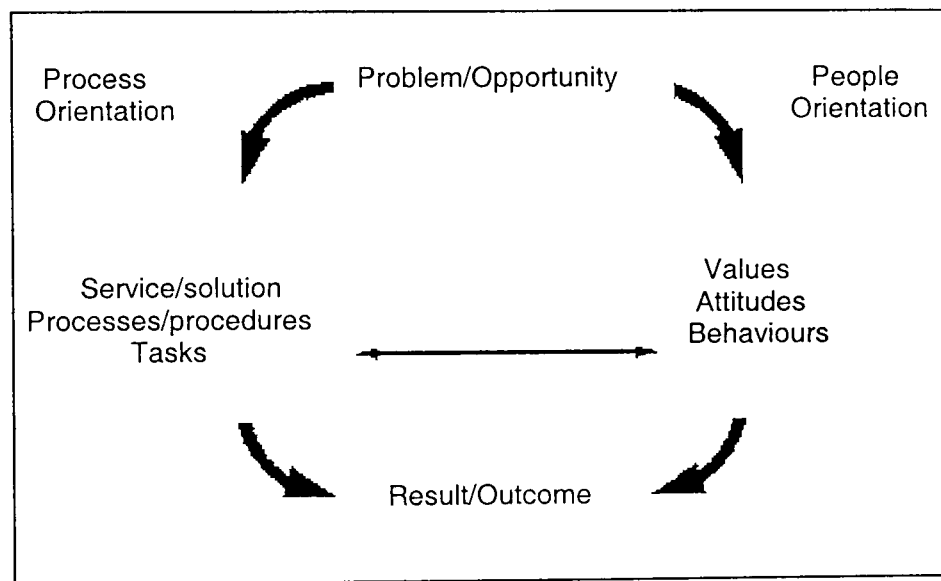
It can be concluded that the dimension 'what the service delivers' is called outcome quality by **Parasuraman, Zeithaml and Berry (1985)**, technical quality by **Grönroos (1982)**, and physical quality by **Lehtinen and Lehtinen (1982)**. The dimension, 'how the service is delivered' is called process quality by **Parasuraman Zeithaml and Berry (1985)**, functional quality by **Grönroos (1982)** and interactive quality by **Lehtinen and Lehtinen (1982)**.

However, researchers agreed that it is not only the outcome that is important but it is also service delivery. Researchers such as **Struebing (1996)**, **Asubonteng, McCleary and Swan (1996)** and **Sasser, Olsen and Wyckoff (1978)** argued that quality evaluations are not made solely on the outcome of the service, they

also involve evaluations of the process of service delivery, that is the way in which the service is delivered during the interactions between provider and consumer.

Customer service involves task-oriented activities that involve interactions with customers. One part of customer service is process (processes that fix customer problems) and another part is human. Employees providing the service should be polite and friendly with the customer willing to provide an excellent service to him/her and know their jobs very well. The 'human' aspect of customer service is of significant importance. As **Maruca and Halliday (1993)** claimed the quality of service depends on a company's processes and also on employees (values, attitudes and behaviours of the employees). The two sides to the customer service are displayed in **Figure 7**.

**Figure 7: The two Sides to Customer Service**



Source: AFSM International (1997).

Thus, the process side concerns the processes/procedures to follow and the tasks to be carried out. The people side consists of the values, attitudes and behaviours of the employees. As **Gofton (1997b)** stated in the 4 Ps of marketing (the right product, in the right place, at the right price and with the right promotion), the Chartered Institute of Marketing added a fifth 'people' and added also another one 'processes'. The staff a company employs and the systems or processes it uses play a key part in forming the impression that shapes or undermines customer loyalty.

Researchers used diverse components to measure service quality in their studies. They used various dimensions and different numbers of items. For example **Albrecht and Zemke (1985)** suggested care and concern, spontaneity, problem solving and recovery as determinants of service quality. **Parasuraman, Zeithaml and Berry (1985, 1988)** proposed five dimensions to measure service quality: tangibles, reliability, responsiveness, assurance and empathy.

**Grönroos (1990)** postulated six criteria of perceived service quality: professionalism and skills, attitudes and behaviour, accessibility and flexibility, reliability and trustworthiness, recovery, reputation and credibility. Furthermore, **Walker (1990)** suggested that the key determinants of service quality are reliability, a quality environment and delivery systems that work together with good personal service including staff attitude, knowledge and skills.

**Armistead (1990)** split service quality dimensions into 'firm' and 'soft'. The 'firm' dimensions were time (including availability, waiting time and responsiveness), fault freeness (including physical items, information and advice) and flexibility (ability to recover from mistakes, to customize the service or add additional services). The 'soft' dimensions were style (attitude of staff, accessibility of staff and ambience), steering (the degree to which customers feel in control of their own destiny) and safety (trust, security and confidentiality). In addition, **Johnston (1995)** proposed dimensions such as flexibility and the customisation of a service for an individual customer. The idea of flexibility has also been discussed in the manufacturing literature, however, flexibility and the customisation on the basis of the needs of individual customers are more feasible and are widely asked in services.

On this basis, **Philip and Hazlett (1997)** and **Babakus and Boller (1992)** agreed that service quality may be an umbrella construct with distinct dimensions although, there is no real consensus as to what these dimensions might be. In addition, **Parasuraman, Zeithaml and Berry (1994a)** agreed that service quality is a multifaceted construct and there is no clear consensus yet on the number of dimensions and their interrelationships. Furthermore, **Cronin and Taylor, (1992)** concluded that the items that define service quality in one industry may be different in another. Perhaps high involvement services such as health care or financial services have different service quality definitions than low involvement services such as fast food or dry cleaning. This was reinforced by **Babakus and Boller (1992)** who claimed that the number of service quality dimensions is dependent on the particular service being offered.

According to the above, it can be concluded that there are various components of service quality including technical quality that is concerned with the outcome of the service encounter ('what the service delivers') and functional quality that is concerned with the process of service delivery ('how the service is delivered'). Customer service quality depends on the company's processes and on its employees. However, researchers used various components to measure service quality in their studies and there appears to be little consensus in the literature concerning the dimensions for measuring service quality and many researchers agreed that they depend on the service.

The components of service quality described above are the basis for the formation of the dimensions used for measuring service quality and applied in the instruments measuring service quality. In the mobile telephony services,

functional quality (or process quality) includes the delivery of the service (processes and people), that is 'how' service is delivered: prompt service during all day, always available at the time promised to customers, employees with knowledge and good professional skills always serving customers with the best possible way, accurate billing. Technical quality (or outcome quality) concerns 'what the service delivers', that is the final product that is the mobile call, to be able to receive it successfully and clearly everywhere. Reputational quality concerns the brand image of the mobile operators and customers opinions about each one of the operators.

### 3.4.2 Service Quality Measurement Approaches

An appropriate instrument for measuring service quality should be selected thus the existing models for measuring service quality will be examined and the criteria defining the reliability and the validity of these measures will be analysed. In order to select the research instrument for measuring service quality in this study, various methods will be examined, such as the evaluation methods of Critical Incident Technique (CIT) and the Repertory Grid Analysis (RGA), the Gap models including the SERVQUAL model, the Performance Based Models for measuring service quality and finally some additional models. The gap models will be compared with the non-gap and conclusions will be drawn.

#### 3.4.2.1 Evaluation Methods: Critical Incident Technique (CIT) and Repertory Grid Analysis (RGA)

**Critical incident technique** (CIT) is a method for evaluating systems in functioning work environments. It relies on the idea that critical incidents will be memorable, making their capture possible either through interview, observation, or self-reporting. It should be noted that the term 'critical' implies a crucial role in system behaviour and not whether or not the event was an emergency, or a matter of life or death (**Carpenter, 2000**). Thus, a critical incident is defined as one, which had an important effect on the system.

**Bell, Gilbert and Lockwood (1997)** conducted a study using critical incident technique to identify and explore dimensions of service quality in food retail operations. They conducted personal interviews which generated 792 positive and negative incidents. The researchers categorised these incidents into six groups as follows: physical environment, merchandise-related, non-core services, interpersonal, process and price. The results showed a high level of positive incidents in the interpersonal group and this confirmed that the emphasis by operators on improving customer service has been effective to a degree. The shopping process generated the greatest number of negative incidents. Price proved not to play an important role for consumers'



satisfaction/dissatisfaction. In addition there was little evidence of the importance of loyalty cards.

CIT is mostly recommended in situations where the only alternative is to develop a questionnaire or survey from the start and it is used as a precursor to designing a questionnaire or it is employed to supplement other methods. Furthermore, it is more appropriate for the identification of unusual events since it tends to emphasise rare and negative events. Thus, common events may be missed and positive experiences, which are also important for this study, may be overlooked. Thus, CIT is not considered appropriate for measuring service quality in this study.

**Repertory Grid Analysis** (RGA) is the operationalization of George Kelly's psychological Theory of Personal Constructs (Kelly 1955, 1966). The essential building blocks of the Theory of Personal Constructs and RGA are individuals' personal interpretations and assessments of the 'environment' with which they interact. This 'environment' could involve people, places or objects. The individual's personal interpretations are called constructs. Kelly argued that individuals develop modifiable expectations of the surrounding environment. Such expectations are based on a set of theories about the manner in which the environment is structured. The individual's expectations are tested via behaviour and modified accordingly (**Caldwell, 2002**). With the Repertory Grid the researcher aims at finding out how some 'elements' are viewed by asking the interviewee to compare them. Thus, taking three elements (e.g. A,B,C) the interviewer asks the interviewee to compare them and find out which two are similar and which is different (**RSCF, 2002**).

There are some problems with the Repertory Grid method. There should be no special focus upon one or more of the 'elements' of the study and the triad membership should be determined randomly by the researcher. In addition, some of the 'elements' under study may be unknown to the interviewees and are usually presented to respondents, however then there are doubts about the reliability of the results. Furthermore, some respondents produce few construct-contrast pairs and other respondents may have a large repertory of personal constructs reflecting a variety of expectations and requirements of products and services (**Caldwell, 2002**). There is also the risk of observer bias, that is the possibility that participants say what they think the interviewer wants to hear rather than what they really think (**NJIT, 2002**).

The Repertory Grid method cannot be used for quality measurements but only for comparisons of the service offered by each of the service providers offering the service, who in this study are the three mobile telephony operators. Thus, it is not appropriate for this study.

### 3.4.2.2 Gap Models for Service Quality Measurement

A number of researchers supported the view that service quality should be measured as a gap between perceptions of the actual service experienced and the customer's expectations before receiving that service. The Service Quality Gap models for measuring service quality, include the SERVQUAL model, the weighted SERVQUAL, the SERVQUAL-P model.

A research stream in service quality supports the expectancy disconfirmation paradigm as in the customer satisfaction literature. As **Rust and Zahorik (1995)**, argued, according to this literature, customers are asked for levels of agreement with statements involving perceived and ideal service performance. These levels of agreement are termed 'perceptions' and 'expectations', respectively. Subtracting the 'perception' minus the 'expectation' yields a gap, which is conceptually quite similar to disconfirmation in the customer satisfaction literature. Thus, service quality as perceived by consumers stems from a comparison of what they feel service firms should offer (i.e. from their expectations) with their perceptions of performance of firms providing the services. In the following chapter customers' expectations and perceptions will be defined and explained in detail.

#### 3.4.2.2.1 Definition of Customers' Perceptions and Expectations

There is consensus in the literature concerning customers' perceptions definition. Perceptions were defined by **Parasuraman, Zeithaml and Berry (1985)** as consumers' beliefs concerning the service received.

However, concerning expectations different views can be found among researchers. Expectations were defined by **Parasuraman Zeithaml and Berry (1985, 1988)** as desires or wants of consumers that is what they feel a service provider should offer rather than would offer. Thus, the expectation component measures customers' 'normative' expectations (i.e., customers' beliefs about what a service provider should offer) and is similar to the ideal standard in the customer satisfaction/dissatisfaction literature. Furthermore, **Barbeau (1985)** argued that expectations are predictions made by consumers about what is likely to happen during an impending transaction or exchange, that is what service providers would offer (However, this definition of expectations is mainly found in the Customer Satisfaction/Dissatisfaction literature).

In addition, some researchers pointed out that expectations are not static but change over time and depend on changing circumstances and are entirely individual. As **Boulding, et al (1993)** argued consumers update their expectations whenever they receive relevant information about the service through such means as word-of-mouth, company communications and contact with the firm's or the competitors' service delivery system. In addition, **Barbeau**

(1985) and **Carman (1990)**, argued that expectations are formed and/or updated by advertising, word-of-mouth, or past experience. Furthermore, **Carman, (1990)** argued that expectations change with the familiarity of the users with the service.

Past expectations also influence the formation of present expectations and as **Lacobucci, Grayson and Ostrom, (1994a)** mentioned they should be taken into account at customers' service quality evaluation. As **Boulding, et al (1993)** argued, two different individuals may hold different expectations about future service contacts even when they experience an identical (in an objective sense) service encounter. This is equivalent to saying that biases are present and that these biases are due to past (prior) expectations.

Thus, it can be concluded that customers' expectations in service quality measurement are what customers feel a service provider should offer. In addition, expectations are not static and consumers constantly update their expectations.

#### 3.4.2.2.2 The SERVQUAL Model

A well known gap-model for measuring service quality is the SERVQUAL model that has been developed by **Parasuraman, Zeithaml and Berry (1985)**, on the basis of their focus group studies with service providers and customers. As the developers of the model stated, the conceptual foundation of the SERVQUAL scale derived from the works of researchers who examined the meaning of service quality (e.g. **Sasser, Olsen and Wyckoff, 1978, Gronroos 1982, Lehtinen and Lehtinen 1982**) and from a qualitative research study that defined service quality and illuminated the dimensions along which customers perceive and evaluate service quality. As has already been mentioned **Parasuraman, Zeithaml and Berry (1985, 1988)** view service quality as an overall evaluation similar to an attitude and on the basis of this concept the SERVQUAL model was developed. Service quality as measured by SERVQUAL can be considered an evaluation of the customer relation with the firm, except in the cases of first-time users (**Liljander and Strandvik, 1995**).

SERVQUAL's finalised form consists of 5 dimensions (tangibles, reliability, responsiveness, assurance and empathy), including 22 pairs of Likert-type scales to measure customer expectations of service ('expectations'), and 22 items to measure the perceived level of service provided by a particular service organization ('perceptions'). Service quality is then measured by calculating the difference in scores between the corresponding items (i.e. 'perceptions' minus 'expectations', P-E) (**Parasuraman, Zeithaml and Berry, 1988**).

The expectations component of SERVQUAL as mentioned in **Chapter 3.4.2.2.1** is a general measure and pertains to customers' normative standards - i.e., *the*

*service levels customers believe excellent companies in a sector must deliver* (Parasuraman, Berry and Zeithaml, 1993). The conceptualisation of 'expectations' in the SERVQUAL model is the vector attribute interpretation - "that is one on which a customer's ideal point is at an infinite level," (Parasuraman, Zeithaml and Berry, 1994a). The perceptions component pertains to customers' perceptions of a given company's service (Parasuraman, Berry and Zeithaml, 1993).

As Zeithaml, Parasuraman and Berry (1990) mentioned, SERVQUAL can concentrate on several 'gaps' to measure service quality. One of these gaps is the difference between customer expectations and perceptions of service. This is the only gap that can be examined solely on the data from the consumer. Another 'gap' is the differences between management perceptions and customer expectations, also a discrepancy in management perceptions and the service specifications that are enacted, etc. However, the study of these gaps, requires data collection from companies themselves and would not be the most appropriate to assess customer repurchase intention in the mobile telephony sector.

SERVQUAL is a widely applied and tested instrument and it is the instrument of choice to measure service quality in this study, as it will be explained in the following chapters. However, it will be used in an adapted format for the mobile telephony service.

#### 3.4.2.2.3 Other Gap Models for Service Quality Measurement

Some other service quality models were developed on the basis of SERVQUAL. Parasuraman, Berry and Zeithaml (1991) refined SERVQUAL providing an indication of the relative importance of the items of the model. Thus, the weighted SERVQUAL model measured service quality across the 22 items representing different service attributes and included an indication of the relative importance of the items of the model. Since the relative importance of the items is essential for measuring service quality as an attitude on the basis of the Ideal-Point Multiattribute model, it will be used in this study.

Another model is the SERVQUAL-P model, which was developed by Banwari and Lassar (1996), which is a 16-item scale that derived from and retained core dimensions of SERVQUAL. It reassigned a few of the SERVQUAL items and excluded some items. Furthermore, it incorporated 'personalization' which is, defined as the social content of interaction between service employees and their customers including aspects such as employee politeness and courtesy, employee attempt to get to know the customer as a person and to engage in friendly conversations and exhibition of personal warmth in employee behaviour. Since mobile telephony is not a service that requires constant interaction

between service employees and their customers, 'personalization' is not considered essential, thus it will not be used in this study.

Other models which differ from the traditional gap models include the Dynamic Process Model and the Non-Difference Score Model.

A model which incorporates expectations but differs from the gap models in that the expectations are measured before the delivery of the service and perceptions after the delivery, is the Dynamic Process Model, developed by **Boulding et al. (1993)**. On the basis of this model, individuals enter into each service transaction with an initial set of expectations about what will and should occur on each of the dimensions/components of service. These initial expectations and the actual delivered service then lead to cumulative perceptions of the delivered service on each dimension, as well as updated expectations for each dimension of what will and should occur in future transactions. Thus, customers' expectations have an impact on their perceptions. Finally, perceptions of the dimensions of service contribute to an overall assessment of the level of service quality, which in turn leads to behavioural outcomes. Thus the model differs from the disconfirmation formulation in those individuals' overall quality assessments and behaviours are affected only by their current perceptions of the service, and not their current expectations. The researchers conducted a longitudinal study to measure service quality and they measured expectations before the delivery of the service and perceptions after the delivery. Their study was based on a scenario-based laboratory experiment rather than a true longitudinal design since they used a simulation with a hypothetical situation to create a longitudinal effect in a hotel setting. This model was not selected because as it will be discussed in **Chapter 3.4.2.4.2**, a longitudinal design was not considered appropriate because of cost and the time needed for the research.

The Non-Difference Score Model developed by **Brown, Churchill and Peter, (1993)** is based on SERVQUAL. On the basis of this model subjects are asked to indicate how their perceptions matched their expectations for the same 22 issues that were examined by the SERVQUAL measure. However, each item was rephrased in the form of a 'how' phrase. This is a direct comparison operationalization approach and requires subjects to mentally consider differences rather than have the researcher calculate the arithmetic difference.

Thus, it can be seen that different approaches have been used to operationalize the disconfirmation concept and arrive at a difference score. Some researchers have used the difference between pre-exposure and post-exposure ratings (computed disconfirmation) and others attempted to capture the consumer's summary judgement of overall disconfirmation on a better than expected "worse than expected" scale (measured disconfirmation).

Concerning the assessment of these different approaches, **Dabholkar, Shepherd and Thorpe (2000)** compared computed disconfirmation versus measured disconfirmation, over a longitudinal setting. They measured expectations before the delivery of the service and perceptions after the service was used. They asked half of the respondents about their perceptions of the service after the service was provided, and the other half about their perceptions compared to their expectations (measured disconfirmation). Expectations were subtracted from perceptions to calculate computed disconfirmation. Their findings claimed that direct measures of disconfirmation should be preferred over difference scores computed from expectations and perceptions measured separately, however only when the objective is gap measurement.

In assessing these two methods, it can be said that measured disconfirmation may be more convenient to respondents because they have to answer only half as many items, however it may be more confusing because they have to think about their expectations, their perceptions and mentally calculate the difference at the same time.

In addition, in this study it is intended not just to measure the gap value of service quality of mobile telephony, but also to analyse service shortfalls, where expectations measurements are needed. In addition, the influence of expectations and perceptions to customer repurchase intentions will also be examined separately. It is obvious that measured disconfirmation would not be sufficient for the purposes of this study.

#### **3.4.2.3 Performance Based Models for Service Quality Measurement**

Of the performance-based models, the most well-known is the SERVPERF model, and the weighted SERVPERF. SERVPERF which was developed by **Cronin and Taylor, (1992)**, uses the five dimensions and the 22 items of SERVQUAL but does not incorporate expectations into its measurement scale. The weighted SERVPERF is the revised SERVPERF scale including importance weights.

Other performance-based models, include the Evaluated Performance (EP) and the Normed Quality (NQ) models.

The Evaluated Performance (EP) and the Normed Quality (NQ) models were developed by **Teas (1993a)**. In these models service quality is not specified as the gap between customers' expectations and perceptions, and customer expectations are not measured. Teas proposed these models as alternatives to the P-E model and supported that the EP model was found to be superior in terms of construct validity.

Performance based models were not preferred in this study for many reasons that are explained in the following chapter.

#### 3.4.2.4 General Criticism on Gap and Performance Based Models

All the existing models for measuring service quality have been criticised in the literature and this should be taken into consideration during the selection of a service quality measure. There is a lot of criticism in the literature concerning the gap and the performance based models for measuring service quality.

Some researchers supported the view that in service quality measurement perceptions alone perform about as well as or even better than the Perceptions-Expectations gap. However, others supported the use of expectations and the P-E gap. A detailed analysis will be presented in the following section.

##### 3.4.2.4.1 The Use of Expectations and the Perception- Expectation Gap in Service Quality Measurement

Many researchers criticized the use of expectations in service quality measurement. Researchers such as **Mazis, Ahtola and Klippel (1975)**, **Bolton and Drew (1991)**, **Babakus and Boller (1992)**, **Babakus and Mangold (1992)**, **Cronin and Taylor (1992, 1994)**, **Boulding et al. (1993)**, **Brown, Churchill and Peter (1993)**, **Teas (1993b)**, **Patterson and Johnson (1993)**, maintained that the expectation-perception gap is not appropriate to measure service quality.

**Mazis, Ahtola and Klippel (1975)** and **Babakus and Mangold (1992)** argued that the expectations scores may not be contributing to the strength of the relationship between service quality and the intention to return beyond that already contributed by the perceptions scores and they suggested using only performance perceptions as a measure of service quality. In addition, **Bolton and Drew (1991)** considered performance-only scores superior to the expectations-performance gap model for measuring service quality. As such, **Babakus and Boller (1992)** found that the dominant contributor to the gap score was the perceptions score because of a generalised response tendency to rate expectations high. Furthermore, **Cronin and Taylor (1992, 1994)** 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. This view was also embraced by **Boulding, et al, (1993)** who conducted a longitudinal study to measure service quality and their results were incompatible with the gap formation for service quality. They argued that service quality is influenced only by perceptions of performance. In addition, **Brown, Churchill and Peter (1993)** and **Teas (1993b)** concluded that it is unnecessary to measure service quality as a difference score since it does

not add anything to empirical prediction over and above its components and measuring perceptions is sufficient. As such, **Patterson and Johnson (1993)** argued that little theoretical or empirical evidence supports the relevance of the expectations-performance gap as the basis 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 (1989)** 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 (1991)** who claimed that because the telephone service is a continuing service, customer responses should be affected only by performance evaluations. They stated that the telephone service is different from many other products/services because usually it is regulated, hence prices are not free to fluctuate. Because it is historically a stable, well-established, nearly universal service, most customers have a very clear idea, based on prior experience, of what constitutes telephone service. Disconfirmation will operate only when a service change occurs that is outside the range of experience based norms.

The use of expectations and the expectation-perception gap was also criticised by other researchers such as **Babakus and Inhofe (1991)** who raised the issue that expectations may attract a social desirability response bias, because respondents may feel motivated to adhere to an "I-have-high-expectations" social norm. **Gronroos (1993)** on the other hand, referred to the bad-service paradox that is a customer may have low expectations based on previous experience with the service provider and if those expectations are met there is no gap and service quality is deemed satisfactory. In addition, **Teas (1993a, 1993b, 1994)** pondered the meaning of identified gaps. For example, there are six ways of producing P - E gaps of -1 (P = 1, E = 2; P = 2, E = 3; P = 3, E = 4; P = 4, E = 5 etc), however as he claimed, these gaps do not mean equal perceived service quality. As such, **Bennington and Cummane (1998)**, claimed that one of the problems with the use of expectations is that they are not necessarily consistent or predictable and they are subject to management communication or advertising.

Other researchers such as **Parasuraman, Zeithaml and Berry (1985, 1988, 1994b)**, **Berry (1986)**, **Lovelock (1996)**, supported the expectation-perception gap for measuring service quality and conceptualised service quality perceptions as being based on the expectancy-disconfirmation process. As **Berry (1986)** claimed, measuring both expectations and perceptions is necessary since the 'wants' customers bring to a service situation shape their assessment of the service actually delivered. In addition, as **Parasuraman, Zeithaml and Berry (1994b)** maintained, the empirical evidence about difference scores and non-difference scores measures has not conclusively established the superiority of one measure over the other and additional research in this area is warranted.



This issue continues to be debated, however there is some agreement that a study's purpose may influence the choice of which measure to use. As **Parasuraman, Zeithaml and Berry (1994b p. 228)** maintained both methods can be used depending on the purpose of the study. The perceptions-only operationalization is appropriate if the purpose of measuring service quality is solely to attempt to explain the variance in some dependent construct, but if the purpose is also to identify accurately service shortfalls then the P=E gap is better. In addition, **Dabholkar, Shepherd and Thorpe (2000)** agreed that when the objective is to predict service quality or to gauge its determinants, perception only measures should be used. If gap analysis is the objective, they recommended measured disconfirmation.

Therefore, as **Parasuraman, Zeithaml and Berry (1994b)** summarized, service quality gap models in comparison with performance based models have the following advantages:

- a) provide richer information than do the performance-based measures
- b) have a greater diagnostic value because expectations give the possibility to identify service shortfalls more accurately
- c) allow a better understanding of the dynamics of customers' assessments of service quality over time, because if the scores for certain items have declined significantly from one period to another it can be assessed whether this is due to higher expectations, lower perceptions, or both.

Furthermore, **Carman (1990)**, claimed that for commonly used services such as the telephone service, most retail stores, banks, bank credit cards, restaurants, or motels, the expectations of regular customers are well formed and are important.

Mobile telephony in Greece was introduced in 1993, thus it has been operating for less than a decade. It is not regulated and prices differ between providers. In addition, because of the continuous new offers of the mobile telephony operators and the free gifts offered (e.g. new terminals with innovative features), changes do occur and customers cannot be considered to have formed a clear idea of what constitutes the service. Thus, disconfirmation can operate and the reservations of **Oliver (1989)** and **Bolton and Drew (1991)** that the telephone service should be affected only by performance evaluations may not be valid for mobile telephony.

As it has already been mentioned, the purpose of this study is to explain the dependent variable of 'repurchase intention', however the deficiencies in the mobile telephony service will also be identified. In addition, in this study service quality is measured as an attitude on the basis of the Ideal-Point Multiattribute model (**Chapter 3.2**), thus the use of expectations is important and they will represent the customer's ideal point at an infinite level. Nevertheless, since the criticism of expectations measurement is so strong in the literature, it is

imperative to examine in the statistical analysis of the results of this study, the contribution of expectations to the strength of the relationship between service quality and customers' repurchase intention.

#### 3.4.2.4.2 The Simultaneous Measurement of Expectations and Perceptions

There is also a lot of criticism in the literature concerning the simultaneous measurement of expectations and perceptions.

Expectations and perceptions are measured simultaneously in cross-sectional research. 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. In addition, there is longitudinal research where expectations are collected before usage and perceptions are gathered after usage, however, it is more complex and more costly than cross-sectional research.

Concerning the simultaneous measurement of perceptions and expectations, **Clow and Vorhies (1993)** argued that in this case respondents will indicate that their expectations are greater than they actually were before the service encounter. They contended that expectations must be measured prior to receipt of services otherwise responses will be biased. Specifically, they found that customers who had a negative experience with the service tended to overstate their expectations, creating a larger gap; customers who had a positive experience tended to understate their expectations, resulting in smaller gaps. In addition, **Carman (1990)** argued that when respondents are asked to complete both the expectations and perceptions form at one administration, all their beliefs are entirely ex post and these expectation responses can be of little value. Furthermore, **Caruana, Ewing and Ramaseshan (2000)** raised concerns about the diagnostic usefulness resulting from the simultaneous collection of expectations and perception scores. They suggested that collection of data about expectations and perceptions is best done separately. However, they claimed that more research is needed to investigate whether expectations have an impact on perceptions.

As such, **Spreng and Olshavsky (1992)** argued that it is yet to be determined whether the disconfirmation model would be better supported in a longitudinal study which are cumbersome costly and time consuming. In addition, longitudinal studies may not be adequate for commonly/continually provided services such as the telephone service. Furthermore, the users of most services, might not agree to be part of a longitudinal study. In addition, **Dabholkar, Shepherd and Thorpe (2000)** who examined the validity of a cross-sectional versus a longitudinal research design for measuring service quality, concluded that for studies with the dual objectives of prediction and gap

analysis, service quality should be measured in a cross-sectional design after the service is delivered.

Furthermore, the majority of empirical studies conducted to measure service quality have been cross-sectional (**Parasuraman, Zeithaml and Berry, 1988**) and both expectations and perceptions were measured after the service had been used.

In this study customers expectations and perceptions will be measured simultaneously, thus a cross-sectional setting will be chosen because it is the most appropriate since this study has a dual objective of prediction and gap analysis, mobile telephony is a commonly/continually provided service and most importantly it is the simplest and the least costly. In addition, it would not be very difficult to find mobile telephony service users available to participate in a longitudinal study.

#### 3.4.2.4.3 The Use of Importance Weights in Service Quality Measurement

There is much discussion in the literature whether it is necessary or not to include importance weights in service quality measurement. Importance weights can provide a more comprehensive and more accurate measure for analysing service quality issues but there is also research which does not support this idea.

As **Mazis, Ahtola, and Klippel (1975)** argued, the inclusion of importance weights does not enhance the predictive ability of attitude models. This was reinforced by **Cronin and Taylor (1992)** who concluded that the unweighted measurement of performance is a better method for measuring service quality. Furthermore, **Teas (1993a)**, claimed that comparison of the weighted versus unweighted models indicated that the unweighted models generally performed better than the weighted models in terms of construct validity.

However, **Sawyer and Dickson (1984)** stressed the need to weight the quality dimensions by their importance to reflect the fact that not all facets are of equal importance to all people. In addition, **Carman (1990)** claimed that a complete attitude model of service quality must measure the effects of the importance of individual attributes on perceptions of quality. Thus, the importance of a particular service attribute is also relevant in service quality measurement. For example, the competence (security) of a surgeon is more important than the art on the hospital room wall. According to the attitude theory, importance is very relevant in an evaluation of overall quality and determinants of service quality differ in their importance to individual respondents and throughout different service environments (**Philip and Hazlett, 1997**). In addition, **Johnston (1995)** agreed, that some determinants of quality are relatively more important than others.

**McAlexander, Kaldenberg and Koenig (1994)**, found that the weighted SERVPERF model performed better than SURVPERF. Furthermore, **Zeithaml, Berry and Parasuraman (1996)** measured the relative importance of the SERVQUAL's five dimensions and respondents were asked to allocate 100 points between the dimensions according to how important each dimension was to them in evaluating a company's service.

On this basis, it can be concluded that there is insufficient evidence in the literature concerning the superiority of unweighted over weighted models. Researchers such as **Sawyer and Dickson (1984)**, **Carman (1990)**, **Johnston (1995)**, **McAlexander et al (1994)** and **Philip and Hazlett (1997)**, argued that importance weights should be included. In addition, in measuring service quality as an attitude, according to the Ideal-Point model (**Chapter 3.2**), the importance of the attributes must be included. Thus, in this study importance weights will be used for the measurement of service quality and the performance of both weighted and unweighted SERVQUAL will be compared and assessed.

#### 3.4.2.4.4 Reliability and Validity of Gap and Performance Based Measures

Further criticism concerns the reliability and the validity of the gap and the performance based measures. As **Lord (1958)** maintained, the reliability of a difference score is not as high as the reliability of the constituent measures. In addition, **Devlin Dong and Brown (1993)** who examined the relative merits of performance and disconfirmation scales on several criteria, concluded that the disconfirmation scale was superior in all the criteria except from its predictive validity. However, as **Parasuraman, Zeithaml and Berry (1994b p. 228)** claimed, the superior predictive power of the performance only measure should be balanced against its inferior diagnostic value. Furthermore, **Liljander and Strandvik (1992)** in their study examining the relationship between service quality, satisfaction and intentions in a restaurant in Finland, found that the correlation between the quality ratings and purchase probability was lower for the disconfirmation scale compared with the performance scale. As such, **Danaher and Haddrell (1996)** contrasted performance and disconfirmation scales on six criteria: reliability, convergent and discriminant validity, predictive validity, skewness, face validity and managerial value. In all of these criteria, except predictive validity, the disconfirmation scale was superior. The disconfirmation scale seemed to have captured the negative feelings of the customers and the performance scale to a lesser extent. In addition, only the disconfirmation scale appeared to have discriminant validity. However, the correlation with the overall evaluation/likeliness to return/likeliness to recommend variables were lower for the disconfirmation scale.

A detailed analysis concerning the quality criteria for service quality measures is presented in **Chapter 5.1.5.2.3**.

In this study the reliability and validity of the selected instrument for measuring service quality (SERVQUAL) will be assessed through a pilot research survey before applying it to the final research survey.

### 3.4.3 Selection of SERVQUAL

On the basis of the above and taking into consideration that the purpose of this study is to explain the dependent variable of 'repurchase intention', but it will also identify deficiencies in service, the perception-only approach is not adequate. The SERVQUAL model including expectations, perceptions and importance weights, which measure service quality on the basis of the Ideal-Point multiattribute model, is considered to be the most appropriate of the Service Quality Gap models to measure the quality of the Greek mobile telephony service.

Expectations and perceptions will be measured at the same time and this study will be cross-sectional. The majority of empirical studies measuring service quality were cross-sectional (e.g., Carman, 1990; Parasuraman, Zeithaml, and Berry, 1988). As **Dabholkar, Shepherd and Thorpe (2000)** argued for studies with the dual objectives of prediction and gap analysis, service quality should be measured in a cross-sectional design. However, cost and time limitations were also an important factor to decide for a cross-sectional study.

Importance weights will be included because in this study service quality is measured as an attitude on the basis of the Ideal-Point model and the importance of attributes is essential. Furthermore, by using the importance ratings, all the items and dimensions will be weighted for their importance in the overall perceived quality of the service and their influence on the final decision of the subscriber to repurchase the service will be assessed.

Concerning the dimensions and the items of SERVQUAL, as **Parasuraman, Berry and Zeithaml (1991)**, **Carman (1990)** and **Wetzels et al, (1995)** stated, SERVQUAL needs adaptation for the service in question thus it will need to be adapted for the Greek mobile telephony service. SERVQUAL can be adapted for the mobile telephony service through in-depth interviews with marketing experts in the mobile telephony sector, a pilot survey with the users and also through focus groups with the users, so that the users personal views can also be heard.

### 3.4.3.1 The History of the Development of SERVQUAL

SERVQUAL was developed by **Parasuraman, Zeithaml and Berry (1985)**, who studied quality in long distance telephone, retail banking, appliance repair and maintenance and securities brokerage services. They revealed that the criteria used by consumers in assessing service quality fit 10 dimensions: Tangibles; Reliability; Responsiveness; Communication; Credibility; Security; Competence; Courtesy; Understanding /Knowing the customer and Access. These dimensions are explained below:

*Tangibles* is the physical evidence of the service:

- Physical facilities.
- Appearance of personnel.
- Tools or equipment used to provide the service.

*Reliability* involves consistency of performance and dependability. It also means that the firm performs the service right the first time and honours its promises. Specifically, it may involve (**Buttle, 1996**):

- Accuracy in billing.
- Performing the service at the promised time.

*Responsiveness* concerns the willingness or readiness of employees to provide the service. It may involve:

- Responding to customers requests.
- Always be willing to help customers.
- Giving prompt service.

*Competence* means possession of the required skills and knowledge to perform the service. It involves:

- Knowledge and skill of the contact personnel.
- Knowledge and skill of operational support personnel.
- Research capability of the organisation.

*Access* involves approachability and ease of contact. It may mean:

- The service is easily accessible by telephone.
- Waiting time to receive service is not extensive.
- Convenient hours of operation.

*Courtesy* involves politeness, respect, consideration, and friendliness of contact personnel (including receptionists, telephone operators, etc.). It includes:

- Consideration for the consumers' property.
- Clean and neat appearance of public contact personnel.

*Communication* means keeping customers informed in language they can understand and listening to them. This may mean that the company has to adjust its language for different customers. It may involve:

- Explaining the service itself and how much the service will cost.
- Explaining the trade-offs between service and cost.
- Assuring the consumer that a problem will be handled.

*Credibility* involves trustworthiness, believability, and honesty. It involves having the customer's best interests at heart. Contributing to credibility is:

- Company name and reputation.
- Personal characteristics of the contact personnel.
- The degree of hard sell involved in interactions with the customer.

*Security* is the freedom from danger, risk, or doubt. It may involve:

- Physical safety.
- Financial security and confidentiality.

*Understanding/knowing the customer* involves making the effort to understand the customer's needs. It involves:

- Learning the customer's specific requirements.
- Providing individualised attention.

These were the ten original dimensions of SERVQUAL and comprised 97 items. This 97 item SERVQUAL scale was later condensed by **Parasuraman, Zeithaml and Berry (1988)** into two stages:

- Condensing the instrument by retaining only those items capable of discriminating well across respondents having differing quality perceptions about firms in several categories.
- Examining the dimensionality of the scale and establishing the reliabilities of its components.

The second stage was confirmatory in nature and involved re-evaluating the condensed scale's dimensionality and reliability by analysing fresh data.

In more detail, in the first stage, data were collected from five different service categories, appliance repair and maintenance; retail banking; long distance telephone; security brokerage and credit cards. The purification of the

instrument was done with the computation of Cronbach's coefficient alpha and items with low corrected item-to-total correlation were discarded. This sequence of computing alphas and item-to-total correlation followed by deletion of items was repeated several times and resulted in a 54-item scale. The dimensionality of the 54-item scale was examined by applying factor analysis and subjecting the ten factor scale in oblique rotation. Items that had high loadings on more than one factor were removed. The deletion of items and the reassignment of certain others necessitated the re-computation of alphas and item-to-total correlation and the re-examination of the factor structure of the reduced item pool. This iterative sequence of analysis was repeated a few times and resulted in 34 items representing seven distinct dimensions. The 34-item scale was further tested by collecting new data from four independent samples and the same procedure was repeated and resulted in a refined scale with 22 items spread among the following five dimensions:

- Tangibles
- Reliability
- Responsiveness
- Assurance
- Empathy

Tangibles, which was uni-dimensional in the original scale were split into two sub-dimensions in the revised scale, one pertaining to physical facilities/equipment and another pertaining to employees/communication materials (**Parasuraman, Berry and Zeithaml, 1991**). Therefore, the revised SERVQUAL measures service quality along these five dimensions.

#### **3.4.3.2 A Critical Analysis of SERVQUAL the Chosen Service Quality Measure**

There are critical questions which researchers face, dealing with the reliability of SERVQUAL which is the instrument of choice for this study albeit in an adapted format. Thus, these questions need to be examined.

As **Buttle (1996)** argued, there are several conceptual and operational difficulties surrounding SERVQUAL. The first difficulty concerning SERVQUAL is whether or not consumers evaluate service quality in terms of expectations and perceptions and the other possible ways of service quality evaluations. Then, it is the form of customer expectations and the way they can be measured. Another issue is whether it is advantageous or not to integrate outcome evaluations into service quality measurement. Then it is the role of context actually employed by the consumers in determining expectations and perceptions evaluations and whether or not analytical context markers such as tangibility are helpful, since evaluative criteria in intangible-dominant services (e.g. consulting) may differ from those in tangible-dominant services (e.g.



hotels). Another issue is the relationships between the five factors: reliability, assurance, tangibles, empathy and responsiveness and their stability across context. **Buttle (1996)** summarised the above in the following basic questions:

1. Do consumers actually evaluate service quality in terms of expectations and perceptions?
2. Do its five dimensions incorporate the full range of service quality attributes?
3. Do consumers incorporate "outcome" evaluations into their assessments of service quality?

#### 3.4.3.2.1 Criticism on the Expectations Component of SERVQUAL

As mentioned above for all disconfirmation measures and as **Cronin and Taylor (1992)** claimed, SERVQUAL cannot predict future performance because on the basis of their empirical findings the P-E measure has a lower predictive power relative to the P-only measure. This was reinforced by **Brown, Churchill and Peter (1993)** who argued that the perceptions component of SERVQUAL alone performs about as well as SERVQUAL itself. They conducted a comparative study and concluded that a non-difference score measure had better psychometric properties than SERVQUAL.

**McAlexander, et al, (1994)** stated that in their research in the health care setting they found that patients had uniformly high expectations across all SERVQUAL dimensions, thus the diagnostic utility of the expectation measurement is questionable. They showed that models that measure service quality as performance (without expectation considerations) are superior to models that measure service quality as a function of performance and expectation. Therefore, in the statistical analysis of the results of this study all the above information will be taken into consideration and the expectations component will be checked and compared with the gap measure and the perceptions measure.

Furthermore, **Teas (1993a)** questioned respondents' interpretation of the expectations battery in the SERVQUAL instrument. **Teas (1993b)** contended that respondents may be using any one of six interpretations concerning expectations and perceptions:

1. Service attribute importance. Customers may respond by rating the expectations statements according to the importance of each.
2. Forecasted performance. Customers may respond by using the scale to predict the performance they would expect.
3. Ideal performance. The optimal performance, i.e. what performance 'can be'.
4. Deserved performance. The performance level customers, in the light of their investments, feel performance should be.

5. Equitable performance. The level of performance customers feel they ought to receive given a perceived set of costs.
6. Minimum tolerable performance. What performance 'must be'.

In this study, expectation in the SERVQUAL scale represent an ideal standard, that is what the ideal mobile operator should offer and this will be clearly explained to the respondents through personal interviews with them.

Another issue raised by **Carman (1990)** is whether expectations are stable through time and across subjects. However, as **Lam and Woo Ka Shing (1997)** and **Clow and Vorhies (1993)** argued, SERVQUAL expectations remain stable over time, because the conceptual definition of expectation as used in the SERVQUAL scale represents an ideal standard.

The measurement of service quality as a gap between perceptions and expectations raised another question among researchers, that is – what does SERVQUAL actually measures? There are disagreements amongst researchers as to what is really measured when using this research tool. **Cronin and Taylor (1992, 1994)** argued that although service quality has been conceptually described as a construct that is similar to an attitude, the SERVQUAL operationalization (expectancy-disconfirmation) is more consistent with the conceptualisation and operationalization found within the consumer satisfaction/dissatisfaction paradigm. Thus, SERVQUAL disconfirmation scale is measuring neither service quality nor consumer satisfaction. In addition, **Rosen and Surprenant (1998)** and **Hemmasi, Strong and Taylor (1994)** claimed that SERVQUAL might be a measure more consistent with customer satisfaction than service quality, because of the problems in differentiating between perceived service quality and satisfaction with the use of gap scores. Furthermore, **Philip and Hazlett, (1997)** raised doubts as to whether SERVQUAL actually measures a specific long-term attitude that is service quality, or since it is measured at a single point in time, it is actually customer satisfaction. As such, **Babakus and Boller (1992)** concluded that it is unclear whether SERVQUAL is measuring a number of distinct constructs or a single, global, more abstract variable.

A general criticism on gap and performance based models was also presented in **Chapter 3.4.2.4**, where it was made clear that for the purposes of this study expectations are essential. As, **Parasuraman, Zeithaml and Berry (1994b p. 228)** argued, if the purpose of a study is to explain variance in an overall measure of perceived service then performance based measures performs better but if the purpose is to identify accurately service shortfalls then SERVQUAL is better. As they claimed SERVQUAL is a richer construct than SERVPERF that more accurately represents the multifaceted nature of service quality.

#### 3.4.3.2.2 Criticism on the Dimensions of SERVQUAL

Concerning the dimensions of SERVQUAL, criticisms put forward by researchers should be taken into account when planning to use this instrument in any research study. The research conducted by **Cronin and Taylor (1992)**, raised doubts on the dimensionality of the SERVQUAL items. This was reinforced by **Brown, Churchill and Peter (1993)** and **Spreng and Singh (1993)** who suggested that the five dimensions of SERVQUAL may in fact represent a unidimensional construct. Even the developers of SERVQUAL, **Parasuraman, Zeithaml and Berry (1994a)** acknowledged and discussed potential overlap among the dimensions, especially among responsiveness, assurance, and empathy. Furthermore, **Van Dyke, Kappelman and Prybutok, (1997)** measured service quality in Information Systems and they concluded that the IS version of the SERVQUAL instrument suffered from unstable dimensionality. Thus, in this study the dimensionality of SERVQUAL will be tested.

**Brown, Churchill and Peter (1993)** and **Kurtz and Clow (1999)** raised doubts whether SERVQUAL has universal applicability, although it was designed to be applicable across a broad spectrum of services. Furthermore, **McAlexander et al (1994)** and **Babakus and Boller (1992)** argued that it may not be fruitful to continue to pursue the development of a standard measurement scale that is applicable to a wide variety of services. They proposed that measures that are designed for specific industries may be a more viable research strategy to pursue.

**Carman (1990)** argued that the dimensional structure of SERVQUAL may be depending on the service under study and that the instrument is not generic and needs to be customised to the service in question. As such, **Finn and Lamb (1991)** in a study of retailing, found that the model's five dimensions were insufficient to cover quality in a retailing setting. They questioned particularly whether the five dimensions are generic and suggested that much development and refinement was needed. In addition, **Cronin and Taylor (1992)** in their research into service quality in banks, pest control, dry cleaning and fast food, found little support for the five dimensions. They maintained that the stability of the service dimensions across different branches of industry proved to be weak.

**Mehta, Lalwani and Li Han (2000)** compared the relative effectiveness of a proposed measure (DTR) and SERVPERF (using SERVQUAL dimensions) to measure quality in goods retailing. They used one case where services have a limited scope in the sales process, e.g. a supermarket and another case where services play a key part in the sales process, e.g. an electronic goods retailer. DTR is a measure of retail service quality and it is a 28-item scale, consisting of five dimensions (physical aspects, reliability, personal interaction, problem solving and policy) including 17 items from SERVQUAL and 11 items developed from their literature review and qualitative research. Their results showed that

within the supermarket environment, the DTR scale proved to be slightly better than SERVPERF, while the reverse was true in the context of electronic goods retailers.

**Johnston et al. (1990)** tested the comprehensiveness of SERVQUAL dimensions on the basis of empirical data gathered in ten UK service organizations. Although their analysis was generally supportive of the ten dimensions, it suggested a refined list of 12 dimensions: access, appearance/aesthetics, availability, cleanliness/tidiness, comfort, communication, competence, courtesy, friendliness, reliability, responsiveness and security. They also added the customer's perspective to the 12 service quality characteristics. This led to the identification of an additional five service quality determinants: attentiveness /helpfulness, care, commitment, functionality and integrity. In addition, **Carman's (1990)** in his hospital research revealed nine factors: admission service, tangible accommodations, tangible food, tangible privacy, nursing care, explanation of treatment, access and courtesy afforded visitors, discharge planning, and patient accounting (billing). **Bolton and Drew (1991)** used the following dimensions to measure service quality in local telephone services: billing, repair, directory and toll assistance, and service order (i.e., service installation or change) processing, as well as the quality of local calls, that is customer's rating of local calls (call connection and voice transmission services). Customer's rating of local calls would depend on his/her perceptions of the presence/absence of trouble with voice transmission, dial tone provision, call connection and call completion. In addition, **Saleh and Ryan's (1992)** revealed five factors in their work in the hotel industry: conviviality, tangibles, reassurance, avoid sarcasm, and empathy. As such, **Bouman and van der Wiele's (1992)** in their research into car servicing, identified three factors: customer kindness, tangibles and faith. Furthermore, **Gagliano and Hatchcote's (1994)**, in their investigation of service quality in the retail clothing sector, extracted four factors: personal attention, reliability, tangibles and convenience.

In addition, researchers have used different number of items to measure service quality. **Carman's (1990)** study of hospital services employed 40 items to measure service quality, **Bouman and van der Wiele (1992)** in their car service research used 48 items, **Saleh and Ryan (1992)** in their hospitality industry research used 33 items, **Babakus and Mangold (1992)** used 15 items in their hospital research and **Fort (1993)** employed 31 items in his analysis of software house service quality. As **Bennington and Cummane (1998)**, mentioned, studies have found that between 24 and 99 items constitute service quality.

Thus, **Asubonteng, McCleary and Swan (1996)**, **Reidenbach and Sandifer-Smallwood (1990)** and **Headley and Miller (1993)** concluded that SERVQUAL dimensions are likely to be industry specific and practitioners should watch closely for unique situations that call for the adaptation of SERVQUAL.

Though, in spite of the above criticism, many researchers including **Babakus and Mangold (1992)**, **Carman (1990)** agreed that SERVQUAL items are good predictors of overall service quality. As **Cronin and Taylor (1992)**, mentioned the 22 individual items that constitute the expectations and perceptions portions of SERVQUAL, adequately define the domain of the expectation and performance measures for measuring service quality and they used these 22 items in the development of SERVPERF. In addition, **Babakus and Mangold (1992)** stated that the SERVQUAL dimensions are a good starting point for scale construction. This is well-supported since most of the existing models for measuring service quality were developed on the basis of the dimensions of SERVQUAL.

However, in this study the dimensions of SERVQUAL will be adapted for the mobile telephony service on the basis of in-depth interviews with marketing executives of the three Greek mobile telephony operators, a pilot survey research and focus group research.

#### 3.4.3.2.3 Further Criticism on SERVQUAL

In relation to **Buttle's (1996)** third question concerning *outcome quality*, some researchers have criticised SERVQUAL's performance over this, as SERVQUAL measures functional quality. As **Cronin and Taylor (1992)** and **Babakus and Mangold (1992)** argued, SERVQUAL is designed to measure functional quality, defined as the process by which ('how') the mobile telephony service is delivered to the customers and outcome quality is missing. However, **Higgins, Ferguson and Winston (1991)** argued that outcome quality is already contained within the dimensions: reliability, competence and security. In addition, **Richard and Allaway (1993)** tested an augmented SERVQUAL model which incorporated both process and outcome components, and concluded that process and outcome quality together are a better predictor of consumer choice than process, or outcome, alone. Thus, by adapting the SERVQUAL for the mobile telephony service components measuring outcome quality can also be added.

Other problems noticed by researchers include *the wording of the instrument*. Thus, attention needs to be paid as to whether questions are positively or negatively worded. The initial SERVQUAL scale included also negatively worded items. **Babakus and Boller (1992)** found that all negatively-worded items loaded on one factor while all positively-worded items loaded on another. They also found a significant difference between the average P, E and gap scores of positively and negatively-worded items. They concluded that item wording might be responsible for producing factors that are method artefacts rather than conceptually meaningful dimensions of service quality and that item wording created data quality problems and called into question the dimensionality and validity of SERVQUAL. **Parasuraman, Berry and Zeithaml**

(1991), responded to the criticism of negatively-worded items and reworded all negatively-worded items positively. In this study negatively-worded items will be avoided.

The *reliability and validity* of SERVQUAL has been called into question by a number of researchers. **Carman (1990)** questioned the reliability and validity of SERVQUAL. This was reinforced by **Babakus and Boller (1992)** who supported the superiority of the perceptions-only measure from a validity standpoint. In addition, **Cronin and Taylor (1992)** claimed that the SERVPERF (using only performance measures) has greater construct validity than SERVQUAL and provides a more construct-valid explication of service quality because of its content validity and discriminant validity. Furthermore, **Van Dyke, Kappelman and Prybutok (1997)** measured service quality in Information Systems and they concluded that SERVQUAL is likely to exhibit relatively poor predictive and convergent validity, as well as reduced reliability when compared to non-difference scoring methods. However, the developers of SERVQUAL, **Parasuraman, Berry and Zeithaml, (1993)** maintained that SERVQUAL exhibits stronger convergent validity than the non-difference score measures. In addition, **Asubonteng, McCleary and Swan (1996)** argued that the reliability of SERVQUAL has been reported for a wide set of industries and it has been consistently quite high suggesting that any change over time in the overall quality score is not likely to be just fluctuations in measurement.

Information on the reliability and validity of gap and performance based measures is also presented in **Chapter 3.4.2.4.4**. In this study a pilot survey research will be conducted to assess the reliability and validity of SERVQUAL before being applied to the final survey research.

Other problems were also mentioned by some researchers. As **Bouman and Van der Wiele (1992)** and **Brown, Churchill and Peter (1993)**, claimed, the two parts of SERVQUAL expectations and perceptions increase *the questionnaire's length*, and respondents may be confused and bored, however boredom and confusion imperil data quality. **Babakus and Mangold (1992)** and **Murphy (1999)** as well, considered problematic the length of the SERVQUAL questionnaire and argued that a shorter scale might be equally useful. Thus, **McAlexander et al, (1994)** argued that marketers need to weight carefully the negative implications of lengthy questionnaires that include assessments of expectations and importance against the limited contribution these data provide for decision making. In this study to deal with the problem that respondents may be bored and confused by the length of the questionnaire including both expectations and perceptions, personal interviews will be conducted, to help respondents understand the questions and try to stimulate their interest by explaining the aim of the study.

In addition, Philip and Hazlett (1997) claimed that SERVQUAL *is limited to current and past customers*, because respondents need to have some

knowledge and experience of the organization in order to be able to complete the scale. Furthermore, **Lacobucci, Grayson and Ostrom (1994a)** argued that the traditional quality models need a simple modification to *include financial factors* as well, then the customers evaluation of a given offering would be a comparison of what they got for what they paid. However, as **Parasuraman, Berry and Zeithaml (1991)** argued, items that are useful to include in the survey questionnaire and do not fit under any of the five SERVQUAL dimensions such as the service's cost, should not be included in SERVQUAL, but should be treated separately in analyzing the survey data since they do not fall under the conceptual domain of service quality. In this study questions concerning the cost of the mobile telephony service will be included and examined separately in the questionnaire.

#### 3.4.3.2.4 General Assessment of SERVQUAL

It can be seen that there are problems involved with the SERVQUAL instrument, which are revealed from the general criticisms levelled by various researchers. These problems include whether the perceptions component of SERVQUAL alone performs about as well or better than SERVQUAL difference score. Furthermore, whether SERVQUAL operationalization (expectancy-disconfirmation) is more consistent with the operationalization found within the consumer satisfaction/dissatisfaction paradigm. The purpose of this study is to explain the dependent variable of 'repurchase intention', however the deficiencies in the mobile telephony service will also be identified, thus both perceptions and expectations are essential.

There have been some criticisms that the SERVQUAL is a global measure and its dimensions are not suitable for all services. As previously mentioned, researchers agreed that SERVQUAL dimensions adequately define the domain of the expectation and performance measures for measuring service quality and they are a good starting point for scale construction. In addition, **Rust and Zahorik (1993)** claimed that SERVQUAL dimensions should probably be put on any first pass as a list of attributes for the measurement of the quality of any service. As such, the study of quality by **Parasuraman, Berry and Zeithaml (1985)**, which revealed the dimensions of SERVQUAL, also investigated long distance telephone service among others. Thus, there was input from telephony as a service. In addition, in this study SERVQUAL dimensions will be adapted for the mobile telephony sector on the basis of interviews with marketing executives from the Greek mobile telephony operators, the results of a pilot survey and focus group research.

Criticism exists that outcome quality is missing from SERVQUAL. As **Higgins, Ferguson and Winston (1991)** argued, outcome quality is already contained within the dimension of reliability and in an adaptation of SERVQUAL for the

mobile telephony service, more items assessing outcome quality specifically will be added under the dimension of reliability.

Concerning the criticism that the reliability and validity of SERVQUAL has been called into question, this view has not been well supported by research and additional research in this domain is needed. Furthermore, in this study a pilot research survey will be conducted to assess the reliability and validity of SERVQUAL before being applied to the final research survey.

To deal with the problem that respondents may be bored and sometimes confused by the administration of E and P versions of SERVQUAL, personal interviews will be conducted, so that the aim of the study can be explained to the respondents and stimulate their interest and at the same time help them understand the meaning of the questions.

In addition, items that are useful to include in the survey questionnaire of this study such as the service cost, which do not fit under any of the five SERVQUAL dimensions will not be included in SERVQUAL (as **Parasuraman, Berry and Zeithaml, 1991** advised) and will be treated separately in analyzing the survey data.

As the developers of SERVQUAL mentioned, the instrument has been widely used and has served as the basis for measurement approaches used in published studies examining service quality in a variety of contexts and some examples include:

- a) real estate brokers (Johnson, Dotson and Dunlop 1988)
- b) physicians in private practice (Swartz and Brown 1989)
- c) public recreation programs (Crompton and Mackay 1989)
- d) a dental school patient clinic, a business school placement centre and a tyre store (Carman 1990)
- e) motor carrier companies (Brensinger and Lambert 1990)
- f) an accounting firm (Bojanic 1991)
- g) discount and department stores (Finn and Lamb 1991)
- h) a gas and electric utility company (Babakus and Boller 1992)
- i) hospitals (Babakus and Mangold 1992; Carman 1990)
- j) medical services (Headley and Miller, 1993)
- k) banking, pest control, dry cleaning, and fast food (Cronin and Taylor 1992)
- l) higher education (Boulding et al. 1993, Ford, Joseph and Joseph 1993)
- m) the restaurant industry – DINESERV (Stevens, Knutson and Patton, 1995)
- n) the hotel industry - LODGSERV (Knutson et al, 1990),
- o) at AIDS service agencies (Fusilier and Simpson, 1995)

As **Bennington and Cummane (1998)** and **McAlexander et al (1994)** agreed, SERVQUAL has been the most widely used and tested service quality instrument. Furthermore, **Buttle (1996)** stated that even in its present state



SERVQUAL is a helpful operationalization of a somewhat nebulous construct such as service quality and despite the shortcomings, SERVQUAL seems to be moving rapidly towards institutionalised status. Thus, in spite of the severe criticisms SERVQUAL was the instrument of choice for measuring service quality in this study.

#### 3.4.3.3 Cross Cultural Applicability of SERVQUAL

An important issue to examine before proceeding with SERVQUAL is whether the instrument can be applied successfully in different countries across different cultures. Culture is the most abstract construct affecting human behaviour and has been defined in many ways. It is conceptualised as a set of closely interrelated patterns, or dimensions that come together to form the unique social identity of a group (**Samovar and Porter, 1991**).

As **Hofstede (1993)** stated, culture can be compared to a forest, while individuals are trees. A forest is not just a bunch of trees: it is a symbiosis of different trees, bushes, plants, insects, animals and micro-organisms. In the same way, a culture cannot be satisfactorily described in terms of the characteristics of a typical individual. As **Riddle (1992)** claimed culture is a factor influencing the evaluation of the service encounter. Culture is always concerned in social sciences and as **Herche, Swenson and Verbeke (1996)** stated, organisational research that is conducted across cultural boundaries must also consider the culture of the entities being studied. A distinction was made between culture at the national level and culture at the organisational level (corporate culture). As **Hofstede (1993)** argued they are two very different phenomena. National cultures differ primarily in the fundamental, invisible values held by the majority of their members, acquired in early childhood, whereas organisational cultures are a much more superficial phenomenon residing mainly in the visible practices of the organisation, acquired by socialisation of the new members who join as young adults. National cultures change only very slowly if at all and organisational cultures may be consciously changed, although this is not easy.

Culture is a complex construct, however researchers such as **Lytle, Barsness and Janssens (1995)** presented its dimensions on the basis of the descriptions of psychologists, sociologists, anthropologists, political scientists, and economists. These dimensions are:

1. Relationships among people: individualism and collectivism (**Triandis et al., 1988**). This dimension concerns each persons' interest for the others. Individualism is to take care of one's self. Collectivism is the group orientation. In individualistic societies personal initiative, autonomy, leadership, and achievement are valued (**Malhotra et al., 1994**). Individuals in these societies are constantly looking for defect-free products and services

and are satisfied with very reliable services (**Heskett et al., 1994**). In collectivist societies priority is given to interpersonal relations. In these societies, customers may prefer loosely structured service environments with more flexible relationship patterns (**Riddle, 1992**).

2. Orientation toward time: monochronic and polychronic (**Hall, 1983**). Monochronic people think in terms of time ordered patterns. Monochronic societies respect time and precision and tend to do one thing at a time. Polychronic people do whatever is more appropriate for the moment and tend to do many things at the same moment, they modify schedules easily and seldom experience time as wasted (**Usunier, 1991**).

**Hofstede (1980)** argued that countries such as the United States, Sweden, Great Britain and Canada are individualistic and countries like Mexico, Venezuela, Colombia, Peru etc. are collectivists. Monochronic cultures exist in countries such as USA, Great Britain, Canada etc. Polychronic cultures exist in countries such as Latin American, African, and Middle East.

On the basis of the above, it can be concluded that the relative importance of service quality dimensions will be different in different cultural contexts. Dimensions such as responsiveness (providing prompt service etc.) that captures the time side of the service, are more valued in monochronic societies than in polychronic because of the different value assigned to time by each society. The perception of time of each society may affect the importance attributed to responsiveness among different cultures.

Due to these cultural differences service quality measures should be validated in order to reassure quality in research conducted across cultural boundaries. As **Herche, Swenson and Verbeke (1996)** mentioned, the cross-cultural literature distinguishes between 'emic' and 'etic' approaches. Emic service delivery strategies are customised to apply in one particular culture, while etic service delivery approaches universally apply to all cultures. The main assumption underlying an etic approach is the perceived cultural universality of the service encounter. However, the use of measures assumed to possess etic characteristics, but which are actually 'pseudoetic', is a common violation of basic cross-cultural research paradigms. The process of measurement validation can be conducted on two levels. The first, is to undergo independent measurement validation in all the cultures in which the measure will be administered, however the time and cost constraints of this approach can be prohibitive. A second approach is to use measures that have been validated in a mono-cultural environment and to assume the same qualities for the measurement's administration in cultural settings that could be considered somewhat similar. In addition, industry-specific effects could be expected to impact the psychometric properties of measures, that is, items might be interpreted differently in contrasting industrial settings.

Existing research includes studies comparing US and European samples (e.g. **Kettinger, Lee and Lee, 1995, Herche et al., 1996**), East Asian samples (e.g. **Mattila, 1999**) and Middle Orient samples (e.g. **Donthu and Yoo, 1998**). However, as **Herche, Swenson, Verbeke (1996)** and **Riddle (1992)** argued, because of the complexity of cultural variables, cultural factors have not received the attention they should in the service marketing literature. In addition, **Albaum and Peterson (1984)** claimed that cross-cultural validation of measures, has not been pursued with enthusiasm, probably because of the cost and difficulty of obtaining international data. **Malhotra et al. (1994)** compared the determinants of service quality between developed and developing countries. They pinpointed the importance to understand how the various environmental factors affect the determinants of service quality. They linked the service quality dimensions to economic and socio-cultural factors and they concluded that the dimensions of service quality should be emphasised differently in developed and developing countries.

In addition, **Donthu and Yoo (1998)** studied the influence of culture on the consumer's service quality expectations. They used the dimensions of culture proposed by Hofstede (1980) and they found that culture influences consumers overall service quality expectations and also their expectations on each of the dimensions of service quality. Furthermore, **Mattila (1999)** studied the influence of culture on customers' evaluations of complex services. In a context of luxury hotels she evaluated the trade-offs that Western and Asian customers were willing to make between personalised service and pleasant physical environment. The results showed that Western customers and Western cultures rely more on tangibles than Asians. In addition, the consumption experience seemed to be more important for Western customers than for Asians.

**Herche, Swenson, Verbeke, (1996)** evaluated the transportability of personal selling measures across cultural boundaries. They reviewed two personal selling constructs: adaptive selling (ADAPTS) and customer-oriented selling (SOCO), which have been developed in the USA. ADAPTS scale was developed by **Spiro and Weitz (1990)** to measure the extent to which salespeople practise adaptive selling and SOCO (selling orientation-customer orientation) scale, was developed by **Saxe and Weitz (1982)** to measure the extent to which salespeople practise customer-oriented selling. Using surveys of US and Dutch salespeople they applied cross-cultural measurement validation techniques to the measures of adaptive selling (ADAPTS) and customer-oriented selling (SOCO). Strong support for the ADAPT's factor structure, internal consistency, and discriminant validity was found across the two countries. However, SOCO proved to need further refinement. They concluded that blindly transporting instruments from one culture to another may produce measures that are less useful in describing and explaining phenomena in the community of interest. If cultures are determined to be alike, then instruments or scales may be transported across national boundaries to measure constructs that relate to the common culture. Measures dependent on or tied to national culture rather than

business or corporate culture could be expected to be more susceptible to culture-related distortions in measurement.

Other researchers also investigated whether service quality measures can be applied internationally, they used SERVQUAL and found specific cultural discrepancies between different countries.

**Espinoza (1999)** examined the psychometric properties of SERVQUAL applied internationally and investigated cross-cultural differences in perceived service quality between Quebecers and Peruvians of chosen supermarkets in each country. The study examined perceptions of service quality in the two different cultures by using the performance-only items of SERVQUAL. Espinoza hypothesised that the service quality factor structures differed cross-culturally and the importance of service quality dimensions differed from one culture to another. The most critical dimension for Quebecers was found to be responsiveness which was less important (only fourth) for Peruvians. Empathy was the second most important dimension for Quebecers. Tangibles was the most important dimension for Peruvians while the reverse was true for Quebecers. Espinoza, concluded that SERVQUAL, a measurement scale developed in the United States, may also be reliable and valid at the international level for different cultural groups and service quality may be measured in the two cultural units with a common scale properly translated.

In a study comparing US and European airlines competing on Trans-Atlantic routes, **Sultan and Simpson (2000)** applied SERVQUAL and investigated if its expectations and perception parts could be replicated internationally and also the relative importance attributed to service quality dimensions by the different groups as well as if expectations and perceptions of airline service quality vary by nationality. They collected responses covering five US and seven European airlines. Their results indicated that service quality models may be applied reliably to other international scenarios. Americans and Europeans proved to believe that reliability is the most important aspect of airline-service quality and 'tangibles' is the less important. They also found that service quality expectations and perceptions vary by nationality since they found that US passengers rated both airlines significantly higher than did European passengers and their expectations for service quality were significantly higher than those of the Europeans.

**Kettinger, Lee and Lee (1995)** introduced a global Information Services Function (ISF) Quality Framework that outlined the importance of both behavioural and procedural dimensions in planning, implementing and evaluating global IS quality. Based on this framework, they investigated the cross-national psychometric properties of a behavioural measure of service quality in the information services context. Using a cross-national survey and by collecting four samples of IS customers from Korea, Hong Kong, the United States and the Netherlands, perceived ISF service quality was measured using

SERVQUAL to determine cultural affects. Their analysis showed that the Hong Kong and Korean samples shared an almost similar factor structure that differed from the one shared in the US and the Netherlands samples. They argued that there might be a 'western factor' which may be responsible for the similar dimensional structure between the two samples. Their findings supported previous research that had found an 'Asian factor' with differing definitions of IS Service quality. Their findings suggested that the feasibility of standardised global ISF measurement depends heavily on the relative magnitude of cultural effects and a localised version of SERVQUAL instrument may need to be developed that captures the unique nature of ISF service perceptions in different countries.

**Wetzels et al (1995)**, in a study measuring service quality in international marketing channels (a multinational Dutch-based food manufacturer), attempted a cross-cultural application of SERVQUAL and found differences in emphasis with regard to relative importance of the dimensions between market segments and different countries. Boundary personnel was found to be considered more important in the US. Information/influence, was particularly important by respondents from the European segment, while credit facilities received the highest importance rates in Middle East/Africa/Asia segment. Differences in relation to total errors between the three main market segments were marginal.

As **Winsted (1997)** asserted, in examining service quality in an international setting and in countries of different culture, such as Asia for example, it is needed to take into account whether understanding of underlying dimensions of service quality, e.g. semantic differences, remain the same. This can be done through pilot survey research and interviews with the companies or organizations in the sector under investigation, with customers and academicians.

It is important to note that SERVQUAL is an instrument that has been developed in the US and has been used as the basis for measuring service quality in a variety of contexts and in many different countries, including European countries. It has produced reliable and valid results. However, some of the dimensions of SERVQUAL may have a different level of importance between different cultural groups, although it maintains its reliability and validity at the international level for different cultural groups. On this basis it can be concluded that SERVQUAL can be applied to Greece. Greece is a 'western' country and as **Kettinger, Lee and Lee (1995)** found in their research, western countries share an almost similar dimensional structure that differed from the one shared in Asian countries. Furthermore, SERVQUAL will be adapted for the mobile telephony service through. Interviews with managers and top executives of the Greek mobile telephony operators, will identify any cultural differences in SERVQUAL dimensions/items. In addition, a pilot research survey, will be used for further adaptation of the instrument and to assess its reliability and validity. Finally in the focus group research, another discussion on the SERVQUAL

dimensions/items will take place and any remaining cultural effects, influencing the understanding of the underlying dimensions, will be identified.

### 3.5 Service Value

Service value is the next factor influencing customers purchase intention, which will be examined in this study. As it has been mentioned many researchers argued that the value construct should be included in models because it increases the ability of the model to explain variance in consumers repurchase intention.

Many researchers recognised the importance of value. As **Dodds (1991)**, stated, the role of value is of major and increasing concern to consumers and marketers. **Vantrappen (1992)**, characterised value as the strategic imperative for the 1990s and **Albrecht (1992)** claimed that value is one of the most powerful forces in the marketplace. In addition, **Holbrook (1994)** claimed that from the consumer's viewpoint, obtaining value is a fundamental purchase goal and pivotal to all successful exchange transactions. Furthermore, **Ravald and Gronroos (1996)** mentioned that the ability of a company to provide superior value to its customers is regarded as one of the most successful competitive strategies for the 1990s. As such, **Majchrzak and Qianwei (1996)** stated that thousands of businesses have re-engineered work in order to focus employees on processes that clearly provide value to customers.

A significant number of researchers attempted to define value. However, service value is considered an illusive and abstract construct and the views of researchers concerning its definition and its antecedents vary. As **Babin, Darden and Griffin (1994)** pointed out the search for a precise definition of value proved an enduring endeavour for a great number of researchers. As **Sweeney (1994)** claimed value is an abstract concept with meanings that vary according to context. In economics for example value is equated with utility or desirability, in the social sciences it is understood in the context of human values, while in industrial settings value engineering refers to processes designed to reduce costs while maintaining standards. In addition, **Engel, Blackwell and Miniard (1995)** stated that value is a function of a person's identified needs which are satisfied in a way that meets his expectations.

Many researchers including **Bolton and Lemon (1999)**, **Lapierre (1997)**, **Griffin (1996)**, **Lovelock (1996)** **Monroe (1991)**, **Monroe and Krishnan (1985)** and **Sawyer and Dickson (1984)**, embraced the view that value is what the customer gets for what he gives, that is the difference between benefits and sacrifices. In addition, **Zeithaml (1988, p14)** defined value as: "the consumers overall assessment of the utility of a product based on a perception of what is received and what is given". Though what is received varies across consumers

(i.e. some may want volume, others high quality, still others convenience) and what is given varies (i.e. some are concerned only with money expended, others with time and effort), value represents a trade-off of the salient give and get components.

As it has been seen in **Chapter 3.3**, many researchers included value in their models and conceptualised it in different ways.

Among these researchers are **Heskett, et al. (1994)** who defined value as a function not only of costs to the customer but also of the results achieved for the customer. They claimed that value is based both on perceptions of the way a service is delivered and on initial customer expectations. In addition, **Storbacka, Strandvik and Grönroos (1994)** defined value as service quality compared with perceived sacrifice. Perceived sacrifice is the 'give' component and can include apart from price, also time and effort needed, acquisition costs and other costs (costs of maintaining a relationship, costs for delayed delivery, transportation, installation, order handling, repairs and maintenance), cognitive effort needed to worry about whether the supplier will fulfil his/her commitments or not, time needed to find solutions to problems arising due to poor performance and risk.

As such, **Bolton and Drew (1991)** pointed out that value depends on quality and on sacrifice (the monetary and non-monetary costs associated with utilising the service). Thus, customers may assess value differently due to differences in monetary costs (e.g. price) and non-monetary costs (e.g. customers tastes and characteristics). Their research results showed that the most important determinant of perceived service value apart from quality was customers' disconfirmation experiences. Value was affected also by some customer characteristics such as income, business usage and age (e.g. older customers valued telephone service more highly). Furthermore, **Chang and Wildt (1994)**, conceptualised perceived value as influenced positively by perceived quality and negatively by perceived price. However, the relative contribution of price and quality perceptions to consumers perceptions of value varied by product (e.g. perceived price had a stronger influence on perceived value for apartments than for PCs).

In addition, **Zeithaml (1988)** proposed that perceived value was influenced by perceived quality, perceived sacrifice, high-level abstractions, extrinsic and intrinsic attributes. Perceived quality was positively related to perceived value and perceived sacrifice negatively related to perceived value. Perceived sacrifice corresponded to price as well as time costs, search costs and psychological costs. However, in the 'get' component she included also higher level abstractions, such as prestige and convenience. Intrinsic attributes involved the physical composition of a product and extrinsic attributes were product related but not part of the physical product and they included brand name and level of advertising. **Fornell et al (1996)** conceptualised service value as the perceived level of quality relative to the price paid. They also claimed that

customer expectations should be positively related to perceived value. They mentioned that adding perceived value to a model incorporated price information and increased the comparability of the results across firms. Thus, they included the concept of value in the American Customer Satisfaction Index (ACSI) and also the original Swedish Barometer incorporated perceived value.

Furthermore, **Patterson and Spreng (1997)** defined value as a function of multiple benefits and sacrifices (financial and non-financial). The benefits were functional benefits of performance as well as non-functional including social, emotional and even epistemic value components (such as the social value or risk). Their research showed that value was associated positively with perceived performance and that all performance dimensions had a significant effect on value. They argued that the inclusion of value in models provides a richer portrayal of the dynamics surrounding satisfaction evaluations and intentions, since shortcomings in service performance may be offset by perceived reductions in sacrifices such that clients receiving less than expected performance may still be satisfied. **Cronin, Brady and Hult (2000)** conceptualised value as what the customer gets for what he gives. They argued that sacrifice included the monetary and the non-monetary price associated with the acquisition and use of a service. Non-monetary price included time and effort. The research results showed that in most sectors value was largely influenced by perceptions of quality and less acquisition costs (an exception was the fast food industry).

In addition, **Cronin et al. (1997)** argued that the dominant view in the literature for service value is the multiplicative model. According to this model service value should be treated as a ratio with service quality as the numerator and sacrifice as the denominator. Another way of modelling value treats value as a trade-off between the 'give' and 'get' components and this is the value added model. Their difference is that the trade-off is modelled as an additive rather than a multiplicative function. They argued that service value is best modelled as a value added function. The give component was the sacrifice the customer has to make to acquire the service. It comprises, monetary price and non-monetary price such as time, effort and perceived risk. They proposed three types of risk: performance, social and psychological risk.

Concerning sacrifice, also **Peterson and Wilson (1985)** supported that it should be operationalized as a composite of perceived monetary price, perceived non-monetary price and perceived risk. Risk includes the financial risk associated with using the product/service, the personal (physical) risk associated with using the product/service, the risk of receiving poor service performance (performance risk), the risk of social embarrassment (social risk) due to the use of the product/service, and the risk of feeling uncomfortable psychologically (psychological risk) due to the use of the product/service. Concerning risk, as **Lovelock (1983)** maintained most consumers perceive higher risk in services than in goods, because they are intangible and heterogeneous.



Other factors influencing value according to **Shapiro (1997)**, are the availability of the product/service and convenience, that is allowing the customer to quickly and easily acquire the product/service. In addition, **Drew and Bolton (1987)** supported that except from quality and price, also personal characteristics and service environment variables influence value. Furthermore, **Holbrook and Corfman (1985)** argued that service value depends among other things, on the tastes and characteristics of the customer.

**Ravald and Gronroos (1996)**, made a distinction between value on an episode basis and value of having a relationship. They argued that the relationship itself might have a major effect on the total value perceived and they proposed the term 'total episode value', which could be described as a function of both episode value and relationship value. Episode value includes the benefits that enhance value on an episode basis, e.g. superior product quality, brand/image, supporting services, etc. However, the value of having a relationship, e.g. the value of commitment from both parties, safety, credibility, security, continuity should also be taken into account.

Thus, it can be concluded that researchers share different views concerning value and its determinants. According to the majority of the researchers, including **Cronin, Brady and Hult (2000)**, **Zeithaml (1998)**, **Patterson and Spreng (1997)**, **Cronin et al. (1997)**, **Fornell et al (1996)**, **Ravald and Gronroos (1996)**, **Storbacka, Strandvik and Grönroos (1994)**, **Chang and Wildt (1994)**, **Bolton and Drew (1991)**, **Drew and Bolton (1987)**, value is influenced by service quality and price. **Fornell et al (1996)** and **Heskett et al. (1994)** claimed that value is also influenced by customers expectations. **Bolton and Drew (1991)** asserted that value is influenced also by disconfirmation experiences.

Some researchers maintained that non-monetary costs influence value. Researchers such as **Patterson and Spreng (1997)**, **Cronin et al. (1997)**, **Peterson and Wilson (1985)**, **Lovelock (1983)**, argued that value is influenced by non-monetary costs such as time, effort and perceived risk (financial risk, personal/physical risk, risk of receiving poor service performance and psychological risk).

In this study value is conceptualised as influenced by quality and price as the majority of researchers supported. The influence of customers expectations, perception and the P-E gap on value will also be examined. Factors such as time and effort to acquire the service were not considered relevant for the mobile telephony service, because the service is very easily accessible. However, value might be also influenced by perceived physical risk. As mentioned in **(Chapter 2.2.1)**, according to research conducted at Bristol University there are fears that mobile phones may damage health, because microwaves from cellphones may affect memory, or even cause brain tumours **(The Northern Echo, 1998)**. Thus,

physical risk can be considered a serious factor to be taken into consideration in the mobile telephony service. In the next section price that is one of the most important determinants of value, will be examined in more detail.

### 3.5.1 Price

As mentioned in the previous section price is one of the most important determinants of consumers' perceived value. As **Engel, Blackwell and Miniard (1995)**, mentioned, price is also an important factor influencing consumers purchase behaviour. However as **Chang and Wildt (1994)**, claimed, literature offers little insight into the effects of pricing. Some studies have investigated perceived price, however, its role in the determination of purchase intention has received little empirical attention.

Perceived price was defined according to **Zeithaml (1988)**, as the price as it is encoded by the consumer. **Chang and Wildt (1994)** defined perceived price as the consumers' perceptual representation or subjective perception of the objective price of the product/service.

As **Storbacka, Strandvik and Grönroos (1994)** and **Patterson and Spreng (1997)** claimed, buyers have an acceptable price range for a given purchase, rather than a single price and this should not be ignored, because as **Bolton and Lemon (1999)**, argued in the case of continuously provided services, it serves as normative price expectations for the service. **Chang and Wildt (1994)**, named this acceptable price range: 'consumers internal reference price' and supported that perceived price is formed based on the actual (objective price) and the consumers reference price. Thus, when making purchase decisions consumers compare objective price with their internal reference price. In addition, **Einhorn (1994)** and **Bolton and Lemon (1999)**, claimed that usage is influenced by price and higher price is associated with lower usage.

Price has an effect on customer purchase intentions. As **Chang and Wildt (1994)** found out, perceived price influenced customers purchase intentions. In addition, **Fornell et al (1996)** supported that price played a more important role in influencing customer satisfaction in sectors such as transportation/communication/utilities in which competition is relatively commodity based.

Thus, it can be seen that buyers have an acceptable price range for a given purchase and this should not be ignored, because it plays an important role when they make purchase decisions. In addition, price is an important factor influencing customers' usage levels and repurchase intention especially in the Telecommunication sector, thus in this study the influence of price on customers' repurchase intention will also be examined. Mobile operators should pay attention to price and should lower prices in order to increase usage which

is still very low in comparison with fixed telephony. In the next section what consumers perceive as fair expenditure will be assessed and the distinction between value and equity will be examined.

### 3.5.2 The Difference Between Value and Equity

According to some researchers value is in some ways similar to the equity construct because they are both some kind of a ratio of outputs (benefits) to inputs (sacrifice). Equity is the customer's evaluation of what is 'fair', 'right', or 'deserved'. Traditional equity theory suggests that customers attempt to maintain equity in the relationship by keeping their inputs proportionate to outcomes (**Adams 1965**).

Equity is considered the distributive dimension of perceived justice (**Adams 1965**). As **Smith, Bolton and Wagner (1996)** proposed, perceived justice has three dimensions that influence how people evaluate exchanges: distributive justice, which involves resource allocation and the perceived outcome of exchange, procedural justice, which involves the means by which decisions are made and conflicts are resolved and interactional justice, which involves the manner in which information is exchanged and outcomes are communicated. According to researchers such as **Oliver and Swan (1989)** and **Bolton and Lemon (1999)**, equity influences customer satisfaction.

The difference between value and equity as stated by **Patterson and Spreng (1997)**, is that equity theory is based on the notion that buyers will compare their output to input ratio with the vendor's ratio. Value on the other hand assesses the benefits to sacrifices ratio only from the buyer's side. However, the extent to which these two constructs overlap and the relationship between them and satisfaction when both are included as antecedents has yet to be examined.

On this basis, it appears to be that equity is the customer's evaluation of what is fair, right or deserved and it is considered to be the distributive dimension of perceived justice. Equity influences customer satisfaction, however, since equity theory proposes that buyers will compare their output to input ratio with the vendor's ratio and in this study benefits and sacrifices are assessed only from the buyers' perspective, value was examined as an antecedent of satisfaction.

### 3.6 Distinction Between Customer Satisfaction and Service Quality

The significance of service quality and customer satisfaction has been widely discussed in the literature and there is a debate concerning the similarities and differences between the two constructs. It is important to distinguish the two concepts and as **Dabholkar, Shepherd and Thorpe (2000)** argued, studies should explore the antecedents of both customer satisfaction and service quality

to further indicate how they may be similar or different in order to increase understanding of the two constructs.

Sometimes, practitioners and writers in the popular press tend to use the terms satisfaction and quality interchangeably. However, as has already been mentioned, there is confusion in the literature as to how service quality is related to customer satisfaction. There was debate as to whether customer satisfaction and service quality are two separate constructs, and what the exact nature of the differences between them is (**Cronin and Taylor 1992, 1994; Parasuraman, Zeithaml and Berry 1994a; Teas, 1993a, 1994**). According to the majority of researchers **Oliver (1993), Cronin and Taylor (1992), Bolton and Drew (1991), Bitner (1990), Carman (1990), Parasuraman, Zeithaml and Berry (1988)**, the weight of the evidence in the services literature, supports the position that service quality and consumer satisfaction are best conceptualised as separate i.e. unique constructs which should not be treated as equivalent in models of consumer decision making and that they share a close relationship.

However **Philip and Hazlett (1997), Parasuraman Zeithaml and Berry (1994a), Cronin and Taylor (1992, 1994), Fisk, Brown and Bitner (1993), and Bitner (1990)**, agreed that although satisfaction and quality are clearly related, the distinction between the two remains unresolved and further research into this area is needed.

Consequently, there is still a lack of consensus in the literature about the exact relationship between service quality and customer satisfaction. According to **Lacobucci, Grayson and Ostrom (1994b)** service quality and customer satisfaction may be connected in the following ways: they may be different operationalization of the same construct or they may be orthogonally related, that is they may be entirely different constructs or they may be conceptual cousins.

A number of researchers maintained that customer satisfaction is a transitory judgement (a transaction-specific assessment), made on the basis of a specific service encounter, whereas service quality is a form of attitude, a long-run overall evaluation, a global assessment, based on a long-term attitude. As **Bitner and Hubbert (1994)** stated there appears to be a consensus that satisfaction refers to the outcome of individual service transactions, whereas service quality is the customer's overall impression of the relative inferiority/superiority of the organisation and its services. This was reinforced by **Stafford, Stafford and Wells (1998)** who argued that satisfaction is generally considered more experiential, transitory and transaction-specific, while perceptions of service quality are believed to be more enduring. Another difference expressed by **Crompton and MacKay (1989)** is that satisfaction is a psychological outcome emerging from an experience, whereas service quality is concerned with the attributes of the service itself.

However, **Teas (1994)** argued that both service quality and customer satisfaction can be examined meaningfully from both transaction-specific as well as global perspectives, a viewpoint embraced by other researchers such as **Parasuraman, Zeithaml and Berry (1994b)**, **Anderson and Fornell (1994)**, **Bitner and Hubbert (1994)** and **Rust and Oliver (1994)**. Furthermore, **Storbacka Strandvik and Grönroos (1994)** in their model also expressed service quality and satisfaction both at an episode and a relationship level.

On this basis, it is clear that there is no consensus in the literature whether customer satisfaction and service quality are two separate constructs and if they are related and how, thus further research is needed. However, the majority of researchers embraced the viewpoint that they are separate constructs. In this study service quality and customer satisfaction will be both measured and their influence on customer repurchase intention will be assessed.

### **3.7 Customer Satisfaction**

As previously mentioned, customer satisfaction is the major determinant of customers purchase intention and should be examined in detail. In the 1990s companies realised the importance of building customer satisfaction and loyalty (**Heskett et al, 1994**). As **Engel, Blackwell and Miniard (1995)** claimed the marketing literature today is flooded with research and commentary on customer satisfaction since it is the key to customer loyalty. As such **Andreassen (1995)** argued that customer satisfaction is a well-known and well-established concept in several sciences such as marketing, consumer research, economic psychology, welfare-economics and economics.

Many researchers explored and defined customer satisfaction. According to **Bolton and Drew (1991)** and **Spreng, MacKenzie and Olshavsky (1996)** customer satisfaction refers to a customer's evaluation of a specific transaction at a particular time. However, **Rust and Oliver (1994, p2)** stated that "customer satisfaction is a summary cognitive and affective reaction to a service incident or sometimes to a long-term service relationship". As it has been mentioned there is a conflict between researchers concerning the definition and interrelation of customers satisfaction and service quality (**Chapter 3.6**).

According to some researchers, there are different types of satisfaction. **Stauss and Neuhaus (1997)**, developed a qualitative satisfaction model that took the emotional, cognitive, and intentional dimensions of the satisfaction construct into account and proposed specific satisfaction types such as stable, resigned and demanding customer dissatisfaction. Demanding satisfied, stable satisfied and resigned satisfied customers all describe themselves as satisfied, but are not equally loyal to a company and their switching barriers are completely different. Furthermore, **Parasuraman, Zeithaml and Berry (1988)** distinguished between

attribute satisfaction and information satisfaction which both influence customers overall satisfaction with a product/service. Attribute satisfaction is consumer's satisfaction with the product itself and information satisfaction is satisfaction with the information used in choosing the product. Attribute and information satisfaction are produced by a consumer's assessment of the degree to which a product's performance is perceived to have met or exceeded his/her desires and expectations.

In addition, there are various levels of satisfaction. As **Kotler (1994)**, claimed a customer can experience one of three broad levels of satisfaction. If the performance falls short of expectations, the customer is dissatisfied. If the performance matches the expectations, the customer is satisfied, if the performance exceeds expectations, the customer is highly satisfied or delighted.

Customer dissatisfaction should be taken into consideration seriously when a company wants to retain its customers because it is the major cause of churn. Customer dissatisfaction was defined by **Fornell and Wernerfelt (1987)**, as a state of cognitive/affective discomfort caused by an insufficient return relative to the resources spent by the consumer at the stage of the purchase/consumption process. Dissatisfied customers can react in various ways. As **Fornell et al., (1996)** stated, dissatisfied customers can exit (e.g. go to a competitor) or voice their complaints in an attempt to receive retribution. In addition, as **Hansen, Swan and Powers (1996)**, claimed a dissatisfied customer can request the company to resolve the problem, return products for replacements or refunds, switch suppliers or take some other action that will weaken the supplier's position in the marketplace such as negative word-of-mouth. Furthermore, as **Zeithaml, Berry and Parasuraman (1996)** argued, indicators of dissatisfaction include: different types of complaining (e.g. complaining to friends or external agencies), contemplation of switching to competitors. An important issue which should be taken seriously into consideration by companies is that customers who have bad experiences with companies tell approximately 11 people about it and those with good experiences tell just 6 (**Hart, Heskett and Sasser, 1990**).

Customer delight (or positive surprise), as opposed to mere satisfaction/dissatisfaction, leads to better customer retention figures. Customer delight can be achieved through a variety of strategies. As it has already been mentioned customers are highly satisfied or delighted if companies performance exceeds their expectations. As **Jones and Sasser (1995)**, mentioned a completely satisfied customer believes that the company excels in understanding and addressing his/her personal preferences, values, needs, or problems. Thus, the degree of customer satisfaction plays an important role. Customers who are not only satisfied but they are highly satisfied and enthusiastic with the brand will repeat purchase and stay loyal. Researchers such as **Light (1997)**, **Jones and Sasser (1995)**, **Pavone (1995)** and **Kotler (1994)**, argued that only delighted customers become loyal. In addition, as **Kordupleski, Rust and Zahorik (1993)** supported customers who rate the

service as good are only 50% likely to re-use it, whereas those who rate it as excellent are 80% likely to re-use it. This was reinforced by **Jones and Sasser (1995)** who reported that a study of the loyalty of retail-banking depositors found that 'completely satisfied' customers were nearly 42% more likely to be loyal than merely 'satisfied' customers.

A significant number of researchers examined the antecedents of customer satisfaction and proposed a variety of models concerning the formation of satisfaction. Many of these researchers supported that disconfirmation is central in the satisfaction formation. Disconfirmation as defined by **Andreassen (1995)**, consists actually of two processes: the formation of expectations and the disconfirmation of those expectations. Other researchers who supported the disconfirmation paradigm are **Cardozo (1965)**, **Engel, Blackwell and Miniard, (1995)**, **Andreassen (1995)**, **Wirtz (1993)**, **Oliver (1980)**, and **Olson and Dover (1976)** who claimed that when performance is better than consumers expectations this results in positive disconfirmation and then high levels of satisfaction and when it is worse than expectations this results in negative disconfirmation and then dissatisfaction. Thus, according to these models customer satisfaction is influenced by customers' expectations, perceptions and disconfirmation.

However, some researchers proposed also some other factors influencing customer satisfaction. For example, **Woodruff, Cadotte and Jenkins (1983)** replaced expectations with experience based norms. **Spreng, MacKenzie and Olshavsky (1996)** posited that overall satisfaction is influenced by a consumers attribute satisfaction and with information satisfaction.

On this basis, it can be concluded that many researchers explored the nature and the formation of customer satisfaction. However it should be mentioned that this study is not focusing on the formation of satisfaction but its aim is to identify the factors influencing customers' repurchase intention in the mobile telephony sector. Satisfaction was examined in detail because it is a factor influencing customers repurchase intention and this study aims to examine the relationship between customer satisfaction and customer repurchase intention, thus definition and measurement of customer satisfaction are essential. As previously mentioned, a number of researchers maintained that customer satisfaction is a transaction-specific assessment, however some researchers argued that it could be examined meaningfully from both transaction-specific as well as global perspectives. Thus, the measurement of customer satisfaction should be done on the basis of its definition, as it will be explained in the following section.

### **3.7.1 Measurement of Customer Satisfaction**

Many companies measure customer satisfaction and in most cases it is measured in the same way as service quality.

As **Devlin Dong and Brown (1993)**, argued, many companies measure customer satisfaction rather than service quality. In some cases single-item scales are used to measure customer satisfaction however many researchers use multi-attribute models to evaluate satisfaction which as it has been mentioned is considered an evaluation of a transaction or sometimes of a long-term relationship. As **Johnson and Fornell (1991)** stated if customer satisfaction is treated as an abstract and theoretical phenomenon, it can be measured as a weighted average of multiple indicators. In addition, **Rust and Zahorik (1993)** claimed that the single-item scale might not capture the complexity of customer satisfaction entirely, since it cannot provide information on components and cannot assess various dimensions separately. Thus, satisfaction studies tend to use multi-item measures of customer satisfaction and as **Wirtz and Bateson (1995)**, maintained, multi-attribute models are the prevailing conceptualisation of the components in satisfaction models. Thus, many companies conduct customer satisfaction surveys to measure customer satisfaction based on multi-attribute models.

However researchers such as **Bolton and Lemon (1999)** and **Hallowell (1996)** in their research studies measured satisfaction with one single self-report measure, a conventional cumulative measure. As **Yi (1990)** claimed, a single overall satisfaction measure is reasonably valid.

Therefore, when the aim is to measure customer satisfaction, a single-item scale cannot capture the complexity of customer satisfaction and multi-item measures should be used. In this research study, service quality will be measured primarily with a multi-item measure. Therefore, customers overall satisfaction will be assessed by using a single measure, a conventional cumulative measure, so as not to augment the number of the questions in the questionnaire and tire the respondents which as other researchers agreed is reasonably valid.

### **3.8 Conclusion**

This literature review examined the several factors affecting customer repurchase intention/loyalty. On the basis of these findings the model of customers' assessments of the mobile telephony service will be formed.

There are many proxies for measuring customer loyalty, including repurchase intention, positive word of mouth, increased spending and others. For the purposes of this study, consumers' repurchase intention will be measured and in the final survey users intention to recommend their mobile operator to others will also be added so as to strengthen customers' stated repurchase intention measure. However it should be noted that customers stated repurchase



intention does not mean that they will actually repurchase. There are many other factors (e.g. social pressures), which may refrain customers from repurchasing.

According to the literature, customer loyalty and service quality can be defined as attitudes. Thus the formation of attitudes was examined and multi-attribute attitude models that examine the formation of attitudes were analysed. Since attitude is difficult to measure and can not be measured on a single item scale and since according to the service management literature loyalty can also be defined in behavioural terms, for the purposes of this study, loyalty will be defined as behavioural loyalty, that is customers intention to repurchase.

The factors influencing customer purchase behaviour were examined on the basis of the models proposed by a significant number of researchers. Many researchers maintained that customers purchase intention is influenced by customer satisfaction that is then influenced by service quality. Thus the relationship is from service quality to customer satisfaction to purchase intentions. However, some other researchers maintained that the relationship runs from customer satisfaction to service quality to purchase intentions. Thus, it can be seen that while recognising service quality and consumer satisfaction as essential factors in determining customer purchase intention, there is conflict in the literature concerning their interrelation in influencing purchase intentions. Some researchers included also the concept of value in their models and maintained that the relationship is from perceived quality, to perceived value to customer satisfaction to customers' purchase intentions. Other researchers argued that there are also links between service quality, value and purchase intentions. Value is considered of significant importance and many researchers argued that the value construct should be included in models because it increases the ability of the model to explain variance in consumers repurchase intention. However, few of the existing models examined perceived value, thus perceived value will also be examined in this study.

This literature review also separately examined the factors influencing customer loyalty, that is service quality, service value and customer satisfaction. There are inconsistencies in the literature concerning the conceptualisation of service quality. Some researchers conceptualised service quality as a global assessment similar to an attitude, others as a transaction specific assessment and others argued that it can be examined from both transaction specific as well as global perspectives. Thus, there is conflict in the literature concerning the way service quality should be measured. Some researchers supported the expectation-perception gap for measuring service quality, others supported the use of perceptions only and others claimed that both methods could be used depending on the purpose of the study. If the purpose is to identify service shortfalls then expectations also are needed. In this study service quality will be considered and measured as an attitude on the basis of the Ideal-Point Multiattribute model. In addition, this study aims at explaining the dependent variable of 'repurchase intention', but the deficiencies in the mobile telephony

service will also be identified, thus expectations will be used and they will represent customers' beliefs about what a service provider should offer, that is customer's ideal point at an infinite level.

The various components of service quality were also examined. These include technical quality that is concerned with the outcome of the service encounter, functional quality, which is concerned with the process of service delivery, and reputational quality. These components are the basis for the formation of the dimensions used for measuring service quality and applied to the instruments measuring service quality that was also examined in order to choose the most appropriate one to measure service quality in this study.

Thus, the existing Perceptions-Expectations gap models as well as the performance-based models for measuring service quality were examined. The SERVQUAL model (including expectations, perceptions and importance weights) was preferred as the most widely applied and tested instrument. Other methods including the Critical Incident Technique (CIT) and the Repertory Grid Analysis (RGA) were also examined but they were rejected as not being suitable for measuring service quality. An additional service quality measure was also decided to use in order to assess the overall service quality received by users as well as SERVQUAL.

Service value was also analysed in detail. Service value is an abstract concept with meanings that vary according to context. Researchers share different views concerning value and its determinants. According to the majority of the researchers, value is influenced by service quality and price. However, some researchers claimed that it is also influenced by customers' expectations, by disconfirmation experiences and risk. In this study value is conceptualised as influenced by quality and price as the majority of researchers supported. However, in the mobile telephony service value is also influenced by perceived physical risk, since there are fears that mobile phones may damage health, because microwaves from cell phones may affect memory or even cause brain tumours. Thus, physical risk will be included as influencing perceived value.

Another aspect of the literature review focused on the present distinctions between service quality and customer satisfaction. There is no consensus in the literature as to whether customer satisfaction and service quality are two separate constructs or if they are related and how. The majority of researchers embraced the viewpoint that they are separate constructs, however, further research is needed to clarify this position. A number of researchers maintained that customer satisfaction is a transitory judgement (a transaction-specific assessment), whereas service quality is a form of attitude. Some researchers argued that both service quality and customer satisfaction can be examined meaningfully from both transaction-specific as well as global perspectives. As it has been mentioned in this study service quality will be considered and measured as an attitude.

Customer satisfaction has also been investigated by a large number of researchers. As previously mentioned, a number of researchers maintain that customer satisfaction is a transaction-specific assessment, however some researchers argued that it could be examined meaningfully from both transaction-specific as well as global perspectives. Thus, in this study, satisfaction can be defined at a relationship level. When the aim is to measure customer satisfaction, a single-item scale cannot capture the complexity of customer satisfaction and multi-item measures should be used. However, in this study, service quality that is considered an attitude will be measured with a multi-item measure rather than customer satisfaction. Customers overall satisfaction will be assessed by using a single measure, a conventional cumulative measure, so as not to augment the number of questions in the questionnaire and tire the respondents, which as many researchers agreed is reasonably valid.

On the basis of the above the model of customers assessment of the mobile telephony service will be developed and presented in the following section.

## CHAPTER 4

### A MODEL OF CUSTOMER ASSESSMENTS OF THE MOBILE TELEPHONY SERVICE

From the models described in **Chapter 3.3**, and the various and conflicting views about the relationships between the factors influencing customer purchase intention/loyalty, it was seen that the most important factors influencing customers' purchase intention include customer satisfaction, service value and service quality. This is the backbone of the research model in this study.

As has been mentioned by researchers such as **Dabholkar, Shepherd and Thorpe (2000)**, **McAlexander, Kaldenberg and Koenig (1994)**, **Taylor and Baker (1994)**, **Cronin and Taylor (1992)**, **Woodside, Frey and Daly (1989)**, **Woodside Frey and Daly (1989)**, **Parasuraman, Zeithaml and Berry (1988, 1985)**, customer loyalty is influenced by customer satisfaction that is then influenced by service quality. Thus, the relationship is from service quality to customer satisfaction to purchase intentions. However, some researchers such as **Bitner (1990)**, **Bolton and Drew (1991)** argued that the relationship is from customer satisfaction to service quality to behavioural intentions, but **Cronin and Taylor (1992)** although they also hypothesised in a similar way that satisfaction is an antecedent of service quality, their results indicated the opposite. As **Parasuraman, Zeithaml and Berry (1994b)** argued, according to the service quality literature, service quality is a global assessment and satisfaction a transaction-specific assessment and on the basis of this distinction, some researchers have posited that an accumulation of transaction-specific assessments leads to a global assessment and thus these researchers concluded that the direction is from customer satisfaction to service quality. In addition, **Teas (1994)** claimed that the fact that service quality is considered as an attitude in most service quality research and customer satisfaction as a transaction specific assessment in most customer satisfaction research, results in conflicting perspectives. He argued that both service quality and customer satisfaction can be examined meaningfully from both transaction-specific as well as global perspectives. This is a viewpoint embraced by other researchers such as **Parasuraman, Zeithaml and Berry (1994b)**, **Anderson and Fornell (1994)**, **Bitner and Hubbert (1994)** and **Rust and Oliver (1994)** who also supported that both service quality and consumer satisfaction exhibit global and transaction-specific forms. For the purposes of this study, service quality is operationalized as an attitude and customer satisfaction is defined at a relationship level, that is customers' overall satisfaction with the mobile telephony service is assessed. As seen above this view is supported by the most current research results.

A group of models included the concept of perceived value in the chain of the relationships leading to customer loyalty/intention and supported that the relationship is from perceived quality, to perceived value to customer satisfaction to behavioural intentions (**Chapter 3.3.3**). Specifically researchers such as **Liljander and Strandvik (1995)**, **Patterson and Spreng (1997)**, **Storbacka, Strandvik and Grönroos (1994)** included the concept of perceived value in the chain of these relationships and supported that the relationship is from perceived quality, to perceived value to satisfaction to behavioural intentions. In addition, **Zeithaml (1988)**, **Cronin et al. (1997)**, **Chang and Wildt, (1994)** also supported the link from perceived quality, to value to purchase intentions, however they did not examine satisfaction. In this study the value concept is examined because as researchers including **Storbacka, Strandvik and Grönroos (1994)**, **Liljander and Strandvik (1995)**, **Patterson and Spreng (1997)** maintained, it is of significant importance since it may alter the direction (satisfied/dissatisfied) and the degree or intensity of satisfaction/dissatisfaction experienced by customers. Furthermore, **Dodds, Monroe and Grewal, (1991)** developed a model and used perception of value in a pre-purchase situation and maintained that value might directly influence willingness to buy since consumers may refrain from purchasing a product if the price is outside their range or the price signals that the quality is inferior. Thus, it can be concluded that there are also links between value and purchase intention, that will be examined in this study.

A number of researchers including **Storbacka, Strandvik and Grönroos (1994)**, **Bolton and Drew (1991)**, **Chang and Wildt (1994)**, **Fornell et al (1996)**, **Patterson and Spreng (1997)**, **Ravald and Gronroos (1996)**, **Drew and Bolton (1987)**, **Cronin, Brady and Hult (2000)**, **Zeithaml (1998)** defined value as influenced by service quality and price. **Fornell et al (1996)**, supported that value is also influenced by customers expectations. **Bolton and Drew (1991)** maintained that value is also influenced by disconfirmation. Some researchers claimed that non-monetary costs also influence value. **Cronin, Brady and Hult (2000)** and **Storbacka, Strandvik and Grönroos (1994)** argued that perceived sacrifice influences value. Perceived sacrifice can include, apart from price, also the time and effort needed, acquisition costs and other costs, including risk. Researchers such as **Peterson and Wilson (1985)**, **Lovelock (1983)**, **Cronin, et al, (1997)**, **Patterson and Spreng (1997)** argued that value is influenced by perceived risk. In the mobile telephony service the physical risk deriving from the radiation of the mobile handsets can be considered a serious factor to be taken into consideration. As mentioned in (**Chapter 2.2.1**), according to research conducted at Bristol University there are fears that mobile phones can damage health, because microwaves from cellphones may affect memory, or even cause brain tumours (**The Northern Echo, 1998**). Thus, in this study the influence of perceived risk will be examined.

Other models (**Chapter 3.3.4**) supported that there is a link between service quality and purchase intention. Researchers such as **Headley and Miller**

(1993), Boulding et al (1993), Zeithaml, Berry and Parasuraman (1996), Ennew and Binks (1996), Kangis and Zhang (2000), investigated the relationship between service quality and behavioural intentions and supported that there is a link between service quality and purchase intention. In addition, McAlexander, Kaldenberg and Koenig (1994), supported the link between service quality and purchase intention. Thus, in this study this link will also be examined.

Service quality was measured by some researchers, such as Parasuraman, Zeithaml and Berry (1985, 1988), Heskett, et al, (1994), Rust and Zahorik (1995), Bolton and Lemon (1999) as an expectation-perception gap. However, there are other researchers such as Cronin and Taylor (1992), Boulding et al, (1993), Mazis, Ahtola and Klippel (1975), Brown, Churchill and Peter (1993), Teas (1993b), Bolton and Drew (1991), Babakus and Mangold (1992), Babakus and Boller (1992), Patterson and Johnson (1993) who claimed that the use of perceptions is the only operationalization to measure service quality. Although there are some cases where expectations make sense and are needed. As Carman, (1990) maintained, for commonly used services such as most retail stores, banks, bank credit cards, telephone service, restaurants, or motels, the expectations of regular customers may be adequate. In addition, as Zeithaml, Berry and Parasuraman (1996) claimed, both methods can be used depending on the purpose of the study and if the purpose is to identify service shortfalls accurately then expectations are needed. The purpose of this study is to explain the dependent variable of 'repurchase intention', however the deficiencies in the mobile telephony service will also be identified, thus expectations are needed. Since service quality will be measured as an attitude on the basis of the Ideal-Point Multiattribute model, expectations will represent the customer's ideal point at an infinite level.

On the basis of the examination of the literature and according to the existing models, the main factors influencing customer purchase intention are service quality, service value and customer satisfaction. This study will examine all the factors revealed in the studies examined in the literature review, as influencing customer repurchase intention/loyalty in the mobile telephony sector and will propose a model. This model will be appropriate for services which use high technology equipment (as is mobile telephony). Mobile telephony is not the only service using high technology equipment, internet telephony, internet services, e-commerce, and generally the e-services are also using high technology equipment. In addition, on the basis of the discussion in the literature concerning the relationships among the factors influencing customer repurchase intention/loyalty, the model that will be postulated will be tested empirically through a survey in the sector of mobile telephony.

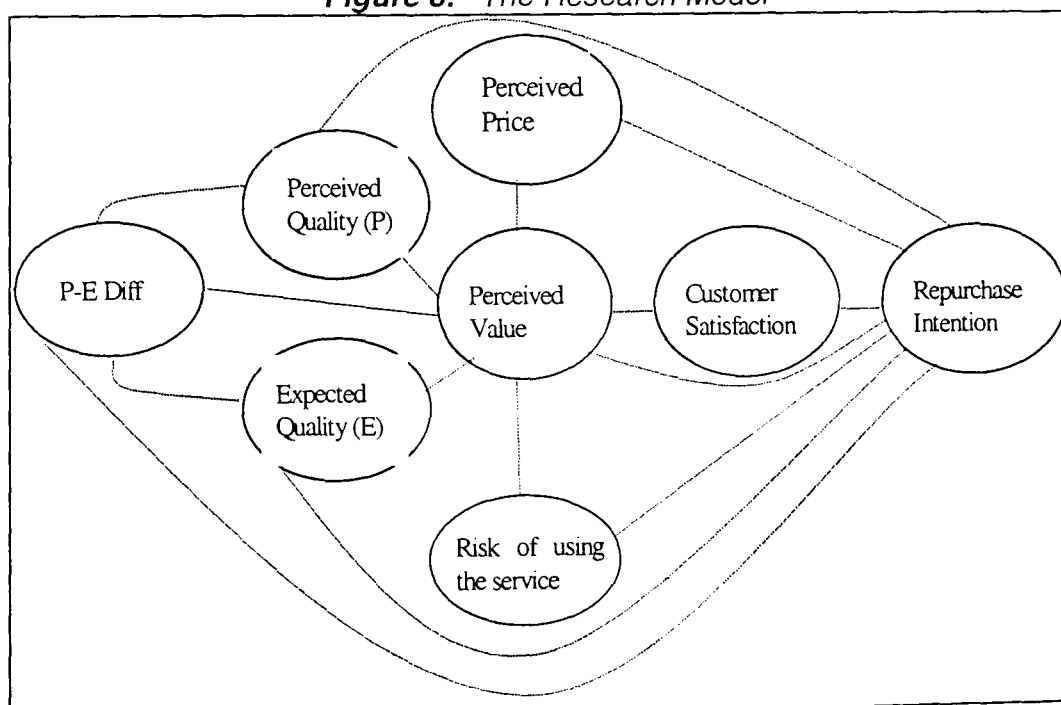
The factors revealed as influencing customer repurchase intention/loyalty such as service quality, service value and customer satisfaction will be defined and measured as presented previously. As it has been mentioned for the purposes

of this study, service quality is operationalized as an attitude, thus it will be measured as an attitude on the basis of the Ideal-Point Multiattribute model and expectations are essential and they will represent the customer's ideal point at an infinite level. In addition, expectations are necessary because the purpose of this study is also to identify deficiencies in the mobile telephony service. Customer satisfaction is defined at a relationship level, that is, customers' overall satisfaction with the mobile telephony service is assessed. The value concept is also examined because as mentioned above many researchers argued that it is of significant importance. In addition apart from quality and price, value is also influenced by perceived physical risk, because of the fears expressed that mobile phones can damage users' health.

#### 4.1 The Research Model

Therefore, in order to examine the relationship between quality, value, customer satisfaction and customers intention to repurchase in the mobile telephony sector, a model has been developed on the basis of the literature. The model describes the relationship between quality of service, service value, customer satisfaction and repurchase intention. On the basis of this model, customers' expectations about the mobile telephony service combined with their perceptions after the actual service experience and the confirmation/disconfirmation of these expectations together with perceived price and the risk of using the service influence perceived value. Then perceived value influences satisfaction that in turn influences repurchase intention. The proposed research model presenting the factors influencing customers' repurchase intention is presented in **Figure 8**.

**Figure 8:** *The Research Model*



Source: Blery (2003)

The proposed model for estimating the influences on repurchase intention has been formed on the basis of the literature presented in **CHAPTER 4**. Perceived value is influenced by expected and perceived quality, the P-E difference and price and risk to acquire the service. Customer satisfaction is influenced by perceived value and repurchase intention is influenced by customer satisfaction. Repurchase intention is also influenced by expected and perceived quality, the P-E difference, price and risk to acquire the service and by perceived value.

However, in this study the correlations between the above variables will be examined and it should be mentioned that correlation does not imply causality. When Variable A is correlated with Variable B, it does not mean that Variable A causes Variable B. In the case that two things are similar, or there is an association between them it does not necessarily mean that one causes the other. Thus, correlation does not provide any evidence for causality, association does not mean causation and thus we cannot talk about cause and effect. The association of the dependent variable 'repurchase intention' with the independent variables 'service quality', 'service value' and customer satisfaction will be examined.

Service quality will be measured on the basis of customers' expectations and perceptions by using a multi-attribute specific measure. It will also be measured with a single-item overall measure, that is a direct question about the overall quality estimated by customers after having used the service which will be included in the questionnaire developed for the research survey. 'Risk to use the service', will be measured by a separate check question in the questionnaire and it is expected to have a negative affect on perceived value. 'Perceived Price' will be measured by another question in the questionnaire and it is expected to have a negative effect on perceived value. 'Perceived Value' will be measured with a single-item overall measure, a direct question about the overall value estimated by customers. 'Customer satisfaction' will also be measured with a single-item overall satisfaction measure in the questionnaire (**Chapter 5.1.5**).

## **4.2 The Research Hypotheses**

Research hypotheses need to be based on certain principles in order for them to show a reasoned approach to the research project and its associated issues. For this reason, the formation of the research hypothesis is based on the clarity of approach found in **Goubil-Gambrell (1992)**, who argued the following criteria need to be taken into consideration: to be conceptually clear, with concepts defined operationally; to have empirical referents; to be specific so that it can be determined whether they are testable; to be related to available testing techniques; to be related to a body of theory.



On this basis, the research hypotheses are presented below:

### **Hypothesis No1**

The null hypothesis:

**H<sub>01</sub>**: Perceived value of a mobile telephony company is not influenced by expected service quality

**H<sub>1</sub>**: Perceived value of a mobile telephony company is influenced by expected service quality

### **Hypothesis No2**

The null hypothesis:

**H<sub>02</sub>**: Perceived value of a mobile telephony company is not influenced by perceived service quality

**H<sub>2</sub>**: Perceived value of a mobile telephony company is influenced by perceived service quality

### **Hypothesis No3**

The null hypothesis:

**H<sub>03</sub>**: Perceived value of a mobile telephony company is not influenced by the difference of perceived service quality and expected service quality (P-E)

**H<sub>3</sub>**: Perceived value of a mobile telephony company is influenced by the difference of perceived service quality and expected service quality (P-E)

### **Hypothesis No4**

The null hypothesis:

**H<sub>04</sub>**: Perceived value of a mobile telephony company is not influenced by perceived price

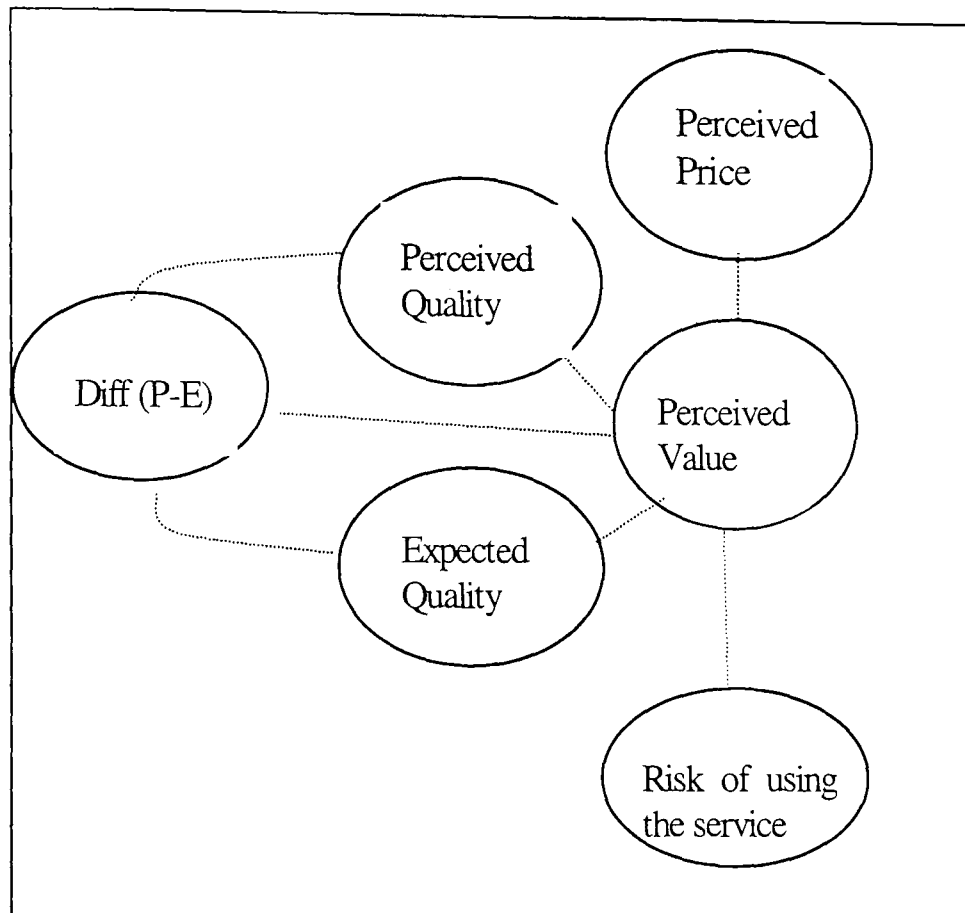
**H<sub>4</sub>**: Perceived value of a mobile telephony company is influenced by perceived price

### **Hypothesis No5**

The null hypothesis:

**H<sub>05</sub>**: Perceived value of a mobile telephony company is not influenced by the risk of using the service

**H<sub>5</sub>**: Perceived value of a mobile telephony company is influenced by the risk of using the service

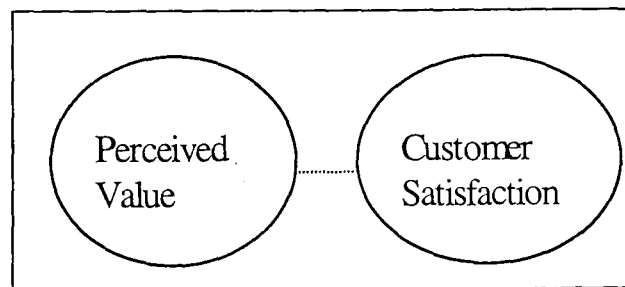


**Hypothesis No6**

The null hypothesis:

**H<sub>06</sub>:** Customer satisfaction of a mobile telephony company is not influenced by perceived value

**H<sub>6</sub>:** Customer satisfaction of a mobile telephony company is influenced by perceived value

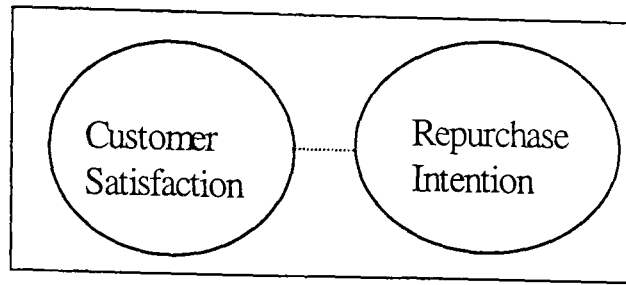


**Hypothesis No7**

The null hypothesis:

**H<sub>07</sub>:** Repurchase intention is not influenced by customer satisfaction

**H<sub>7</sub>:** Repurchase intention is influenced by customer satisfaction



**Hypothesis No8**

***Hypothesis No8.1***

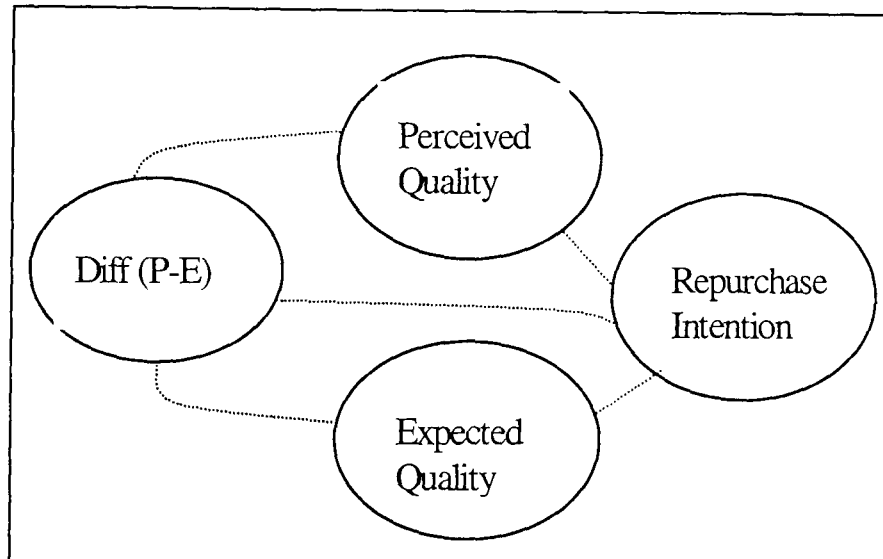
The null hypothesis:

**H<sub>08.1</sub>:** Repurchase intention is not influenced by:

- a. Perceived service quality,
- b. Expected service quality
- c. The (P-E) difference

**H<sub>8.1</sub>:** Repurchase intention is influenced by:

- a. Perceived service quality,
- b. Expected service quality
- c. The (P-E) difference



***Hypothesis No8.2***

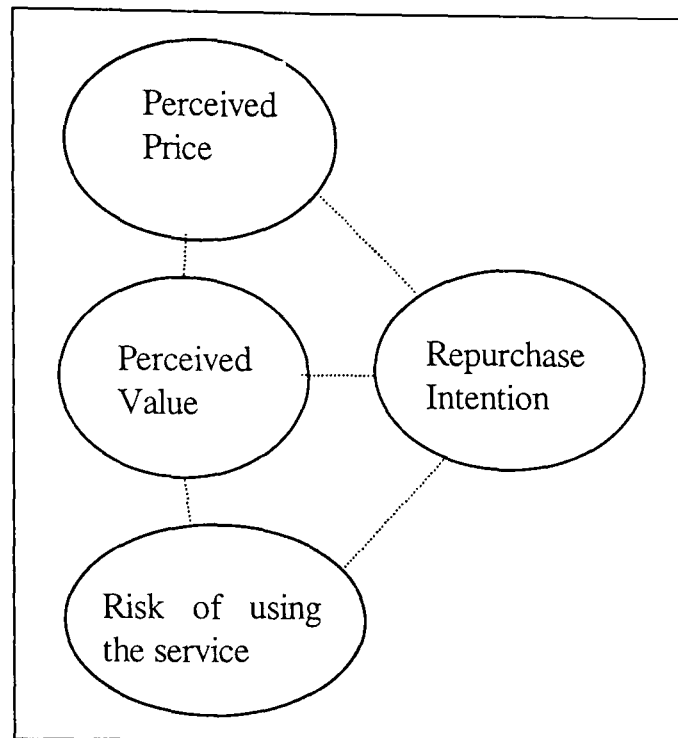
The null hypothesis:

**H<sub>08.2</sub>:** Repurchase intention is not influenced by:

- a. Perceived service value
- b. Perceived price
- c. The risk of using the service

**H<sub>8.2</sub>:** Repurchase intention is influenced by:

- a. Perceived service value
- b. Perceived price
- c. The risk of using the service



In order to test these hypotheses, a method was developed based on existing theoretical methodology/studies. However, where necessary, existing/standard tools were adapted so that they were more effective for the mobile telephony sector. The next chapter will look at the design of the sample for the survey that will allow for the empirical testing of the proposed model, and the methodology for the analysis of the survey data.

## **CHAPTER 5**

### **METHODOLOGY**

In this section the methodology used to conduct the research for this study is presented. First the methodological issues are examined and then the methods applied are presented.

The methodological issues include a theoretical analysis of issues concerning social research and the selection of the research approach for this study. In addition they include, the sampling plan (the sampling unit, the contact method that will be used and the sampling procedure), the selection of the research instrument for this study and the process of its adaptation for the mobile telephony sector. The actual research methods section will first present the in-depth interview format used to conduct interviews with marketing executives from the mobile telephony sector in order to adapt SERVQUAL, the chosen research instrument for carrying out this research, specifically for the mobile telephony sector. This is followed by the pilot survey carried out to test the selected research instrument and check the reliability and validity of SERVQUAL. This is necessary in order to adapt SERVQUAL further and to calculate the appropriate sample size for the final research survey. Then, focus group research was conducted in order to further adapt SERVQUAL and to compare the final research survey results in order to strengthen their validity. Finally the questionnaire of the final survey research is presented as well as the reliability and validity assessment of the adapted SERVQUAL instrument on the basis of the final survey data and the statistical elaboration of the data.

#### **5.1 Methodological Issues**

In order to create a consistent and reproducible piece of research, there needs to be a sound theoretical basis for the selection of the various tools needed for a particular piece of research. The next section will examine the theoretical issues concerning social research and the selection of the research approach for this study.

##### **5.1.1 Social Research**

Social research is more than a collection of methods and a process for creating knowledge; it is a process for producing new knowledge about the social world that uses a scientific approach. Research comes in several shapes and sizes and the specific type of the research should be decided. There are four

dimensions of social research, the purpose of doing it, its intended use, how it treats time and the research techniques used in it (**Newman, 2000**).

In defining purpose, research can be *exploratory* when its purpose is to explore an idea and become familiar with the basic facts, settings and concerns. It can also be *descriptive* when it presents a picture of the specific details of a situation, social setting or a relationship. Furthermore, it can be *explanatory* when it concerns an issue already known and described and there is the question of why things are the way they are. This study is a social study, it is also exploratory and its purpose is to identify the factors influencing customer repurchase intentions in the Greek Mobile Telephony market.

Concerning the use of the research, some researchers are engaged in *basic research* and focus on using research to advance general knowledge and seek an understanding of the fundamental nature of social reality. Others are engaged in *applied research* and primarily want to apply and tailor knowledge to address a specific problem. Thus basic research advances fundamental knowledge about the social world and applied research attempts to solve specific policy problems or help practitioners accomplish tasks (**Newman, 2000**). This study addresses a specific problem and it is an applied piece of research.

The treatment of time is another dimension of social research. There is cross-sectional research that takes a snapshot approach to social work and researchers observe one point in time, which is the simplest and the least costly alternative. In addition, there is longitudinal research where researchers examine features of people or other units at more than one time. In longitudinal studies expectations are collected before usage and perceptions are gathered after usage. It is more complex and more costly than cross-sectional research, but it is also more powerful, especially when researchers seek answers to questions about social change. In this study a cross-sectional setting will be adopted and the reasons were explained in detail in **Chapter 3.4.2.4.2**.

In the following section concerning the fourth dimension of social research, the research techniques actually used will be presented.

#### 5.1.1.1 Qualitative and Quantitative Data Collection Techniques

The different types of data collection techniques used in social research will be examined in this part in order to substantiate the choices made for this particular piece of research.

The techniques used by researchers to collect data can be grouped in two categories (**Newman, 2000**): quantitative, that is collecting data in the form of numbers and qualitative, that is collecting data in the form of words or pictures.

As **Goubil-Gambrell (1992)** stated, quantitative research attempts to quantify key aspects, or variables, of a situation and relate them to one another. Qualitative research is descriptive in nature and its purpose is to identify key variables in a given situation that may prove useful in framing questions to be explored further, by qualitative research or by other methods.

According to **Newman (2000)**, *quantitative* research can be done through:

- a) Experimental research, which can be conducted in laboratories or in real life and it usually involves a relatively small number of people and addresses a well-focused question.
- b) Surveys, where the researcher asks people questions in a written questionnaire. In survey research the researcher asks many people numerous questions in a short time period. Surveys give the researcher a picture of what many people think or report doing.
- c) Content analysis, which is used for examining information or content in written or symbolic material. This allows the researcher to discover features in a content of large amounts of material that might otherwise be unnoticed and it is used mostly in descriptive research
- d) Existing statistics research, where the researcher locates a source of previously collected information, often in the form of government reports or previously conducted surveys and reorganizes or combines the information in new ways to address a research question.

Quantitative research as mentioned above is divided into two groups: single point in time (cross-sectional research) versus multiple time points (longitudinal research).

*Qualitative* research can be done through:

- a) Field research, where most researchers conduct field studies on a small group of people for some length of time and they take detailed notes.
- b) Comparative historical research, which examines aspects of social life in a past historical era or across different cultures.

Quantitative and qualitative researches differ in many ways but they also complement each other in many ways. One of their differences comes from the nature of the data. Soft data in the form of impressions, words, sentences, photos, symbols and so forth dictate different research strategies and data collection techniques than hard data in the form of numbers. Another difference is that qualitative and quantitative researchers often have varying assumptions about social life and different objectives. Almost all quantitative researchers rely on a positivist approach to social science. They are likely to use a technocratic perspective apply 'reconstructed logic' and follow a linear research path. They speak a language of 'variables and hypotheses'. Most quantitative techniques are data condensers. They condense data in order to see the big picture.

Qualitative methods are data enhancers and it is possible to see key aspects of cases more clearly. Quantitative researchers emphasize precisely measuring variables and testing hypotheses that are linked to general casual explanations. Qualitative researchers by contrast often rely on interpretative or critical social science. They are more to use a transcendent perspective apply 'logic in practice' and follow a non-linear research path. Qualitative researchers speak a language of 'cases and contexts'. They emphasize conducting detailed examinations of cases that arise in the natural flow of social life. They usually try to present authentic interpretations that are sensitive to specific social-historical contexts. Although both styles share basic principles of science, the two approaches differ in significant ways. However, the two styles can be complimentary (**Newman, 2000**).

To collect data for this study both quantitative and qualitative methods were applied. From the quantitative data collection techniques, survey methodology was selected and from the qualitative, field research will be conducted and in particular focus group research. The reasons for this selection are explained in **Chapter 5.1.2**.

Another aspect of setting up a research project is what kind of theoretical approach to use. The next section of social research approaches will examine this.

#### **5.1.1.2 Deductive Versus Inductive Approaches**

In this section some basic differences between the deductive and the inductive approach of building and testing a research theory will be presented.

For conducting good research the value of theory is essential, thus, researchers who proceed without theory rarely conduct top-quality research. Researchers can approach the building and testing of theory from two directions, the deductive and the inductive approach (**Newman, 2000**).

According to **Gill and Johnson (1991)**, a deductive research method entails the development of a conceptual and theoretical structure prior to its testing through empirical observation. Deduction begins with abstract conceptualisation and then moves on to testing through the application of the theory so as to create new experiences of observation. The important things in deduction are the logic of deduction and the operationalization process and how this involves the consequent testing of the theory. The process of deduction encompasses the following steps:

1. Theory/hypothesis formulation.
2. Operationalization (translation of abstract concepts into indicators or measures that enable observation to be made).



3. Testing of hypothesis/theory through observation of the empirical world.
4. Falsification and discarding theory or creation of laws that explain past and predict future observations.

Within the deductive tradition the theory once tested is assumed to be established as a valid explanation.

The theory/hypothesis formulation approach is called the hypothetico-deductive method. It emphasises that what is important in 'science' is not the sources of the theories and hypotheses that the scientist starts out with, rather it is the process by which those ideas are tested and justified that is crucial. The hypothetico-deductive approach is intimately bound up with what is often termed 'positivism' (**Keat and Urry, 1975**).

Positivism sees social science as an organised method for conducting deductive logic with precise empirical observations of individual behaviour in order to discover and confirm a set of probabilistic casual laws that can be used to predict general patterns of human activities. Positivism arose from the nineteenth century by the founder of sociology by the French, August Comte. It is associated with many specific social theories. Positivist researchers prefer precise quantitative data and often use experiments, surveys and statistics. Many applied researchers embrace positivism and it dominated the articles of major sociology journals (**Newman, 2000**).

Furthermore, as **Keat and Urry (1975)** stated, social sciences, in order to advance, must follow the hypothetico-deductive methodology. In addition, the knowledge produced and the explanations used in social sciences should be the same as those proffered by the natural sciences and social scientists should treat the social world as if it were the same as the natural world.

The logical ordering of induction is the reverse of deduction. It involves moving from the 'plane' of observation of the empirical world to the construction of explanations and theories about what has been observed and it is in sharp contrast with deduction. The modern justification for taking an inductive approach in the social sciences is based on the following arguments (**Gill and Johnson, 1991**):

1. Explanations of social phenomena are relatively worthless unless they are grounded in observation and experience.
2. Rejection of the construction of covering-laws that explain past and predict future observations through causal analysis and hypothesis testing. This is considered adequate only for natural sciences and not for social sciences because there are fundamental differences between the subject matter of the social sciences (human beings) and the subject of natural sciences (animals and physical objects).

Inductivists, therefore, reject the stimulus-response model of human behaviour that is built into the methodological arguments of positivism. In their opinion the deductive researcher prior to conducting empirical research, formulates a theoretical model of the behaviour of interest that is then tested. Hence imposing an external logic upon a phenomenon that has an internal logic of its own. It is the discovery of this internal logic through empirical research that is the concern of many supporters of induction in the social sciences.

In this study, the hypothetico-deductive approach will be applied, because as mentioned, many applied researchers embraced positivism and it has dominated the articles in major sociology journals.

On the basis of the theory presented in this section, the final methods selected for use in this study will be presented in the following section.

### 5.1.2 The Selection of the Research Approach

This study is exploratory in nature since its purpose is to explore an idea and become familiar with the basic facts, settings/concerns and it is also applied research, addressing a specific problem.

A cross-sectional design will be applied as part of the main study. A cross-sectional setting was preferred because it needs less time and it is less costly and it was possible to afford it within the framework of this thesis (**Chapter 3.4.2.4**).

The hypothetico-deductive approach which is bound up with 'positivism' will be applied here. As mentioned, many applied researchers embraced positivism and it dominated the articles of major sociology journals. In addition, **Keat and Urry (1975)** stated that, to advance, social science must follow the hypothetico-deductive methodology.

To collect data for this study both quantitative and qualitative methods were applied. From the quantitative data collection techniques, the survey methodology was selected because surveys give the researcher a picture of what many people think or report doing. This study is dependent on people's assessment of the mobile telephony service they receive and on how they use it.

As has been mentioned above, quantitative and qualitative researches differ in many ways but they also complement each other in many ways. As some researchers argued, survey research does not always give reliable results. As **Watts (2000)** argued, surveys rely on the questions as asked and are rife with assumptions and the wording may be interpreted in a variety of ways. In addition, **Ennew, Reed and Binks, (1995)** mentioned that there are problems in the survey methods that arise from response sets and from the aggregation and

averaging of consumers' preferences and perceived performance and averages do not necessarily represent the views of anyone. Furthermore, **Murfin, Schlegelmilch and Diamantopoulos (1995)**, argued that in many cases surveys gather answers showing the majority of respondents are satisfied. In addition, **Peterson and Wilson (1992)** agreed that the majority of respondents in customer satisfaction surveys rate the service highly and, as a result, a considerable proportion of these seemingly satisfied respondents are not, in fact loyal. Therefore, although a firm might appear to rate highly in a survey, customer loyalty may not be high. According to **Bennington and Cummane (1998)**, a survey rarely represents the customer viewpoint in a useful manner and should be replaced by more aggressive and personalised ways of representing the customer's perspective. Surveys do not allow for the subtleties that really define customer voice and many questions are closed-ended (that is respondents must choose among a predefined set of answers). Survey-based methods may not produce responses that are genuine, and the survey cannot really tap into the 'mind-sets' of the respondents in the same way as the focus group. As **Newman (2000)**, argued, most quantitative techniques are data condensers and condense data in order to see the big picture. Qualitative methods are data enhancers and it is possible to see key aspects of cases more clearly.

Thus, focus group research has advantages over surveys. As **Danaher and Haddrell (1996)** argued, some respondents may not feel they have been able to articulate their service perception adequately on a categorical scale in a survey research, whereas they can communicate their feeling in detail in an open-ended question, especially if they have received poor service. Furthermore, as **Churchill (1991)** argued, in focus group research, the management staff can, with permission, observe the process.

However, it is not wise to only use focus group research in this study because it cannot reassure the generalisation of the results and there are some other drawbacks. As **Bennington and Cummane (1998)** argued, much of the information lacks focus and relies on small sample sizes (usually 8-12 participants per group). Responses are coded in a simple, undifferentiated way and rarely manage to get underneath broad categories. There are also problems including the selection of the participants and effects caused by individual participants who attempt to monopolize the discussion. Furthermore, as **Watts (2000)** argued, the very act of being in a discussion group affects attitudes and reported behaviours and companies should not rely primarily on focus groups.

The generalisation of the results is crucial in this study, since it aims at deriving conclusions concerning the factors influencing customers' repurchase intentions in the Greek mobile telephony sector as well as the service shortfalls. These results might then be possible to generalise and should then be representative of the whole sector.

Summarising the research survey will gather data concerning expected and perceived service quality by the users, as well as service value, customer satisfaction and the users' repurchase intention. Prior to the main research survey, a pilot research survey was planned in order to test the research instrument, which is to test the questionnaire, the sequence of the questions and the wording and to make sure that the questionnaire is fully understood by the respondents; so as to ensure the successful completion of the final survey. In addition, the pilot survey will assess the reliability and the validity as well as enabling the SERVQUAL scale to be further adapted to suit the specific environment of the study. The pilot survey is also necessary for the calculation of a representative sample size for use in the final research survey.

In the focus group research just before the final survey, a number of people are gathered together to discuss certain topics. The aim of the focus group is to adapt the SERVQUAL instrument further before the final research survey and compare the findings and strengthen the validity of the results of the final research survey.

Therefore, it can be concluded that both qualitative and quantitative methods including focus group research and survey research will be applied, since they are complementary, in order to validate the reliability of the results of this study.

### **5.1.3 The Sampling Plan**

After deciding about the research approach, the design of the sampling plan follows. Sampling plan involves three decisions. The first is the sampling unit (who is to be surveyed), the second is the sample size, (how many), and the third is the sampling procedure (how they will be chosen). A representative sample of the total population of the Greek mobile telephony users should be drawn in order to ensure that the findings will be generalizable, that is, have population validity.

#### **5.1.3.1 The Sampling Unit**

The target population for this study is the Greek mobile telephony users. These users are customers of the three Greek mobile telephony operators and they form the sampling unit.

However, there are some doubts whether the population members of the prepaid mobile telephony can be included in the sample of this study since it examines value. Thus, in the following this issue will be examined in detail.

Mobile telephony services can be priced in two ways: a two-part price plan with a fixed and variable per minute of use component; and different rate plans (on

the basis of a contract) and a prepaid fixed payment. Customers with a contract can choose the level of usage and the specific service features that suit their needs and they can discontinue the service at any time. Customers pay a monthly as well as a usage-based fee for the service, according to the rate plan they have chosen and they may also pay an initial fee to purchase the handset. The rate plans tend to be tailored to different usage patterns and the total cost spent by the customers depends on usage.

Concerning prepaid telephony, customers pay a fixed amount to buy certain usage time in advance and they can spend it sooner or later according to usage. Prepaid mobile telephony only helps customers to control the amount they spend and not to exceed their budgets. As **Heath and Soll (1996)** stated, research has shown that customers often set budgets for categories of expenses. The importance of not exceeding budgets was cited in Thaler's (1985) model of consumer choice, that postulates that people will be more sensitive to losses than to gains, which suggests that customers may weigh payments that are over-budget more heavily than payments that are under-budget (**Bolton and Lemon, 1999**). Thus, in the case of prepaid mobile telephony customers do not give a fixed amount per month or per year independent from usage and so they do not evaluate the exchange as more equitable (**Heath and Fennema 1996**). Consequently, in the case of prepaid mobile telephony, customers can also assess the price and the value they are receiving. The only difference is that they can control the amount spent each month and so as not to exceed the budgets they have set. Furthermore, prepaid mobile telephony users represent a major part (about 58% in 2000) of the total users of the three Greek operators.

Thus, customers using prepaid mobile telephony were included in the sample. However only customers paying the service themselves were selected because if others pay for them (e.g. their companies), they are not able to assess the value they receive. In addition, in order to ensure that the respondents would be familiar with the service, only respondents who had subscribed to the service for at least three months were included.

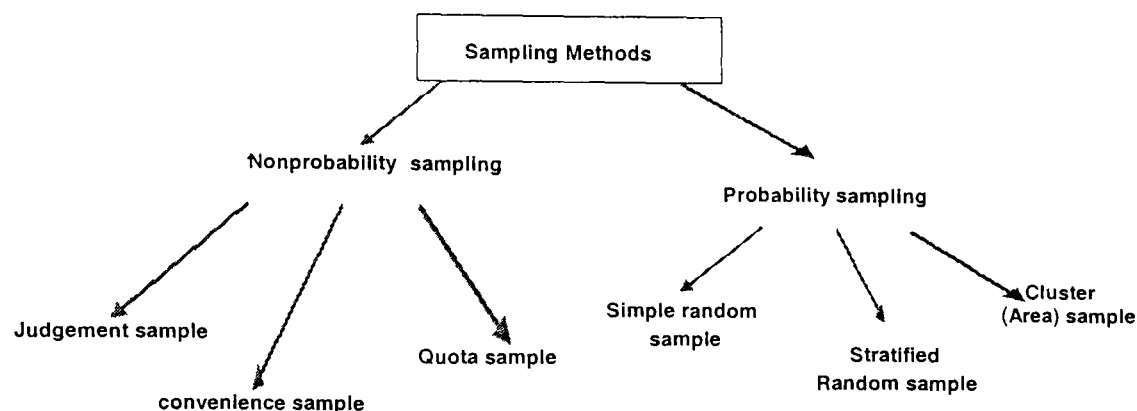
#### 5.1.3.2 The Sampling Procedure

The sampling procedure provides the method by which the respondents are chosen. In this study respondents will be a small subset, but they should represent the total target population of the Greek mobile telephony users. The aim of choosing a representative sample is to be able to generalise the results obtained from this sample to the total population.

A representative sample enables the researcher to describe the population by using the results obtained from the selected sample. A sample represents the population when it exhibits the same characteristics as the population.

Sometimes researchers use selection procedures that over- or under-represent some segments of the population. There are various sampling methods which are presented in **Figure 9**.

**Figure 9: Sampling Methods**



Source: Kotler (1994)

In **Figure 9** it can be seen that there are mainly two sampling methods, probability sampling and non-probability sampling. As **Calder (1998)**, stated the term 'probability sample' implies that it is possible to say what the probability of selection is of each member of the total population. The defining feature of non-probability samples is that it is not possible to say what is the probability of selection of each member of the population being studied. Thus, it is not possible to give a statistical measure of the error attached to any prediction of population characteristics (known as the sampling error). Sampling error is the term used to describe the difference between the results obtained from a full census and the results obtained from a sample.

There are three types of probability sampling, simple random sample, stratified random sample and cluster (area) sample. In the case of simple random sample every member of the population has a known and equal chance of selection. In stratified random sample, the population is divided into mutually exclusive groups (such as age groups) and random samples are drawn from each group. In cluster sample the population is divided into mutually exclusive groups (such as blocks) and the researcher draws a sample of the groups to interview (**Kotler, 1994**).

As mentioned, in non-probability sampling it cannot be ascertained that each member of the population has a chance of being included in the sample. However, the reason of choosing it is convenience because in this way participants who are available at the time of a survey and are willing to participate can be found.

There are three types of non-probability sampling, convenience sampling, judgement sampling and quota sampling. In the case of judgement sampling

judgement is used in order to select population members who are good prospects for accurate information. In the case of convenience sampling the researcher selects the most accessible population members from which to obtain information (Kotler, 1994). As Calder (1998) argued convenience or haphazard or opportunity samples, are samples which are selected primarily on the basis of accessibility or convenience. In quota sampling the researcher finds and interviews a pre-described number of people in each one of several categories (quotas).

In this study in the pilot survey non-probability sampling and in particular both convenience and judgment sampling were used. The reason was that when the pilot survey was conducted there were no lists available of all the mobile telephony subscribers to choose respondents randomly. However, in the final survey probability sampling was used.

#### 5.1.3.2.1 The Pilot Survey Sampling Procedure

The main aim of the pilot survey was to identify a representative sample for the final survey as well as to adapt the SERVQUAL scale further and check the questionnaire before it would be used for the final survey.

As it has been mentioned during the pilot survey it was not possible to obtain a random sample from the three Greek mobile telephony operators. Thus, the sampling procedure for the pilot survey was done on the basis of both judgement and convenience sampling methods. After the interviews respondents were asked to suggest other users who could give the information asked. The advantages of convenience sampling are the speed with which information can be collected and the accessibility or convenience it represents. Therefore, the most accessible population members were selected, however, on the basis of some criteria.

The 100 respondents of the pilot survey were first selected proportionally from the three Greek mobile telephony operators according to their market share. As mentioned in **Chapter 2.3**, in September 1999 Panafon/Vodafone had 46%, Telestet had 31% and Cosmote had 23%. In addition, respondents were not selected only from Athens, but also from the other three biggest cities in Greece, Thessaloniki, Patra and Larisa (50% from Athens, 25% from Thessaloniki and the rest 25% divided between Larisa and Patra). The proportion of respondents chosen from each one of these cities was proportional to the population of the wider areas of each one of these cities. Thus, the sampling unit for the pilot survey consisted of :

1. Users with both personal and business usage.
2. Users who paid their bill themselves, so that they would be able to assess the value they are receiving.

3. Users who had been using mobile phones for at least three months, so as to ensure that they would be familiar with the service
4. Men and women almost equally divided in number.
5. Residents of one of the 4 largest cities in Greece: Athens, Thessaloniki, Patras and Larisa.
6. Customers of the three Greek mobile telephony companies: Panafon, Telestet and Cosmote. The proportion was analogous (as much as possible) to the market shares of each company.

The sample for the pilot study can not be considered as representative of the entire population of the Greek mobile telephony users since it was not selected using random sampling. However, the results of the pilot survey are not used in this study to assess the proposed model and to derive conclusions concerning the Greek mobile telephony population.

#### 5.1.3.2.2 The Final Survey Sampling Procedure

In the final survey research, the names of the respondents were given by a Greek market research company. The company had obtained these names from another survey which was carried out in the Greek mobile telephony market in 2001, within the framework of a project run by the Greek Telecom Operator (OTE) concerning the introduction of a DECT/GSM dual mode phone service.

In order to design the sample, the Greek market research company, applied the random stratified sampling method. The company divided the mobile telephony population in three different strata one for each one of the three Greek mobile telephony operators and drew from each one of the strata random samples proportional to the strata size.

According to the market shares of the three Greek mobile telephony operators in 2000, the strata were chosen as follows: PANAFON (44,5% of market share), 178 respondents, TELESTET (30,25% of market share) 121 respondents and COSMOTE (25,25% of market share) 101 respondents.

However, it should be mentioned that the market shares of the Greek mobile telephony operators changed rapidly due to the quick growth of Cosmote and by March 2001 the market shares were much different (Panafon/Vodafone had 36.7%, Telestet had 27.6% and Cosmote 35.7%).

The market research company, asked the three Greek mobile telephony operators to provide randomly names, addresses and phone numbers of a predefined number of their subscribers. Mobile telephony operators draw random lists of subscribers from their databases. To draw random samples an ID for each subscriber is used and random numbers out of the total number of subscribers are selected, each number corresponding to a subscriber. An



'interval size' is calculated by dividing the total number of subscribers with the number of subscribers in the required sample. Then an integer between 1 and the 'interval size' is selected randomly and each time the 'interval size', is added to generate the random sample out of the total population of subscribers.

However, each one of the operators was asked to supply some additional subscribers because some of the respondents might not be willing to be interviewed, or because they were far from the wider areas of the 4 cities where the interviews were planned to take place. As a result, the final sample was not quite random since some respondents were excluded.

### 5.1.3.3 Estimation of the Sample Size for the Final Survey Research

Determining a sample size is (theoretically) a mathematical calculation involving the standard error obtained from the known sampling distribution, the precision desired and the degree of confidence.

$$N = \left( \frac{Z * S}{E} \right)^2$$

Z = Standardisation level indicating the confidence level.

Confidence level represents the percentage which specifies how confident you are that the estimate of the population means falls within a particular range of values known as confidence interval. In this case 95% confidence level, is considered appropriate in order to obtain reliable results.

S = Estimation of the population standard deviation (calculated from the pilot sample).

E = Magnitude of error (range of error). It is the maximum error that the researcher considers acceptable. It can be specified in advance and only related to the sample.

The pilot survey will indicate an estimated standard deviation of the population, however, since the sampling procedure was not random, this estimation will be verified by calculating the standard deviation from the data of the final survey.

### 5.1.4 The Contact Method

Contact method is the way by which respondents will be contacted and in surveys it can include personal, interviewing, telephone interviewing and mail questionnaire (**Kotler, 1994**).

As **Gorton and Doole (1989)** claimed there is a greater non-response issue with postal surveys than with other methods and also getting feedback is slow due to the time required for mail and responses. Furthermore, as **Bradley**

(1995) stated in postal surveys if the questionnaires are not brief it is more likely that there will be a problem to obtain a response. In addition mail surveys suffer from the absence of more subtle feedback which comes from 'body language', voice intonation and unsolicited comments which may provide valuable information to the researcher (Vichas, 1982). As McAlexander et al (1994) stated consumers may be unable to distinguish between service quality and satisfaction and this might suggest the need for additional conceptual grounding in the thoughts and perceptions of consumers and this can be done more easily in personal interviews. Furthermore, as Bennington and Cummane (1998) argued mail surveys are often answered by the wrong people, e.g. the Chief Executive Officer who gets the secretary to fill out the survey. In addition, concerning telephone interviewing as Kotler (1994) stated the questionnaire used must be brief.

On this basis, out of the existing contact methods, personal interviewing was preferred for this study because the questionnaire was not brief and this method would avoid a high non-response rate.

#### 5.1.5 The Research Instrument for this Study

The research instrument selected for this study was a questionnaire (Appendix IV), which is the most common instrument in collection of primary data. In order to avoid criticisms of influencing outcomes, great care was exercised in the wording of questions so that simple, direct and unbiased wording was used.

The questionnaire included the adapted SERVQUAL for measuring service quality. It was adapted on the basis of personal in-depth interviews carried out with the marketing executives of the three Greek mobile telephony operators, the results of the pilot survey and after the contributions from the focus group research. Thus, the questionnaire included the adapted SERVQUAL items concerning customers' expectations, customers' perceptions as well as the importance rating of these items. The questionnaire also included some additional questions in order to assess, the proposed model and to identify the factors influencing customers' repurchase intention in the mobile telephony sector. These questions were formulated on the basis of the existing literature. Additional questions included overall service quality assessment, perceived price, perceived risk, perceived service value, customer satisfaction and repurchase intention.

Particularly, an *overall service quality* rating as a single item was added to the questionnaire in order to compare it with the result of the SERVQUAL model :

- Overall evaluation of service quality received

To measure value the following questions were used:

- The overall value (quality minus price) received
- The price charged for the service (low/high)
- The personal (physical) risk associated with using the service

Customer satisfaction was operationalized with a single self-report measure, a conventional cumulative measure, as follows:

- Overall satisfaction from the mobile telephony service very satisfied/very dissatisfied.

For the purposes of this study, customer satisfaction is defined as the overall measure of the customer's experience-based evaluation of the mobile service provider. **Bolton and Lemon (1999)** and **Hallowell (1996)** also measured satisfaction with a single self-report measure, a conventional cumulative measure. As **Yi (1990)** claimed, a single overall satisfaction measure is reasonably valid.

Repurchase intentions was also estimated with a single measure as follows:

- Intention to repurchase the service from the same mobile operator.

Another question was added to the questionnaire of the final survey research concerning the intention of the users to recommend their mobile operator to someone they know, friend or relative: "How likely would it be for you to recommend your mobile operator to someone you know?". This question as explained in **Chapter 5.2.4.1**, would strengthen customers' stated repurchase intention measure.

As it has already been mentioned (**Chapter 3.4.3.2.3**) items that do not fit under any of the five SERVQUAL dimensions e.g., items about customers' perceptions of a service's cost, which should be included in the survey questionnaire, will be treated separately in analysing the survey data since they do not fall under the conceptual domain of service quality.

Questions concerning the respondents demographics such as age, gender, occupation, education, family status, children, mobile operator, type of usage and residence were also included. According to some researchers, customers demographic characteristics influence loyalty. As **Carson (1998)** claimed demographic characteristics such as income and household size influence loyalty. For example loyalty rises with income, but declines with household size. In addition, home-owners, middle-aged people and rural populations tend to be loyal, while highly mobile populations are inherently disloyal because they interrupt their business relations each time they move (**Reichheld 1993**). Thus, in this study the influence of customers demographic characteristics on

customer loyalty will be assessed for the mobile telephony service. However, the questions concerning the respondents demographics were placed at the end of the questionnaire because they are less interesting and are also personal. Thus, they were asked last, so as not to tire the respondents at the beginning of the interview. In addition, during the interview respondents get to know the aim of the research better and develop a rapport with the interviewer and it is easier for them to answer these more personal questions after the interview since they feel more confident.

The Greek version of the questionnaire was prepared using the back translation method. It was first translated in Greek, and then translated back to English. As **Douglas and Craig (1983)** claimed, back-translation, is a process involving translation from the initial language by a bilingual who is a native speaker of the language into which the translation is to be made. This version is then retranslated back into the original language by a bilingual who is a native speaker of the initial language.

Since questionnaires need to be carefully tested and debugged before they are administered on a large scale (**Kotler, 1994**) the questionnaire was tested and modified using quantitative and qualitative data during the pilot survey and the focus group research which were conducted before the final survey.

#### 5.1.5.1 The Scale

According to **Alexandris and Palialia (1999)**, the term 'scale', consists of 'effect indicators', that is items whose values are caused by an underlying construct. The scale used in the pilot and in the final survey research in this study was a five point Likert scale, ranging from 'strongly agree = 5' to 'strongly disagree = 1'. This scale was developed by Rensis Likert and is frequently used for measuring attitudes. The reasons that this scale was preferred are explained below.

Initially SERVQUAL had adopted a seven-point Likert or a nine-point Likert scale rating scale to measure expectations and perceptions. In the scale only the extreme points, i.e. 1 and 7/9, had verbal labels and some researchers such as **Lewis (1993)** and **Peterson and Wilson (1992)** claimed that respondents might actually be over-using the extremes of these scales which had verbal anchors. As **Lewis (1993)**, suggested this could be avoided by labelling each point.

Thus, it can be seen the existence of many points confuses the respondents and they tend to overuse the extreme points. In addition, scales that have less than five points have lower predictive power. As **Devlin, Dong and Brown (1993)**, claimed there is a loss of predictive power for scales with only a small number of points and for example a five-point disconfirmation scale should have better predictive validity than a three-point scale. They mentioned that one drawback of the five-point disconfirmation scale could be its use in telephone surveys, where

respondents might have to be continually reminded of five rather than three scale points, thereby increasing survey length and difficulty. There are researchers who used a five point scale in their research and concluded that it performed well. **Babakus and Mangold (1992)** during their research, applied SERVQUAL and adopted a five-point Likert response format (ranging from 'strongly agree = 5' to 'strongly disagree = 1') instead of the original seven-point scale format. This modification was based on the management team's experience with previous surveys, which indicated that the five-point format would reduce the frustration level of the respondents, and would thereby increase the response rate and the quality of the responses. In addition **Danaher and Haddrell (1996)**, **Ennew and Binks (1996)** and **Wirtz and Bateson (1995)** used a 5-point Likert scale and reported that it performed well. As such, **Kangis and Zhang (2000)**, in their research applied SERVQUAL and used a 5-point scale to facilitate analysis. Furthermore, **Lee, Lee and Feick (2001)**, in their research survey among mobile users in France, used a five-point scale. As **Gilmore and Carson (1992)** indicated, a five-point scale is just as good as the others and that an increase from five to seven or nine points in a rating scale does not improve the reliability of the ratings and thus, reliability is independent of the number of scale points and they recommended the use of the five-point disconfirmation scale.

In this mobile telephony study, the five-point Likert scale was adopted as it would fulfil the aims of the study. Personal interviews were conducted so the problem of respondents having to be constantly reminded of the scale as by telephone would not arise.

#### 5.1.5.2 The Adaptation and Quality Assessment of SERVQUAL

As it has been mentioned, for this study SERVQUAL needs to be adapted to become industry specific (mobile telephony). As **Parasuraman, Berry and Zeithaml (1991)** argued SERVQUAL can be used in its present form to assess and compare service quality across a wide variety of firms or units within a firm, however appropriate adaptation may be desirable when only a single service is investigated and context-specific items can be used to supplement SERVQUAL. Each new item, based on its content, should be classified under the most appropriate SERVQUAL dimension to facilitate computation of the average gap score for each dimension. Thus, great care needs to be taken in the adaptation of the instrument.

**Carman (1990)** warned against importing SERVQUAL into service setting contexts without modification and validity checks. He argued that SERVQUAL needs to be customised to the service in question in spite of the fact it was originally designed to provide a generic measure that could be applied to any service. This may mean adding items or changing the wording of items. He advised managers to carefully consider which issues are important to service

quality in their specific environments and to modify the scale as needed. **Finn and Lamb (1991)** and **Asubonteng, McCleary and Swan (1996)** also claimed that the variables for measuring service quality are not consistent across industries. They advised managers to be aware that SERVQUAL is generic and, as a result, they should consider which issues are very important to service quality in their specific environments and modify the scale as needed to become a more effective tool.

**Patterson and Spreng (1997)** had the key questions of the questionnaire they used for their research examined by two academics skilled in questionnaire design and familiar with the industry of professional business services. In addition, **Wetzels, et al (1995)**, supported the fact that the adaptation can be done on the basis of literature study, in-depth interviews with management and contact personnel and a pilot study. However, as **Philips (1981)** argued, high level managers provide more reliable information than lower ranking managers. In addition, **Westbrok, Pedrick and Bush (1996)** in order to develop a scale to measure a firms' quality orientation in the insurance sector after reviewing the existing literature, conducted group meetings with senior level managers of a large insurance company in the US. Furthermore, **Donnelly and Shiu (1999)**, in their research assessing service quality in a UK housing repairs service, adapted SERVQUAL to the context of housing repairs service conducting a focus group with nine individual tenants along with officials of local tenants groups.

In the light of the above cautions, an initial evaluation of SERVQUAL was undertaken before the main research survey, to ensure that SERVQUAL was tailored to the research needs characteristic of the mobile telephony environment. The SERVQUAL adaptation process was finalised into 3 stages:

1. Personal in-depth interviews with fifteen marketing executives of the three mobile operators
2. A pilot research survey for quality assessment of SERVQUAL
3. Focus group research

#### 5.1.5.2.1 In-depth Interviews for the Initial Adaptation of SERVQUAL

The in-depth interview is a type of data collection that extends and formalises conversation that is the most common form of data collection. It is different from the in-person survey, where a fixed set of questions is administered verbally. The in-depth interview, while focused, is discursive and allows the researcher and respondent to explore an issue (**Gunn, 2002a**). The in-depth interviews are the tool of choice in this study for the initial adaptation of SERVQUAL but also for issuing the first questionnaire in the pilot survey.

In-depth interviewing entails asking questions, listening to and recording the answers, and then posing additional questions to clarify or expand on a particular issue. Questions are open-ended and respondents are encouraged to express their own perceptions in their own words. There are three basic approaches to in-depth interviewing that differ mainly in the extent to which the interview questions are determined and standardised beforehand (**Worldbank, 2002**):

1. The informal conversational interview relies primarily on the spontaneous generation of questions in the natural flow of an interaction. This type of interview is appropriate when the interviewer wants to maintain maximum flexibility to be able to pursue questioning in whatever direction appears to be appropriate and it is not possible to have a predetermined set of questions.
2. Semi-structured interviews involve the preparation of an interview guide that lists a pre-determined set of questions or issues that are to be explored during an interview. This guide serves as a checklist during the interview and ensures that basically the same information is obtained from a number of people. Yet, there is a great deal of flexibility and within the list of topic or subject areas, the interviewer is free to pursue certain questions in greater depth.
3. The standardised open-ended interview consists of a set of open-ended questions carefully worded and arranged in advance. The interviewer asks the same questions to each respondent with essentially the same words and in the same sequence and does not permit the interviewer to pursue topics or issues that were not anticipated when the interview instrument was elaborated.

In-depth interviews should be executed and reported adequately and attention should be given to critical details. Prior to interviewing, the researcher must define the information required. This information should be incorporated into the overall research framework. The information supplied by the interviews must clearly relate to specific questions the research seeks to answer. The in-depth interviews should be structured and all in-depth interviews require a format and should follow a process. The in-depth interview requires a script or protocol and detailed questions should be well-prepared to ensure that all issues are covered. The interviewees should be informed about the aims of the research and the content of the interview and should be asked to give permission to tape record the interview. In case they do not agree written notes should be taken. A copy of the notes or of the tape should be given to the interviewees if they want it. Assurance of confidentiality and anonymity must always be given. In addition an indication of the time needed for the interview should be given. In an in-depth interview the respondent must do 90% of the talking. Interviewing should be paced, and focused on the respondent and if external influences intrude (telephone messages, etc.), the interview will not fulfil its potential. Immediately after each interview it is mandatory that the interview is summarised while it is

still 'fresh'. Follow-up by telephone can be useful if more questions arise. Usually respondents wish to remain anonymous and the researcher must obtain written permission to reveal their identity. As **Kohli (1989)** argued an advantage of the anonymity of the respondents is that they give candid responses. The results of these interviews can be presented with case studies, integrated reports which blend the quantitative and qualitative data and segmented reports which can separate the interview data from quantitative results (**Gunn, 2002a**).

In-depth interviews are used throughout research to determine individuals' perceptions, opinions, facts and forecasts, and their reactions to initial findings and potential solutions. In addition, as **Gremler (1994)** stated, in-depth interviews have proven valuable in expanding current understanding in various areas of consumer behaviour, including buyer and seller behaviour and word-of-mouth behaviour.

For these reasons in-depth interviewing and in particular semi-structured interviews was the method of choice for the first stage of the adaptation of SERVQUAL (**Appendix I**). The aim of the interviews was to create an open communicative environment where the top marketing executives of the Greek mobile operators could positively help to make any necessary adjustments to the measure. Their insights would be valuable since the interviewees have specific knowledge of the Greek mobile telephony sector.

#### 5.1.5.2.2 Focus Group Research for Further Adaptation of SERVQUAL

Focus group research was conducted in order to further adapt the SERVQUAL instrument and assess the questionnaire of the final research survey.

The focus group is a common form of social and market research. These interviews involve a group of around 5-12 participants, who are conducted through a series of structured questions by a moderator. Focus groups are useful for gathering information and determining the range of opinion and they cannot be used to statistically weight information or to make assumptions about the opinions of the larger population. As **Bennington and Cummane (1998)**, argued, the initial purpose of a focus group is to identify a comprehensive list of attributes that are relevant to customers. In a focus group the respondents are subjected to different treatments in order to capture cause and effect relationships.

Elements of success of a focus group research include (**Gunn, 2002b**):

- A clear agenda should be given to all participants for the group discussion, with a topic familiar to all as well as time to all of them to react.
- Small groups are preferable because they attain a high comfort level faster and genuine opinion emerges earlier in the session. In addition, they can



take the time to consider all aspects, however, large groups with many issues usually fail.

- Time should be given to listen to all participants and a focus group should not be rushed because strangers take time to warm to each other. Highly productive groups can take 3-4 hours. Thus, the setting should be comfortable and participants should not feel compelled to remain beyond a reasonable time.
- Homogenous group composition, that is similar groups, should be created and certain criteria need to be used when selecting the participants so that the results will be consistent across groups (**Bennington and Cummane, 1998**). Thus, similar respondents should be included in the group and it is not recommended to combine for example rich and poor in the same group.

It is normal to use several groups to 'cover' a whole population. The recruitment of the participants is usually done by telephone and they should be screened for verbal ability, experience with the product/service, and willingness to be candid about their opinions. Those who work in the client's area, in market research, or who have been recent focus group participants should be eliminated. In addition, setting is also important in a focus group. Many firms use central facilities with one-way mirrors and sophisticated electronic recording equipment. Hotel rooms and other meeting facilities can be quite acceptable venues for a focus group. Furthermore, the agenda (also termed a 'protocol') which will guide the group discussion should also be determined. A moderator conducts the group through all questions, although not necessarily in sequence. Focus groups are usually audio-taped and participants must be informed both of the recording devices and if they are being observed. Before the beginning, an introduction should be given to the participants to explain to them the aims and the conditions of the focus group research (**Gunn, 2002b**).

The role of the moderator is very important in a focus group. As **Bennington and Cummane (1998)**, argued, it is critical in terms of the impact of his/her influence over both process and outcome. The moderator must have research experience, and substantive knowledge of the field. As **Gunn (2002b)**, claimed in a focus group the moderator should ensure that all the participants enter the discussion and everyone speaks; enlist the aid of dominant participants by asking other persons to react to the dominant participants' comments; mediate conflict in case it arises among the participants, because they are unproductive.

In this study, four focus groups took place in the four largest cities in Greece: Athens, Thessaloniki, Patra and Larisa. These cities are the biggest cities in Greece and their total population arrives up to the 40% of the whole Greek population. Their geographical distribution covers all Greece because Thessaloniki which is the second in size city, is located in the North, Patra which is the third in size city, is located in the South and Larisa which is the fourth in size city, is located in Central Greece. Athens is the capital of Greece and has gathered about one third of the total Greek population. Each one of the four

focus groups was composed of 8-10 subjects and they all had the same moderator. Participants were recruited by phone. The Athens focus group took place in a house and the other three in Hotel rooms in each one of the three cities. Each focus group lasted about 2 hours and they were all tape recorded. The agenda included the SERVQUAL items as well as the additional issues included in the questionnaire (**Chapter 5.2.4.1**).

As well as providing a means to adapt SERVQUAL, the results of the focus group research would also be used as a basis of comparison with the results of the survey research so as to strengthen the reliability of the results of this study.

#### 5.1.5.2.3 Quality Assessment of Service Quality Measures

The reliability and the validity of the adapted SERVQUAL model must be assessed on the basis of the pilot survey results in order to adapt it further. The criteria used in the literature for the assessment of quality measures are analysed in this section.

**Herche, Swenson and Verbeke (1996)** claimed that psychometricians consider three criteria in their assessment of the quality of measures: *unidimensionality of a scale, reliability and validity*. Thus, measures that are unidimensional, reliable and valid, are said to possess strong psychometric characteristics. Apart from these **Westbrook (1980)** suggested also to calculate the coefficient of **skewness**, which measures symmetry around the mean.

In the following, unidimensionality, reliability and validity are analysed in detail.

##### **1. Unidimensionality**

As **Gerbing and Anderson (1988)**, stated the uni-dimensionality of the scale, is concerned with the degree to which the items in the scale load on a single factor. A factor analysis of the items of the adapted SERVQUAL scale was conducted in this study (**Chapter 5.2.2.1**).

##### **2. Reliability**

**Parasuraman, Zeithaml and Berry (1988)** tested their SERVQUAL scale for reliability and validity. The major test of reliability was coefficient alpha, a measure of the extent of internal consistency between, or correlation among, the set of questions making up each of the five dimensions. In addition, **Spector (1992)** asserted that inter-correlations indicate the degree to which the factors are independent of each other and a scale is internal consistent if its items are highly inter-correlated. Furthermore, **Churchill (1991, p. 498)** stated that Cronbach's coefficient alpha "should be routinely calculated to assess the quality of measures." In this study the reliability of the adapted SERVQUAL scale was tested and SERVQUAL's reliability assessments were based on the

internal consistency of its items using Cronbach's coefficient alpha (**Chapters 5.2.2.1** for the pilot phase and **5.2.4.2** for the final survey). **Nunnally (1978)** suggested that coefficient alpha scores should be greater than or equal to 0.7 to be acceptable for exploratory studies. An  $\alpha$ -value of 0.80 or above is considered to be ideal, because any measurement error will then have little impact on correlations between variables. Furthermore, **Devellis (1991)** argued that scales with reliabilities more than 0.70 should normally be considered as acceptable, however, in practice lower limits have been set as acceptable by researchers. In addition, **Parasuraman, Zeithaml and Berry (1988)** stated that the minimum reliability that is acceptable is difficult to specify. If reliability is low, such as below 0.60, additional research is needed to develop a revised measure with greater reliability, or use the measure, recognizing that fluctuations in measured quality may be due only to measurement rather than a change in quality. **Asubonteng, McCleary and Swan (1996)** argued that high reliabilities, such as 0.90 or above, are desirable. In this study item to total correlations provided alpha values for the difference scores ranging from 0.579 to 0.873 and the Cronbach range for the five dimensions was 0.710 to 0.920 (**Chapter 5.2.4.2**).

### **3. Validity**

**Herche, Swenson and Verbeke (1996)** stated that validity is concerned with the degree to which the measure in fact represents the construct domain. In addition, **Danaher and Haddrell (1996)** stated that the validity of a measurement instrument is defined as the extent to which difference in scores on it reflect true differences among individuals on the characteristic we seek to measure, rather than constant or random errors. Testing of the validity of an instrument includes tests of Discriminant, face and of convergent validity.

**Discriminant Validity**, is the extent to which a scale has distinct dimensions (**Parasuraman, Zeithaml & Berry, 1988**). As **Carman (1990)**, argued, discriminant validity is indicated if the factors of a scale and their items are truly different from one another

**Face validity** is a subjective criterion reflecting the extent to which scale items are meaningful and appear to represent the construct being measured (**Parasuraman, Berry and Zeithaml, 1991; Buttle, 1996**). In addition, **Patterson and Spreng (1997)** had the key questions of their questionnaire examined by two academics skilled in questionnaire design and familiar with the area they investigated (professional business services), in order to establish face validity.

**Convergent validity** is the extent of agreement on scales measuring the same concept (**Danaher and Haddrell, 1996**). In addition, **Buttle (1996)** claimed, that convergent validity is the extent to which a scale correlates with other measures of the same construct. Thus, a high level of correlation between SERVQUAL scores and a different, reliable and valid measure of service quality, would

indicate a high level of external convergent validity. **Asubonteng, McCleary and Swan (1996)** argued that an indirect indicator of convergent validity is the reliability of a scale as measured by coefficient alpha since it reflects the degree of cohesiveness among the scale items. Furthermore, **Parasuraman, Zeithaml and Berry (1988)** provided evidence of convergent validity as they measured agreement between the SERVQUAL score and a question that asked customers to rate the overall quality of the firm being judged.

Another test of convergent validity is the dimensionality of the instrument that is whether scale items expected to load together in a factor analysis actually do so (**Parasuraman, Berry and Zeithaml, 1991; Gerbing and Anderson, 1988**). In addition, **Stafford, Stafford and Wells (1998)** conducted a confirmatory factor analysis to ensure the existence of the five SERVQUAL dimensions. Concerning factor analysis, as **Asubonteng, McCleary and Swan (1996)** stated it provides a means of determining which questions are measuring dimension number one, which questions are measuring dimension number two and so on, as well as which questions do not distinguish between dimensions and the number of dimensions in the data. As **Tabachnick and Fidell (1989)** stated, in a factor analysis the eigenvalue represents the relative proportion of variance accounted for by each factor. The sizes of the loadings reflect the extent of relationship between each item and each factor. **Devellis (1991)** and **Saxe and Weitz (1982)**, supported the cut-off value 0.35 for the correlation of the items with the factors. However, **Carman (1990)** and **Brown, Churchill and Peter (1993)** questioned the wisdom of factor analysing gap scores and claimed that the differences between expectations and perceptions should not be factor analysed. In addition, **Andersson (1992)** claimed that analyses with methods suited to interval-level service quality data such as factor analysis should not be performed with SERVQUAL because data are collected using ordinal scale methods such as Likert scales.

In this study to examine whether the measured construct was associated empirically with measures of conceptually related variables, the adapted SERVQUAL scale's convergent validity will be assessed using factor analysis of the gap scores, expectations and perceptions.

On the basis of the existing literature to perform factor analysis a minimum number of subjects is needed. According to **Darlington (2001)**, the clearer the true factor structure, the smaller the sample size needed to discover it. But it would be very difficult to discover even a very clear and simple factor structure with fewer than about 50 cases, and 100 or more cases would be preferable for a less clear structure. **Goldberg and Digman (1994)** argued that at least 500 subjects are needed. Some more views on this issue are presented below (**NCSU, 2001**):

- (a) According to Bryant and Yarnold (1995), the subjects-to-variables (STV) ratio, should not be lower than 5 and in this case there are 22 variables, thus 110 subjects are needed.
- (b) Hatcher (1994) argued that the number of subjects should be the larger of 5 times the number of variables, or 100. Even more subjects are needed when communalities are low and/or few variables load on each factor.
- (c) Hutcheson and Sofroniou (1999) recommended at least 150 - 300 cases, more toward the 150 end when there are a few highly correlated variables, as would be the case of highly multicollinear variables.  
*Multicollinearity* is present when two (or more) variables are collinear, that is, when these variables are highly correlated and they both convey essentially the same information to a model and neither may contribute significantly after the other one is included. However, together they contribute a lot and if both variables are removed from the model, the fit would be much worse. So the overall model fits the data well, but neither variable makes a significant contribution when it is added to the model last.
- (d) According to Gorsuch (1983), there should be at least 200 cases, regardless of STV. Bryant and Yarnold (1995) also endorsed the Rule of 200.
- (e) Lawley and Maxwell (1971), argued that there should be 51 more cases than the number of variables.
- (f) According to Stevens J. (1995), there should be at least 5 subjects per item, with no fewer than 100 subjects regardless of the number of items.

On the basis of the above, it can be seen that the minimum number of subjects to perform factor analysis, is an issue of much controversy and methodologists' views differ. Though, it is obvious that the sample size of 100 used in this pilot survey in this study is rather small according to the majority of the researchers. In the final survey the sample size of 400 respondents is large enough to conduct factor analysis, however the reservations of the researchers concerning the adequacy of factor analysing gap scores should also be taken into consideration..

## 5.2 Methods

The research methods used in this study included first of all, in-depth interviews with executives of the three Greek mobile telephony operators. The results of those interviews provided the means for the initial adaptation of the SERVQUAL instrument to the specifics of the Greek mobile telephony sector. Next the pilot survey was carried out to assess the reliability and validity of the adapted SERVQUAL and adapt it further and to define the sample population needed for the final research survey. Focus group research followed in order to further refine the SERVQUAL instrument before the final research survey. The later was carried out on a relatively representative population of Greek mobile phone users.

### 5.2.1 The Results of the In-depth Interviews with the Mobile Telephony Experts

The first stage of the adaptation of the SERVQUAL model for the mobile telephony sector encompassed in-depth interviews with marketing executives of the three Greek mobile telephony operators.

The in-depth interviews took place with fifteen (15) top executives from the marketing departments of the three Mobile Telephony operators, Panafon, Telestet and Cosmote. The criteria used for the selection of the marketing executives was to hold high positions in the company as well as the time-length they were working with the company. This information concerning the marketing executives was gathered from the marketing departments of the three Greek mobile telephony operators and through the Internet. The marketing executives were contacted by phone, the research objective was explained to them and they were asked for an interview. Five marketing executives from each one of the three mobile operators were finally interviewed.

The interviews were conducted away from distractions in the offices of the interviewees, with closed doors. Notes were taken during the interviews and after each interview a report summarising the results of the interview was written. The purpose of the interview was explained to the interviewees in more detail as well as the role that the interview aims to play in this study and in research in general, so as to completely understand the goals of the interview. Before beginning the interview it was also explained to the interviewees where and how the information they will give would be used. Then a short personal discussion followed so as to build up a rapport with the interviewees.

The in-depth interviews were guided by a structured interview form, which, however, had ample flexibility. The interviews began with a written set of questions, that is, the 22-item SERVQUAL scale (**Appendix I**), but the interviewees were not limited to a particular set of possible answers. The respondents were allowed to bring up topics which were not on the list of questions and discuss their thoughts on the subject. The critical issues determining service quality in the mobile telephony sector were discussed. The SERVQUAL measure for mobile telephony service quality, was analysed for each of the five (5) dimensions separately, in terms of the items it comprises and their relevancy and importance for the measurement of mobile telephony service quality. In addition, missing items were identified. As an assistance to the identification of missing items, the rest of the dimensions of the original 10-dimension SERVQUAL scale (**Appendix I**), which are not included in the condensed 22-item scale were presented and discussed so as to identify if any of their items, was relevant to the measurement of the mobile telephony service

and was not included in the 22-item SERVQUAL scale and therefore it should be added.

The analysis of the results of the in-depth interviews showed that three items that were considered relevant to the mobile telephony service quality had not been included, either in the 22-item SERVQUAL scale or in the original scale and needed to be added. The first item proposed by all the marketing executives was 'mobile handset' since it is an important item determining the quality of the service and they considered it an important element of tangibles. Thus, 'mobile handset' should be added under the dimension of Tangibles. The second item that all the marketing executives proposed was 'coverage' which is a very important element defining the quality of the service. They argued that coverage was an important factor for the reliability of the service. **Lee, Lee and Feick, (2001)** in their research concerning the impact of switching costs on the customer satisfaction-loyalty in the mobile phone service in France, included coverage in their measures of customer satisfaction. Thus, coverage should be added under the dimension of Reliability. The third item proposed by thirteen out of the fifteen marketing executives was value-added services such as e-mail, Internet etc., which was also considered an important item determining the quality of the service. They argued that in the future the provision of the mobile telephony service will depend on value-added services and without the possibility of data transmission this service cannot be considered reliable, especially for business users whose needs should be taken seriously into consideration because they maybe smaller in number but they are high in usage and it is a segment where the profit margins are high and bad debts low. In addition, **Conley (1997a)** mentioned that value-added services will play an increasingly important role in the mobile telephony market development and **Lee, Lee and Feick (2001)** in their research also found that heavy users of mobile phones showed a strong attachment to value-added services. Thus, 'value added services' should be added under the dimension of reliability (**Table 3**). These two items, coverage and value added services will also contribute to the measurement of 'outcome' quality in SERVQUAL (**Chapter 3.4.3.2.3**).

**Table 3:** Importance Rating of the 22 SERVQUAL Items and Addition of Relevant Items by Top Marketing Executives of the Greek Mobile Operators

SERVQUAL ITEMS	IMPORTANCE			Mean Value
	COSMOTE	PANAFON/ VODAFONE	TELESTET	
<b>Tangibles</b>				
Mobile Telephony companies with visually appealing physical facilities	4.5	4.6	3.7	4.28
Employees with professional and neat appearance	4	4	4	4
Materials associated with the service (manuals, pamphlets, statements) visually appealing and easy to understand	4	4.8	4.7	4.51
Up to date equipment and technology	3.5	3.7	3	3.4
<i>Other Tangible items (state if any)</i>				
Mobile handsets of high quality user friendly, many features and facilities	5	5	5	5
<b>Reliability</b>				
Mobile Telephony companies providing services at the promised time	4	4.2	4	4.06
When customers have problems showing a sincere interest to solve them	4.6	4.8	4.5	4.65
Mobile Telephony companies performing the service right the first time	3.6	3.4	3.5	3.52
When MT companies promise to do something by a certain time they will do so	4	4.2	4	4.06
Providing their customers accurate and error free records	5	5	5	5
<i>- Other Reliability items (state if any)</i>				
Coverage	5	5	5	5
Value-added services	4.8	4.8	5	4.87
High capacity	4	3	3	3.33
<b>Responsiveness</b>				
Employees of mobile telephony companies telling customers exactly when services will be performed	4	4.2	4.2	4.13
Giving prompt service to customers	4.6	4.4	5	4.68
Always willing to help customers	4.6	4.6	5	4.75
Never be too busy to respond to customer requests	4.6	4.6	4.5	4.58
<i>Other Responsiveness items (state if any)</i>				
<b>Assurance</b>				
Employees with behaviour that instils confidence in customers	4.6	4.4	4.2	4.43
Customers feeling safe in their transactions	5	4.8	4.5	4.76
Employees consistently courteous with customers	4.6	4.6	4.5	4.58
Employees having the knowledge and skills to serve customers	4.6	4.6	4.5	4.58
<i>Other Assurance items (state if any)</i>				
<b>Empathy</b>				
Mobile Telephony companies giving customers individual attention	4.6	3.8	4.7	4.40
Operating 24 hours per day, 7 days a week	5	4.6	4.5	4.7
Having employees who give customers personal attention	4.6	4.4	4.2	4.43
Mobile Telephony companies having their customers' best interests at heart				
Their employees understanding customers' specific needs	4.6	4.2	4.2	4.37
<i>Other Empathy items (state if any)</i>	4.3	4.4	4.5	4.41



Furthermore, the analysis of the results showed that no items were found within the rest of the dimensions of the original 10 dimension-SERVQUAL (**APPENDIX I**), which are not included in the condensed 22-item scale (**Table 4**).

**Table 4:** Assessment of the Remaining Dimensions of the Original SERVQUAL for the Inclusion of any Relevant Items In the Measurement of the Mobile Telephony Service.

ORIGINAL SERVQUAL ITEMS	COSMOTE	PANAFON/ VODAFONE	TELESTET
<b>Competence</b>			
Knowledge and skill of the contact personnel	✓	✓	✓
Knowledge and skill of operational support personnel (i.e. marketing and sales)	✓	✓	✓
Research capability of the organisation	✗	✗	✗
Other Competence items ( <i>state if any</i> )	-	-	-
<b>Access</b>			
The service is easily accessible by telephone	✗	✗	✗
Waiting time to receive service is not extensive	✓	✓	✓
Convenient hours of operation	✓	✓	✓
Other Access items ( <i>state if any</i> )	-	-	-
<b>Courtesy</b>			
Consideration for the consumers' property	✓	✓	✓
Clean and neat appearance of public contact personnel	✓	✓	✓
Other Courtesy items ( <i>state if any</i> )	-	-	-
<b>Communication</b>			
Explaining the service itself and how much the service will cost	✓	✓	✓
Explaining the trade-offs between service and cost	✗	✗	✗
Assuring the consumer that a problem will be handled	✓	✓	✓
Other Communication items ( <i>state if any</i> )	-	-	-
<b>Credibility</b>			
Company name and reputation	✗	✗	✗
Personal characteristics of the contact personnel	✓	✓	✓
The degree of hard sell involved in interactions with the customer.	✗	✗	✗
Other Credibility items ( <i>state if any</i> )	-	-	-
<b>Security</b>			
Physical safety	★	★	★
Financial security and confidentiality	✓	✓	✓
Other Security items ( <i>state if any</i> )	-	-	-
<b>Understanding/knowing the customer</b>			
Learning the customer's specific requirements	✓	✓	✓
Providing individualised attention	✓	✓	✓
Other Understanding/knowing the Customer items ( <i>state if any</i> )	-	-	-

✓ : Repetitive, since it is already included in the 22-item SERVQUAL

★ : Relevant and should be included

✗ : Not relevant for the measurement of the quality of mobile telephony service

As it can be seen from **Table 4**, the physical safety for the mobile telephony service for this case it is the risk deriving from the radiation of the mobile handsets, was considered to be relevant, however since it has been used as part of the sacrifice when assessing customers perceived value, it was therefore

not added. Furthermore, 'providing high capacity' was also suggested to be added under reliability from the marketing executives of Cosmote, however it was not rated as important by the executives of the other operators for measuring the quality of the mobile telephony service and it was not added.

As can be seen in **Table 3**, the importance of the SERVQUAL items for the measurement of mobile telephony service quality was also assessed and the items under the dimensions were rated according to their importance. The analysis of the importance ratings showed that under the dimension of tangibles the less important item was 'Mobile Telephony companies having modern looking equipment'. As the marketing experts stated, this item is not important because the main equipment of a mobile company (base stations controllers, radio transceivers etc.) is not gathered in one place and is not accessible by customers for security reasons. Under the dimension of reliability the item 'Mobile Telephony companies performing the service right the first time', was considered of low importance for this particular service because a prerequisite to perform this service right the first time is good coverage.

An overall assessment of the SERVQUAL scale showed that some items were repetitive. When the marketing executives were asked to assess the SERVQUAL scale, they all pointed out that some items were repetitive and thus tiring for the respondents. They all indicated that under the dimension of reliability the item 'when mobile telephony companies promise to do something by a certain time they will do so' had a similar meaning to the item 'mobile telephony companies providing services at the promised time'.

The marketing executives suggested that the items relevant to the service (mobile handsets, coverage and value-added services), should be added, however the number of items in SERVQUAL scale should not be augmented because the questionnaire was long and would frustrate the respondents of the survey research. Thus, the three items were added to SERVQUAL and the items with the lowest importance and with similar meanings were discarded.

### **5.2.2 The Pilot Survey Research**

The second stage of the process was to carry out a pilot survey. The aim of the pilot survey was to assess the reliability and the validity of the adapted SERVQUAL scale and to adapt it further, to assess the rest of the questions included in the questionnaire, to test the questionnaire, the sequence of the questions and the wording and to make sure that the questionnaire was fully understood by the respondents. The pilot survey was also necessary for the calculation of a representative sample for the final survey research.

The pilot survey was conducted in mid 2000 using 100 respondents. In order to select the 100 users, the sampling plan explained in **Chapter 5.1.3.2.1** was

applied. Non-probability sampling and in particular a combination of judgment and convenience sampling method was applied. After the interviews, respondents were asked to suggest other users who fulfilled the predefined criteria and who could provide information. The sampling unit consisted of users of mobile telephones, but only those paying the monthly mobile telephone bill themselves, since only those are able to assess the value they receive.

The questionnaire used for the pilot survey included SERVQUAL with the modifications which resulted from the in-depth interviews with the marketing executives of the mobile telephony operators. The questionnaire also included additional questions in order to assess, overall service quality, price, risk, value, customer satisfaction and repurchase intentions. At the end of the questionnaire some questions concerning the respondents demographics such as age, gender, occupation, education, family status, children, mobile operator, type of usage and residence were also included (see APPENDIX II).

The reliability and the validity of the adapted SERVQUAL scale was assessed on the basis of the pilot survey data and it is presented in the following section.

#### 5.2.2.1 Quality Assessment of the Adapted SERVQUAL on the Basis of the Pilot Survey Data

The pilot survey results were statistically analysed to estimate the reliability and the validity of the SERVQUAL model after the initial adaptation that resulted from the interviews with the 15 top marketing executives from the three mobile operators, so as to adapt it further.

It should be mentioned that as explained in **Chapter 5.1.5.2.3**, factor analysis for small samples as it is the pilot survey (100 respondents), is not appropriate. Though, it was attempted but the results cannot be considered reliable and it should be taken into consideration that the assessment of SERVQUAL might be erroneous.

**Espinoza (1999)**, in a study examining the psychometric properties of SERVQUAL applied confirmatory factor analysis using EQS. In this study as well, the reliability and the validity tests of the SERVQUAL model were carried out with the EQS for windows 5.7 version software for statistical analysis.

#### **Symbols used in the analysis**

During the reliability and validity tests the following symbols were used:

*For expectations:*

ESQ 1-22 = Expectations part of the SERVQUAL model items 1-22

For perceptions:

PSQ 1-22 = Perceptions part of the SERVQUAL model items 1-22

Perceptions-Expectation (P-E) differences:

DSQ 1-22 = Differences between perceived and expected quality of the SERVQUAL model items 1-22

The **reliability assessments** of SERVQUAL were based on the internal consistency of the items using Cronbach's coefficient alpha. The reliability test on the basis of Cronbach's Coefficient Alpha is presented in **Table 5** and **Table 6**.

**Table 5:** Reliability of SERVQUAL: Cronbach's Coefficient Alpha for the Dimensions of the Difference Scores, Expectations and Perceptions

<b>Dimensions</b>	<b>Cronbach's Alpha for Difference scores</b>	<b>Cronbach's Alpha for Expectations</b>	<b>Cronbach's Alpha for Perceptions</b>
<b>Tangibles</b>	0.751	0.798	0.848
<b>Reliability</b>	0.804	0.805	0.852
<b>Responsiveness</b>	0.734	0.747	0.828
<b>Assurance</b>	0.864	0.850	0.897
<b>Empathy</b>	0.761	0.720	0.855

**Table 5**, shows that the reliability coefficients for the perception-minus-expectation gap scores for the five SERVQUAL dimensions are consistently high. In addition, the perceptions scores proved to have higher alpha values than the difference scores. As **Nunnally (1978)** and **Devellis (1991)** suggested coefficient alpha scores of greater than or equal to 0.7 are acceptable and also in practice lower limits have been set as acceptable by researchers. As **Parasuraman, Zeithaml and Berry (1988)**, stated the minimum reliability that is acceptable is difficult to specify, however reliability is considered low if it is below 0.60

**Table 6:** Reliability of SERVQUAL: Item-To Total Correlations for Difference Scores, Expectations and Perceptions

<i>Dimensions</i>	<i>Items</i>	<i>Item to Total Correlations Expectations</i>	<i>Item to Total Correlations Perceptions</i>	<i>Item to Total Correlations Difference Scores</i>
<b><i>Tangibles</i></b>	1	0.793	0.870	0.633
	2	0.755	0.880	0.678
	3	0.837	0.849	0.792
	4	0.848	0.809	0.825
<b><i>Reliability</i></b>	5	0.839	0.885	0.828
	6	0.875	0.921	0.863
	7	0.776	0.771	0.798
	8	0.737	0.742	0.690
	9	0.756	0.838	0.764
<b><i>Responsiveness</i></b>	10	0.705	0.813	0.703
	11	0.779	0.882	0.825
	12	0.862	0.897	0.830
	13	0.824	0.857	0.826
<b><i>Assurance</i></b>	14	0.815	0.923	0.876
	15	0.850	0.876	0.862
	16	0.877	0.888	0.849
	17	0.832	0.891	0.876
<b><i>Empathy</i></b>	18	0.746	0.827	0.808
	19	0.694	0.820	0.812
	20	0.757	0.817	0.739
	21	0.767	0.868	0.788
	22	0.762	0.890	0.712

In **Table 6**, item-to-total correlations are shown, for the difference scores, perceptions and expectations. Item-to-total correlations are the scores for an item and the summated scores of the rest of the items comprising a subscale (e.g., the subscale measuring the tangibles dimension of service quality) (**Babakus and Mangold, 1992**).

High internal consistency among items within each dimension is indicated and these values are higher than the values obtained by **Babakus and Boller (1992)** who reported alphas from 0.67 to 0.83. **Parasuraman, Berry and Zeithaml (1991)** reported alphas from 0.60 to 0.93 higher than those reported by **Parasuraman, Zeithaml and Berry (1988)**, 0.52 to 0.84. Thus, alpha values for all the items were acceptable. As shown in **Table 6**, there is a high level of inter-correlation between items comprising a dimension. Furthermore, coefficient alpha values for the five SERVQUAL dimensions were fairly high. Thus, it can

be concluded that all items and dimensions were relevant and should be retained.

From the items added to SERVQUAL after the interviews with the marketing top-executives, item 4 under tangibles, reported alpha 0.848 for expectations, 0.809 for perceptions and 0.825 for difference scores, which are high alpha values. Item 7 under reliability reported alphas 0.776 for expectations, 0.771 for perceptions and 0.798 for difference scores, which are acceptable alpha values. Item 8 under reliability reported alphas 0.737 for expectations, 0.742 for perceptions and 0.690 for difference scores. These alpha values are within limits, but they are not high, thus, this item will also be examined in the focus group research with qualitative data to decide whether it should be retained.

On the basis of the reliability tests it can be concluded that the changes made to SERVQUAL did not seem to have affected the cohesiveness of the items under each dimension in the modified SERVQUAL for mobile telephony. The reliability for the adapted scale and the reliability values reported in the original development of SERVQUAL are of similar nature and magnitude.

The validity tests, which determine the quality of measures, as presented in **Chapter 5.1.5.2.3**, were carried out for the validity assessment of the adapted SERVQUAL scale. As **Parasuraman, Berry and Zeithaml (1991)** stated, a test of convergent validity is the dimensionality of the instrument that is whether scale items expected to load together in a factor analysis actually do so. To test the convergent validity and verify the dimensionality of the 22 items in the revised SERVQUAL, perception-minus-expectation gap scores for these items were **factor analysed**. To further explore any differences in factor structures, the expectations ratings (ESQ) and perceptions ratings (PSQ) were also factor analysed separately. The five-factor solution was subjected to **oblique rotation**. Oblique rotation of factors is a process by which the solution is made more interpretable without changing its underlying mathematical properties (**Patterson and Spreng, 1997**).

In spite of what is mentioned in **Chapter 5.1.5.2.3**, about factor analysis for small samples as it is the pilot survey (100 respondents), it was attempted and the results of that factor analysis are presented in **Table 7, Table 8 and Table 9**.

**Table 7:** *Validity of SERVQUAL :Factor Loading Matrices Following Oblique Rotation of Five-Factor Solutions for Perception-minus-Expectation Gap Scores.*

	F1	F2	F3	F4	F5
<b>Tangibles</b>					
DSQ1	-02	69	04	11	-08
DSQ2	04	70	03	-07	10
DSQ3	17	29	40	12	-07
DSQ4	24	24	32	15	03
<b>Reliability</b>					
DSQ5	23	-27	28	19	44
DSQ6	04	02	76	13	00
DSQ7	25	-08	13	43	10
DSQ8	-29	09	-02	41	45
DSQ9	50	-07	26	05	10
<b>Responsiveness</b>					
DSQ10	13	-18	12	-06	68
DSQ11	11	23	06	04	55
DSQ12	09	01	04	78	-00
DSQ13	39	09	-04	17	39
<b>Assurance</b>					
DSQ14	31	23	25	22	09
DSQ15	46	24	18	-08	31
DSQ16	18	31	10	00	47
DSQ17	41	03	11	44	06
<b>Empathy</b>					
DSQ18	02	05	82	02	-05
DSQ19	-10	20	08	15	59
DSQ20	-15	-04	82	-03	11
DSQ21	-04	04	08	78	-03
DSQ22	53	18	-12	17	07

**Table 8:** *Validity of SERVQUAL : Factor Loading Matrices Following Oblique Rotation of Five-Factor Solutions for Perceptions.*

	F1	F2	F3	F4	F5
<b>Tangibles</b>					
PSQ1	47	23	07	08	09
PSQ2	49	09	33	11	01
PSQ3	52	19	30	-17	13
PSQ4	10	23	44	-02	28
<b>Reliability</b>					
PSQ5	-01	32	-01	59	17
PSQ6	09	66	09	12	13
PSQ7	-00	17	08	04	64
PSQ8	22	-02	-18	31	41
PSQ9	-09	17	27	47	27
<b>Responsiveness</b>					
PSQ10	20	20	-18	63	-05
PSQ11	75	04	04	10	-04
PSQ12	56	14	-05	-04	39
PSQ13	16	-05	23	60	12
<b>Assurance</b>					
PSQ14	57	09	22	13	07
PSQ15	18	28	41	31	-09
PSQ16	37	12	34	35	-10
PSQ17	57	-15	19	23	22
<b>Empathy</b>					
PSQ18	-04	79	06	03	06
PSQ19	81	06	-17	05	-06
PSQ20	08	84	-08	-00	-03
PSQ21	71	12	-13	-10	26
PSQ22	70	03	15	13	-05



**Table 9:** Validity of SERVQUAL : Factor Loading Matrices Following Oblique Rotation of Five-Factor Solutions for Expectations

	F1	F2	F3	F4	F5
<b>Tangibles</b>					
ESQ1	04	76	04	07	-09
ESQ2	-21	87	00	15	03
ESQ3	19	45	20	-10	04
ESQ4	21	14	38	11	21
<b>Reliability</b>					
ESQ5	77	10	05	05	-03
ESQ6	11	00	74	05	14
ESQ7	73	-00	02	-01	05
ESQ8	27	19	10	60	11
ESQ9	51	05	16	-18	04
<b>Responsiveness</b>					
ESQ10	80	-08	-12	10	09
ESQ11	48	00	07	02	78
ESQ12	42	11	38	-12	04
ESQ13	24	26	20	26	17
<b>Assurance</b>					
ESQ14	13	32	26	-34	18
ESQ15	28	52	00	-14	13
ESQ16	23	55	13	03	04
ESQ17	68	07	15	04	-01
<b>Empathy</b>					
ESQ18	-11	-00	78	-01	08
ESQ19	-04	-03	01	01	84
ESQ20	-03	00	76	08	03
ESQ21	35	03	52	-16	-14
ESQ22	04	62	-12	-27	24

**Note :** All numbers in the Tables are magnitudes of factor loadings multiplied by 100.

As seen from **Table 7**, **Table 8** and **Table 9**, there is an overlap between all the dimensions. In the factor analysis of the difference scores the items initially loaded on six factors, however they were loaded on five factors since the SERVQUAL instrument has five dimensions. Tangibles are split into two and for this reason the items were loaded on six factors instead of the initial five but there was not any difference to the results. Most of the items in the exploratory factor analysis of perceptions and expectations loaded on three factors and there is an evident dimensional overlap. In the gap scores factor analysis, most items of reliability and responsiveness loaded on the same factor. Furthermore, the last two items of tangibles loaded together on the same factor with one item

of reliability and two of empathy. In the factor analysis of perceptions assurance and empathy loaded on the same factor. In addition, the last item of tangibles loaded together with an item of assurance. In the expectations analysis there was also a dimensional overlap mainly between reliability, responsiveness and assurance. In addition, the last item of tangibles loaded together with one item of reliability and three items of empathy.

The studies of many researchers have implied overlap among the SERVQUAL dimensions, especially among responsiveness, assurance and empathy. For example, the study of **Babakus and Boller (1991)** implied overlap among the SERVQUAL dimensions, especially among responsiveness, assurance, and empathy. In addition, **Brown, Churchill and Peter (1993)** stated that although the SERVQUAL dimensions represent five conceptually distinct facets of service quality, they are also related, as evidenced by the need for oblique rotations in the various studies to obtain the most interpretable factor patterns. **Babakus and Mangold's (1992)** research into hospital service quality identified three factors within the expectations data, accounting for 56.2% of the variance in the item scores, two factors within the perceptions data (70.6%) and 'no meaningful factor structure' within the P-E gaps data. Furthermore, **Babakus, Pedrick and Inhofe's (1993)** survey of utility company customers, revealed one factor. They advanced several possible explanations for this uni-dimensional result including the nature of the service, which they describe as a low-involvement service with an ongoing consumption experience. **Carman (1990)** due to the dimensional overlap of the scale used a subset of the original 22 items (ranging from 10 in the dental clinic setting to 17 in the tire store and placement centre setting). However, other researchers such as **Brensinger and Lambert (1990)** and **Finn and Lamb (1991)** in spite of the dimensional overlap, used all 22 SERVQUAL items in their studies and this implied support for the meaningfulness of the items.

However, the values of all the items' loadings to one of the factors were at least 0,35 and according to **Devellis (1991)**, if all the items relate strongly (at least 0.35) to one of the factors are meaningful and should be retained. In addition, SERVQUAL scale in this study showed high reliability measured by alpha coefficients for the gap scores (**Table 16**). The high values of the reliability coefficients indicate high internal consistency among items within each dimension and this reflects a high degree of cohesiveness among the scale items, which is an indirect indicator of convergent validity (**Parasuraman, Zeithaml and Berry, 1991**). Furthermore, **Carman (1990)**, **Brown, Churchill and Peter (1993)** and **Andersson (1992)** raised reservations concerning the adequacy of performing factor analysis with difference scores (**Chapter 5.1.5.2.3**). Finally, **Parasuraman, Zeithaml and Berry (1991)** indicated that the number of dimensions found by factor analysis may be different in the various studies because of across-dimension similarities and/or within dimension differences in respondents' evaluations. They argued that SERVQUAL is the basic "skeleton" underlying service quality and it should be used in its entirety as

much as possible and keeping the five-dimensional structure of SERVQUAL may serve as a meaningful conceptual framework for summarizing the criteria customers use in assessing service quality. Thus, because of all the above reasons in this study all the items were retained.

The adapted SERVQUAL scale's validity was further assessed by examining whether the measured construct was **associated empirically with measures of conceptually related variables**.

Therefore as **Parasuraman, Berry and Zeithaml (1991)** maintained, a high degree of convergence between the adapted SERVQUAL scale and a separate measure of service quality, can support the scale's construct validity. The overall service quality ratings (OQ1) were regressed on the SERVQUAL gap scores along the five dimensions. The results are presented in **Table 10**.

**Table 10:** Regression analysis of Overall Service Quality (OQ1) vs. SERVQUAL Scores for the Five Dimensions.

Dimensions	Standardised Regression Coefficients	P-Values
Intercept	4.00780	
Tangibles	0.178 (1.316)	0.1914
Reliability	0.194 (1.165)	0.2469
Responsiveness	0.289 (1.366)	0.1752
Assurance	-0.263 (-1.448)	0.1509
Empathy	0.025 (0.134)	0.8935

Notes: t-values in parentheses

$P < 0.1$  ( $p=0.029$ ), Multiple  $R=0.3500$ ,  $R$ -square = 0.1225, Adjusted  $R$ -square=0.0759,  $df = 5, 94$   
 $F=2.6252$

There was also a low correlation 0.296 between overall service quality ratings (OQ1) and the SERVQUAL gap scores. The overall equation is significant  $p=0.029$  ( $p<0.1$ ), however the five dimensions are not significant as it can be seen from their p values. Though, if each dimension is regressed alone on overall service quality all the dimensions are significant. Tangibles have a regression coefficient 0.249 ( $t=2.478$ ,  $p=0.014$ ), reliability has a coefficient 0.307 ( $t= 3.007$ ,  $p= 0.003$ ), responsiveness 0.325 ( $t=3.012$ ,  $p=0.003$ ), assurance 0.192 ( $t=2.007$ ,  $p=0.047$ ) and empathy 0.285 ( $t=2.584$ ,  $p=0.011$ ).

On the basis of the above, it can be seen that the reliability coefficients for the perception-minus-expectation gap scores for the five SERVQUAL dimensions are consistently high, thus all the dimensions of the instrument should be

retained. In addition, high internal consistency among items within each dimension is indicated therefore, the changes made to SERVQUAL have not affected the cohesiveness of the items under each dimension. Furthermore, the reliability for the adapted scale and the reliability values reported in the original development of SERVQUAL are of similar nature and magnitude. Concerning the validity tests, the factor analysis results cannot be considered reliable because the sample was small. The regression analysis implied overlap among the SERVQUAL dimensions, however, if each dimension is regressed alone on overall service quality all the dimensions are significant.

#### 5.2.2.2 Statistical Elaboration of the Pilot Survey Data

As has already been mentioned, the sample for the pilot study was not representative of the entire population of the mobile telephony users, since it was not obtained with a random sampling method. However, the pilot survey results are not used to assess the proposed model in this study or to derive any conclusions for the mobile telephony population. Thus, the statistical analysis of the pilot survey data which will be presented in this section is only indicative.

#### **Symbols used in the analysis**

During the elaboration of the pilot survey data for this study the following symbols were used:

Using the importance weights of the SERVQUAL model the *weighted perceptions, expectations and differences* were also calculated and represented as:

WESQ 1-22 = Weighted expectations for items 1-22

WPSQ 1-22 = Weighted perceptions for items 1-22

WDSQ 1-22 = Weighted differences for items 1-22

OSQ1: Overall evaluation of service quality experience after using mobile telephony service

PP1: The price charged for the service (low/high)

RU1: The personal (physical) risk associated with using the service

PV1: The overall value (quality minus price) received

CS1: Overall satisfaction from the mobile telephony service (very dissatisfied /very satisfied)

RI1: Customer intention to repurchase the service from their mobile operator

### **Missing values**

As **Little and Rubin (1987)** maintained, it is common in survey research to have some subjects for whom data are missing on one or more independent variables. Pairwise and listwise deletion of missing values is a common way to deal with the problem. However, both these techniques have been seriously criticised because they make the dubious assumption that the data are missing randomly. In addition, listwise deletion often results in omitting a substantial portion of usable data and this can reduce statistical power considerably (**Cohen and Cohen 1983**). Only missing data of the dependent variable are dropped from the analyses. One potential disadvantage to this method is that when large number of values is missing the variance of the variables may be significantly reduced. This in turn, could result in overly stringent tests because the magnitude of the relationships among variables would be decreased (**Tabachnick and Fidell, 1989**).

In the pilot survey, data were missing for the independent variable and not the dependent variable. In addition, for each variable that had missing data, the variance of the variable before substituting means was equal to or less than the variance after substituting means. Thus, the mean replacement approach to dealing with missing data was considered the appropriate one. The data from the pilot survey revealed that, item non-responses on the perceptions portions of the scale were more common. No such tendency appeared on the expectations part of the scale. These results might suggest that mobile telephony users may have a clear idea on desirable levels of service attributes, but that actual service performance is difficult to assess.

Pearson correlations coefficients and chi-square tests were applied for the elaboration of the pilot survey data according to the nature of the scales. Thus, data were erroneously elaborated statistically as if the random sampling method was used.

The demographic characteristics of the pilot survey sample are presented in **Table 11**.

**Table 11: Demographic Characteristics of the Pilot Survey Sample**

<u>Age :</u>		<u>Gender:</u>	
18-24	25	Female	56
25-34	38	Male	44
35-44	26		
45-54	6		
55-64	5		
<u>Occupation:</u>		<u>Education:</u>	
Farmers	1	Primary (up to 15 years)	19
Businessmen	14	Secondary	46
Managers/Top executives	6	College	22
Administrative employees	32	University	23
Labourers	17		
Not working	12		
Students	18		
<u>Family Status</u>		<u>Children at home</u>	
Not married	52	Under 18 years old	33
Married	42	Over 18 years old	24
Divorced	4	No children	43
Cohabit	1		
Widowhood	1		
<u>Customer of:</u>		<u>Type of usage :</u>	
Cosmote	25	Professional	27
Panafon	47	Personal	3
Telestet	28	Both	70
<u>Inhabitant of:</u>		N =100	
Athens	100		

In **Table 12** the relationships between the demographic variables are presented.

**Table 12: Relationships between the Demographic Variables**

	<b>Gender</b>	<b>Age</b>	<b>Education</b>	<b>Occupation</b>	<b>Family Status</b>
<b>Gender</b>	-				
<b>Age</b>	ns	-			
<b>Education</b>	ns	ns	-		
<b>Occupation</b>	.000	.001	.000	-	
<b>Family Status</b>	ns	.000	ns	ns	-
<b>Children at home</b>	ns	.065	.046	.007	.000

Figures denote significance levels  
 ns = not significant ( $P > .10$ ) on chi-square test

From **Table 12**, it can be seen that the distribution of the sample did not display any unexpected bias. Older respondents had better jobs, they were married and had children. Respondents with better education had better jobs and men had better jobs than women. Respondents with higher education did not have children.

The relationships between the different service quality measures, expected, perceived quality, the P-E difference and the single overall service quality measure (OSQ1), are presented in **Table 13**.

**Table 13:** Relationships between Expected, Perceived, P-E Difference and Overall Service Quality

	Overall Quality (OSQ1)	P-E Difference (DSQ)	Perceived (PSQ)
Overall (OSQ1)	-		
Differences (DSQ)	0.296	-	
Perceived (PSQ)	0.519	0.767	-
Expected (ESQ)	0.349	-0.293	0.389

*Pearson correlation coefficients*

As **Table 13** shows, the association between overall service quality (OSQ1) and perceived service quality is stronger than its association with the P-E difference scores. Therefore, perceptions alone seem to be a better way to measure service quality.

The 22 SERVQUAL items were ranked in terms of importance and were weighted for each respondent. The weighted SERVQUAL scores were obtained by multiplying the respondent's gap score for each item by the item's relative importance weight (summing the results across the items).

**Table 14:** Relationships between Weighted and Overall Service Quality Measures

	Overall Service Quality (OSQ1)	Weighted Expectations (WESQ)	Weighted Perceptions (WPSQ)
Overall Service Quality (OSQ1)	-		
Weighted Expectations (WESQ)	0.311	-	
Weighted Perceptions (WPSQ)	0.432	0.814	-
Weighted P-E Difference (WDSQ)	0.270	-0.115	0.483

*Pearson correlation coefficients*

As seen from **Table 14**, overall service quality (OSQ1) has a correlation 0.270 with weighted P-E difference, instead of 0.276 with the non-weighted gap scores. It is obvious here in the pilot study that weighted SERVQUAL scores are not a more reliable measure than non weighted scores. Furthermore, here the association of weighted perceptions with the overall quality measure is higher than that of the weighted difference scores. Weighted expected and perceived service quality are strongly correlated and it can be concluded that when adding importance weights customer expectations come very close to their perceptions.

The relationships between the demographic variables and the different quality measures are presented in **Table 15**

*Table 15: Relationships between Demographic Characteristics and Quality Measures*

	<b>Overall Quality (OSQ1)</b>	<b>P-E Difference (DSQ)</b>	<b>Perceived (PSQ)</b>	<b>Expected (ESQ)</b>
<b>Gender</b>	.048	ns	ns	ns
<b>Age</b>	ns	.009	ns	.071
<b>Education</b>	ns	ns	ns	ns
<b>Occupation</b>	.039	ns	ns	ns
<b>Family Status</b>	ns	ns	ns	ns
<b>Children at home</b>	ns	ns	ns	ns
<b>Mobile Operator</b>	.052	ns	ns	ns
<b>Type of usage</b>	ns	ns	ns	ns

*Figures denote significance levels  
ns = not significant (P>.10)*

In **Table 15**, it can be seen that there is an association between overall service quality as perceived by the customers and their occupation and the mobile operator they use. There is also an association between the age of the respondents and service quality as a P-E difference that is probably due to the expectations that are associated with the age of the respondents. Perceived overall quality is also correlated with gender and men seem to be more pleased with the quality they are receiving.

On the basis of the above, it can be seen that the statistical analysis of the pilot survey data which however can not be considered reliable and it is only indicative, showed that perceptions alone seemed to be a better way to measure service quality and that weighted SERVQUAL scores are not a more reliable measure than non weighted scores. On the basis of the pilot survey a reliable sample size for the final survey research was calculated and is presented in the following section.



## The Sample Size for the Final Research Survey

The results of the pilot survey were also needed to calculate a representative sample for the final survey research. In order to reassure that the sample for the final survey research will be representative, the following formula was applied to estimate the number of the respondents required to satisfy conditions for the confidence level and the magnitude of the error of the answers:

$$N = \left( \frac{Z * S}{E} \right)^2$$

Z = Standardisation level indicating the confidence level.

Confidence level represents the percentage which specifies how confident you are that the estimate of the population means falls within a particular range of values known as the confidence interval. In this case 95% confidence level was chosen and thus z=1.96.

S = Estimation of the population standard deviation (calculated from the pilot sample).

E = Magnitude of error (range of error). The maximum error E that the researcher considers acceptable.

The estimated values of Z, S and E as well as the specific approach for their calculation are presented below:

### Standard Deviation (S)

The Standard Deviations of all the questions for the sample at the pilot survey ranged from 0.51 up to 1.39. For the calculation of N the worst case value of the standard deviation that is S=1.39 will be used.

### Standardisation Level or Confidence level (Z)

The confidence level is set at 95% and is considered a reasonable level of confidence to represent the entire population of the mobile telephony users. Therefore, the value of Z according to the Table of Normal Distribution is Z=1.96.

### Magnitude of Error

An error from 2% up to 5% is widely accepted in the literature. The mean values of the answers in this study are ranging from 3.3 to 4.7. If E=0.14 at the scale 1-5, it gives an error of about 3% ( $0.14/4.7=3\%$  and  $0.14/3.3=4\%$ ), which is considered appropriate for the study. Thus E=0.14.

$$N = \left( \frac{Z * S}{E} \right)^2 = \left( \frac{1.96 * 1.39}{0.14} \right)^2 = \left( \frac{2.7244}{0.14} \right)^2 = (19.46)^2 = 379 \text{ respondents}$$

Thus a sample of N=400 is suggested which reduces the error further. Therefore, 400 users will be interviewed in the final survey.

Taking into consideration that the sample used for the pilot survey was not random, there may be some doubts that the calculated standard deviation could be wrong and in the case of random sampling a larger standard deviation might emerge, thus, a larger number of respondents might be needed for the final survey. In order to overcome these doubts, standard deviation was also calculated on the basis of the final survey data. The Standard Deviations of all the questions for the sample at the final survey ranged from 0.47 up to 1.32 which after applying the above formula results in 341 respondents. Thus, the appropriate sample for the final survey is 341 respondents, which is below the 400 respondents who were finally interviewed and reduces the error further.

### **5.2.3 The Focus Group Research**

The focus group research was conducted in order to adapt the SERVQUAL model further and provide a comparison with the results of the final research survey so as to strengthen their validity.

In this study four focus group research studies took place by the end of the year 2000, in the four biggest cities of Greece: Athens, Thessaloniki, Patras and Larisa. These cities are the biggest cities in Greece and their total population makes up 40% of the whole Greek population. Their geographical distribution covers all of Greece because Thessaloniki, which is the second largest city, is located in the North, Patra which is the third largest city, is located in the South and Larisa which is the fourth largest city, is located in Central Greece. Athens is the capital of Greece and has about one third of the total Greek population.

Careful selection of the focus group participants was made because it is key to obtaining accurate and useful information. Thus, participants were identified and recruited with certain criteria to be representative of the mobile telephony sector as much as possible. The characteristics of the participants were:

- a) Men and women
- b) Ages between 18-65
- c) Residents of Athens, Thessaloniki, Patras, Larisa.
- d) Users of mobile telephones personal and business usage
- e) Customers of the three Greek mobile telephony companies Panafon, Teletet and Cosmote

Other criteria for the selection of the participants of the four focus groups also used in the pilot survey research, were that they paid their mobile phone bills themselves so they would be able to assess the value they are receiving and that they had been users of mobile phones for at least three months.

On the basis of these criteria, participants were customers of the three mobile operators and an effort was made that in each group their number is analogous to the market shares of the three operators. They were also almost equally divided in gender and they had different ages and different professions.

The recruitment of the participants was carried out as in the pilot survey on the basis of both judgement and convenience sampling methods in order to find participants with the characteristics mentioned above. Participants were not chosen from the databases of focus group providers so that they were not frequently participating in focus groups. As **Bennington and Cummane (1998)**, argued, individuals who have been recent focus group participants should be eliminated.

They were asked to participate with a personalized invitation made by phone about a week before the date the focus group was arranged to take place. During these phone calls they were screened for the predefined characteristics as well as for their verbal ability, experience with the service and willingness to be candid about their opinions. In addition, the aims of the focus group and their role were explained to them.

Participants were reminded of the focus group session by a second phone call one day prior to the session. Greeks are naturally social, they are open and like to express their opinions in front of others, thus, participants in general did not refuse to participate. Users outside Athens were especially more willing to participate. However, the commitment to turn up for a focus group is not so strict for the Greeks and because of the traffic jams in capital cities getting 8 people in one place at one time was not very easy. In addition, unexpected events occurred and some of the participants were absent (even though they had accepted the invitation), thus over-recruiting was made and two more individuals were invited in each group. Each one of the four focus groups was composed of 8-10 subjects, eight individuals were the basic composition of the group and two more were invited to over-recruit the group in case of absences.

It took significant effort to get a mix of participants according to all the criteria mentioned above. In some cases although participants corresponding to a group met the criteria and gave their confirmations, one or two of them did not show up. As it has already been mentioned, the group was slightly over-recruited, however the initially planned composition had to be changed a little.

In order to achieve the best results the focus group participants should be comfortable. Thus, the Athens focus group took place in a house and the other three in Hotel rooms away from potential distractions, such as noisy hallways or lunchrooms. Participants were seated in a circular arrangement without a table in front so as to feel comfortable and increase their openness. Before the interview there was a warm-up period that helped them to feel comfortable. The quieter ones were encouraged to speak more.

Before the beginning of the sessions participants were reminded of the aims of the focus group and their role in it and they were asked to turn off their mobile phones so as to avoid interruptions. Each focus group lasted about 2 hours. The focus group research interviews were tape-recorded to allow for a smoother flowing interview and the capturing of respondents' verbatim comments. To facilitate further analysis, the interviews were subsequently transcribed (**Bitner and Gwinner, 1998**).

As guidelines for the discussion the 22 items of the adapted SERVQUAL were used as well as the additional questions finally included in the questionnaire of the pilot survey concerning, price, risk, value, satisfaction and repurchase intention.

The focus group research provided an insight into the users motivation, attitudes and behaviours concerning mobile telephony. The 22 items of the adapted SERVQUAL instrument were discussed and evaluated for measuring service quality in the mobile telephony sector. The participants were asked to express their expectations from their mobile operators concerning these items as well as their perceptions of the actual service they received. In addition, the importance of these items was evaluated. The three attributes proposed by the marketing experts of the three mobile operators, which were examined for their reliability in the pilot survey, mobile handsets, coverage and value-added services, were also discussed and their relevancy with the service and their importance were assessed. Furthermore, the focus group participants were asked to identify other attributes that were important in service quality measurement and were not included in SERVQUAL and assess the SERVQUAL scale.

In addition, the issue of price was also discussed and the participants commented on current pricing. They were also asked to rate the value they receive. In addition, the physical risk deriving from the radiation of the mobile terminals was evaluated as well as their overall satisfaction from the service. Finally their intention to repurchase the service from their mobile operators was discussed.

On the basis of the results of the focus groups the final adaptation of SERVQUAL was performed and it is presented in the following section.

#### **5.2.3.1 The Adaptation of SERVQUAL on the Basis of the Focus Group Results**

The three new items proposed by the marketing experts of the three mobile operators, mobile handsets, coverage and value-added services, which were examined for their reliability in the pilot survey, were evaluated once more in the focus group research.

All of the focus group participants agreed that coverage is the most important factor and it is crucial for the reliability of the service. They mentioned that it is definitely a reason to change operator. They all expected excellent coverage from their operators, however the operators seemed not to offer good coverage. This was in accordance with the results of the pilot survey, thus, the importance of coverage in the adapted SERVQUAL model was confirmed and its addition was approved.

The focus group participants also mentioned that value added services are important. They were considered very important for business users who are important customers for mobile operators, because although, they may be smaller in number, they are higher in usage and it is a segment where the profit margins are high and bad debts low. Although in the pilot survey it was questionable whether this item should be retained, due to its importance for business users revealed during the focus groups, it was retained for the final survey.

Concerning the mobile handsets as the participants stated the quality and the appearance of the mobile handset is very important to them. A good handset offered for free is a reason for them to choose or to change operator. This was in accordance with the results of the pilot survey, thus, the importance of the mobile handset was confirmed and its addition was approved.

On this basis, the focus group participants emphasized the importance of coverage, value-added services and the mobile handset. In addition, they agreed that all the adapted SERVQUAL items were meaningful and adequately defined mobile telephony service quality and they had no more attributes to add.

Consequently, the final version of SERVQUAL could be defined ready for the final research survey once it had been validated and tested for reliability. Thus, the adapted SERVQUAL instrument to be used in the final research survey includes the following items (**APPENDIX III**):

1. Mobile Telephony companies with visually appealing physical facilities
2. Employees with professional and neat appearance
3. Materials associated with the service (manuals, pamphlets, statements) visually appealing and easy to understand.
4. Mobile handsets visually appealing, of high quality and user friendly.
5. Mobile telephony companies providing services at the promised time
6. When customers have problems showing a sincere interest in solving them.
7. Providing excellent coverage
8. Providing value added services such as e-mail, Internet, e-commerce, voice mail, various. types of information ( weather, sports, stock exchange etc.)
9. Providing their customers accurate and error free records
10. Employees of mobile telephony companies telling customers exactly when services will be performed.

11. Giving prompt service to customers
12. Always be willing to help customers
13. Never be too busy to respond to customer requests
14. Employees with behaviour that instils confidence in customers
15. Customers feeling safe in their transactions
16. Employees consistently courteous with customers
17. Employees having the knowledge and skills to serve customers
18. Mobile Telephony companies giving customers individual attention
19. Operating 24 hours per day, 7 days a week
20. Having employees who give customers personal attention
21. Mobile Telephony companies having their customers' best interests at heart
22. Their employees understanding customers' specific needs.

#### **5.2.4 The Final Survey Research**

The final survey research was conducted in the beginning of 2001 and 400 mobile telephony users were interviewed.

The interviewees as mentioned in **Chapter 5.1.3.2.2**, were selected from the three mobile operators using the random stratified sampling method. The interviewees were contacted through their mobile phones. The aims of the survey research were explained to them and criteria such as paying their bills by themselves and using the mobile phone for at least three months were examined. If they fulfilled the criteria they were asked if they would take part in an interview.

Confirmation of the programmed interview was conducted through a second phonecall one day before the interview. The interviews took place in the four cities, Athens, Thessaloniki, Patras and Larisa. However, users from the wider areas of these cities were interviewed.

Participants in general did not refuse to participate and users outside Athens were especially more willing to participate. 51 subscribers did not participate and this was mostly because they were living far away from the cities where the interviews took place. Only 4 individuals did not participate because they did not fulfil the criteria or because they did not like to participate in interviews. However, to overcome this difficulty, each one of the operators had been asked to supply additional subscribers (15% more).

Most of the interviews took place in the homes or offices of the interviewees. In some cases where subscribers lived in the wider areas of these four cities, the interviews took place in Hotel rooms of the four major cities.

Before the interview a short discussion took place which helped to develop a personal relationship with the interviewees and they were reminded of the aims

of the survey. They were also asked to turn off their mobile phones so as to avoid interruptions. The duration of each interview was about an hour.

In the following, the questionnaire of the final survey research is presented as well as the reliability and validity assessment of the adapted SERVQUAL on the basis of the final survey data and the statistical elaboration of the final survey data.

#### **5.2.4.1 The Questionnaire for the Final Research Survey**

The adapted SERVQUAL scale, according to the interviews with the experts, the pilot study and in the focus group research was included in the questionnaire of the final survey research. The scale used was the same as in the pilot survey.

The questionnaire also included the additional questions concerning overall service quality assessment, perceived price, perceived risk, perceived service value, customer satisfaction and repurchase intention which were assessed during the pilot and the focus group research.

However, as **Andreassen and Lanseng (1997)** stated, customer loyalty, is believed to reflect future buying intentions and is measured using two indicators: repurchase probability and word of mouth. In addition, **Dabholkar, Shepherd and Thorpe (2000)** and **Cronin, Brady and Hult (2000)**, **Jones and Sasser (1995)**, **Danaher and Haddrell, (1996)**, **Woodside, Frey and Daly (1989)**, **Rust, Zahorik and Keiningham (1994)** used the likelihood to recommend as a proxy for customer loyalty. Therefore, another question was added to the questionnaire of the final survey research concerning the intention of the users to recommend their mobile operator to someone they know, friend or relative: "How likely would it be for you to recommend your mobile operator to someone you know?". This question would strengthen customers' stated repurchase intention measure (**APPENDIX IV**).

#### **5.2.4.2 Reliability and Validity Assessment of the Adapted SERVQUAL on the Basis of the Final Survey Data**

The reliability and validity of SERVQUAL scale were evaluated once more with a reliable random sample of 400 users.

On the basis of the data gathered from the final research survey, SERVQUAL's reliability assessments were based on the internal consistency of the items (using Cronbach's coefficient alpha) representing the same dimension of service quality as well as the overall scale. The reliability and the validity tests of the SERVQUAL model were done with the EQS for windows 5.7 version software for statistical analysis.

The reliability test on the basis of Cronbach's Coefficient Alpha are presented in **Table 16** and **Table 17**.

*Table 16: Reliability of SERVQUAL: Cronbach's Coefficient Alpha for Difference Scores, Expectations and Perceptions*

<b>Dimensions</b>	<b>Cronbach's Alpha for Expectations</b>	<b>Cronbach's Alpha for Perceptions</b>	<b>Cronbach's Alpha for Difference scores</b>
<b>Tangibles</b>	0.776	0.863	0.710
<b>Reliability</b>	0.921	0.914	0.860
<b>Responsiveness</b>	0.920	0.941	0.901
<b>Assurance</b>	0.910	0.921	0.905
<b>Empathy</b>	0.926	0.939	0.920

From **Table 16**, it can be seen that the reliability coefficients for the perception-minus-expectation gap scores for the five SERVQUAL dimensions are high, taking into consideration that **Nunnally (1978)** and **Devellis (1991)** suggested that coefficient alpha scores of greater than or equal to 0.7 are acceptable for exploratory studies and also that in practice lower limits have been set as acceptable by researchers. As **Parasuraman, Zeithaml and Berry (1988)** stated, the minimum reliability that is acceptable is difficult to specify, but if reliability is low, such as below 0.60, additional research is needed.

The Cronbach range for the dimensions was 0.710 to 0.920. This showed that the adapted SERVQUAL scale was statistically reliable.



**Table 17: Reliability of SERVQUAL: Item to total Correlations for Difference Scores, Expectations and Perceptions**

<b>Dimensions</b>	<b>Items</b>	<b>Item to Total Correlations Expectations</b>	<b>Item to Total Correlations Perceptions</b>	<b>Item to Total Correlations Difference Scores</b>
<b>Tangibles</b>	1	0.764	0.734	0.607
	2	0.723	0.744	0.579
	3	0.730	0.883	0.615
	4	0.669	0.714	0.594
<b>Reliability</b>	5	0.795	0.810	0.775
	6	0.808	0.749	0.741
	7	0.806	0.771	0.803
	8	0.540	0.729	0.599
	9	0.769	0.777	0.751
<b>Responsiveness</b>	10	0.707	0.724	0.695
	11	0.765	0.755	0.717
	12	0.806	0.753	0.698
	13	0.792	0.803	0.736
<b>Assurance</b>	14	0.866	0.897	0.873
	15	0.907	0.862	0.852
	16	0.895	0.879	0.860
	17	0.843	0.871	0.848
<b>Empathy</b>	18	0.741	0.794	0.763
	19	0.702	0.717	0.655
	20	0.749	0.786	0.729
	21	0.726	0.685	0.635
	22	0.745	0.839	0.760

In **Table 17**, item to total correlations are shown, for the difference scores, perceptions and expectations. Item to total correlations are the scores for an item and the summated scores of the rest of the items comprising a subscale (**Babakus and Mangold, 1992**). The perceptions had higher alpha values than the difference scores. Alpha values for the difference scores ranged from 0.579 to 0.873. **Babakus and Boller (1992)** reported alphas from 0.67 to 0.83. **Parasuraman, Berry and Zeithaml (1991)** reported alphas from 0.60 to 0.93. **Parasuraman, Zeithaml and Berry (1988)** reported alphas from 0.52 to 0.84.

Consequently the reliability of SERVQUAL in this study and the reliability values reported in the original development of SERVQUAL proved to be of similar nature and magnitude.

As **Parasuraman, Berry and Zeithaml (1991)** stated, a test of the convergent validity is the dimensionality of the instrument that is whether scale items

expected to load together in a factor analysis actually do so. As it has been mentioned in the pilot survey factor analysis is not suggested for difference scores and also a minimum sample size is needed which in the final survey is sufficient (**Chapter 5.1.5.2.3**). The difference scores ratings (DSQ) were factor analysed and expectations ratings (ESQ) as well as perceptions ratings (PSQ) were also factor analysed separately. The five-factor solution was subjected to **oblique rotation**. Oblique rotation of factors is a process by which the solution is made more interpretable without changing its underlying mathematical properties (**Patterson and Spreng, 1997**). The results are presented in **Table 18, Table 20** and **Table 20**.

**Table 18:** *Validity of SERVQUAL :Factor Loading Matrices Following Oblique Rotation of Five-Factor Solutions for Difference Scores.*

	<b>Factor 1</b>	<b>Factor 2</b>	<b>Factor 3</b>	<b>Factor 4</b>	<b>Factor 5</b>
<b>Tangibles</b>	0.036	0.663	-0.113	0.103	0.063
	-0.008	0.743	0.097	-0.121	-0.153
	0.211	0.277	0.214	0.064	0.121
	0.220	0.219	0.164	0.048	0.211
<b>Reliability</b>	0.073	-0.031	0.178	0.146	0.654
	0.110	0.022	0.774	0.011	0.041
	0.435	0.057	0.055	0.127	0.208
	-0.046	0.318	0.054	0.178	0.316
	0.474	-0.026	0.132	0.100	0.109
<b>Responsive</b>	-0.041	-0.056	0.175	0.205	0.637
	0.311	0.043	0.033	0.626	0.007
	0.400	0.074	0.010	-0.195	0.529
	0.645	-0.011	0.043	0.190	-0.029
<b>Assurance</b>	0.793	0.064	0.040	-0.081	0.006
	0.631	0.037	0.085	0.099	0.096
	0.735	0.072	0.041	0.053	-0.044
	0.641	0.023	0.157	-0.024	0.067
<b>Empathy</b>	0.089	-0.038	0.795	0.022	-0.065
	0.224	0.033	0.027	0.637	0.092
	-0.062	0.015	0.851	-0.053	0.042
	0.399	0.012	-0.045	-0.213	0.553
	0.714	-0.031	0.047	0.132	-0.003

Data on difference scores initially produced four factors with eigenvalues greater than 1.0. The eigenvalue represents the relative proportion of variance accounted for by each factor (Tabachnick and Fidell, 1989). However, they were loaded on five factors and only those components with an eigenvalue greater than 0.981 were retained and rotated. As it can be seen from Table 18, there is dimensional overlap.

*Table 19: Validity of SERVQUAL : Factor Loading Matrices Following Oblique Rotation of Five-Factor Solutions for Expectation Scores.*

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
<b>Tangibles</b>	0.019	0.695	-0.047	-0.029	0.200
	-0.054	0.851	0.073	-0.035	-0.161
	0.107	0.348	0.363	0.227	0.038
	0.004	0.161	0.406	0.201	0.279
<b>Reliability</b>	0.041	0.068	0.049	-0.034	0.807
	0.038	0.047	0.809	-0.030	0.095
	0.262	-0.108	0.282	0.050	0.403
	0.327	0.259	0.019	-0.463	0.207
<b>Responsive</b>	0.109	0.044	0.427	0.277	0.231
	-0.075	0.011	0.052	-0.085	0.868
	0.873	-0.041	0.049	-0.112	-0.028
	0.347	0.004	0.045	0.250	0.405
<b>Assurance</b>	0.561	0.066	0.149	0.061	0.082
	0.506	0.112	0.071	0.375	0.084
	0.501	0.135	0.070	0.264	0.178
	0.361	0.201	0.118	0.238	0.223
<b>Empathy</b>	0.107	0.036	0.308	0.195	0.411
	-0.000	-0.018	0.874	-0.038	-0.053
	0.876	-0.038	0.041	-0.096	-0.063
	-0.009	0.005	0.855	-0.061	-0.020
	0.236	-0.090	0.101	0.286	0.394
	0.522	0.179	-0.051	0.288	0.151

**Table 20:** *Validity of SERVQUAL : Factor Loading Matrices Following Oblique Rotation of Five-Factor Solutions for Perception Scores.*

	<b>Factor 1</b>	<b>Factor 2</b>	<b>Factor 3</b>	<b>Factor 4</b>	<b>Factor 5</b>
<b>Tangibles</b>	0.339	0.014	0.048	0.096	0.372
	0.475	-0.058	0.015	0.157	0.339
	0.136	0.035	0.022	0.143	0.562
	0.017	0.034	0.007	0.045	0.662
<b>Reliability</b>	-0.118	0.714	0.031	0.151	0.117
	0.035	0.029	0.030	0.776	0.111
	-0.146	0.146	0.225	-0.002	0.511
	-0.113	0.423	0.253	-0.099	0.262
<b>Responsive</b>	-0.025	0.116	0.069	0.229	0.412
	-0.153	0.777	0.056	0.127	-0.067
	0.001	-0.065	0.813	0.061	0.075
	0.201	0.661	-0.110	0.036	0.194
<b>Assurance</b>	0.159	0.188	0.366	0.147	0.161
	0.412	0.232	0.345	0.114	0.010
	0.279	0.229	0.251	0.238	0.089
	0.422	0.172	0.318	0.164	0.023
<b>Empathy</b>	0.366	0.286	0.305	0.090	0.053
	-0.063	-0.033	0.057	0.830	0.018
	-0.029	-0.033	0.844	0.014	0.014
	0.008	0.040	-0.046	0.866	-0.035
	0.227	0.736	-0.035	-0.031	0.030
	0.307	0.200	0.456	0.176	-0.034

**Devellis (1991)** and **Saxe and Weitz, (1982)** maintained that the cut-off value was 0.35 for the correlation of the items with the factors.

Data on expectations initially produced four factors with eigenvalues greater than 1.0. However they were loaded on five factors and only those components with an eigenvalue greater than 0.918 were retained and rotated. As seen in **Table 19**, there is a dimensional overlap between all the dimensions and tangibles split in two.

Data on perceptions initially produced four factors with eigenvalues greater than 1.0. However they were loaded on five factors and only those components with an eigenvalue greater than 0.897 were retained and rotated. As can be seen in **Table 20**, there is a dimensional overlap. However, the studies of many researchers implied overlap among the SERVQUAL dimensions, especially among responsiveness, assurance and empathy. Thus, it seems that the reservations of **Carman (1990)**, **Brown, Churchill and Peter (1993)** and **Andersson (1992)** concerning the adequacy of performing factor analysis with SERVQUAL (**Chapter 5.1.5.2.3**), seem to have ground.

**Peterson and Wilson (1992)** noted that service quality and satisfaction scales are almost always skewed, with the majority of respondents rating the perceived service highly. The frustrating aspect of this phenomenon is that apparently satisfied customers do not necessarily remain loyal. **Westbrook (1980)** suggested calculating the coefficient of **skewness**, which measures symmetry around the mean. In **Table 21**, the coefficients of skewness are presented.

*Table 21: Coefficient of Skewness*

<b>Variable</b>	<b>Skewness</b>
Overall Service Quality	-0.673
Difference scores	0.120
Perceived Service Quality	-0.778
Expected Service Quality	-2.787
Customer Satisfaction	-0.481

**Table 21** shows that the asymmetric distribution around the data means is high in all of the variables especially for expected service quality, however for the difference scores it is not high. **Danaher and Haddrell (1996)**, in their analysis, also found that disconfirmation scale had skewness values near zero, while the performance and the satisfaction scales were skewed to the left on all the attributes.

As **Parasuraman, Berry and Zeithaml (1991)** and **Babakus and Mangold (1992)** stated, a high degree of convergence between the adapted SERVQUAL scale and a separate measure of service quality can support the scale's construct validity. Thus, SERVQUAL scale's validity was assessed by examining whether it was associated empirically with the overall service quality ratings (OQ1).

There is a low correlation 0.302 between overall service quality ratings (OQ1) and the SERVQUAL gap scores. The overall service quality ratings (OQ1) were regressed on the SERVQUAL gap scores along the five dimensions. The results are presented in **Table 22**.

**Table 22:** Regression Analysis of Overall Service Quality vs. SERVQUAL Scores for the Five Dimensions

Dimensions	Standardised Regression Coefficients	P-Values
Intercept	4.147	
Tangibles	-0.102 (-1.595)	0.1116
Reliability	0.146 (2.102)	0.0362
Responsiveness	0.059 (0.686)	0.4929
Assurance	0.061 (1.435)	0.4440
Empathy	0.153 (0.766)	0.1520

Notes: t-values in parentheses

$P < 0.1$  ( $p=0.000$ ), Multiple  $R= 0.3305$ ,  $R\text{-square} = 0.1092$ , Adjusted  $R\text{-square}=0.0979$ ,  $df = 5, 394$ ,  $F=9.6609$

The overall equation is significant  $p= 0.000$  ( $p < 0.1$ ), however from the five dimensions only *reliability* is significant as it can be seen from the p values. However, if each dimension is regressed alone on overall service quality all the dimensions except tangibles are significant. Tangibles have a regression coefficient 0.125 ( $t=2.286$ ,  $p=0.023$ ), reliability has a coefficient 0.275 ( $t= 5.980$ ,  $p= 0.000$ ), responsiveness 0.382 ( $t=5.843$ ,  $p=0.000$ ), assurance 0.254 ( $t=5.569$ ,  $p=0.000$ ) and empathy 0.331 ( $t=6.304$ ,  $p=0.000$ ).

As **Danaher and Haddrell (1996)** stated, the relative importance of the dimensions can be assessed by several methods. One is to compare the magnitude of the regression coefficients or the standardised coefficients (betas). However, **Bring (1994)** showed that regression coefficients may not give a very reliable measure of the relative importance of regression independent variables, especially in the presence of multicollinearity and he recommended using the magnitude of each independent variable's t-statistic as an indicator of relative importance. In this case the presence of multicollinearity is obvious thus the magnitude of each independent variable's t-statistic as an indicator of relative importance should be used. Thus, the most important dimension is reliability, followed by assurance, empathy, responsiveness and then come tangibles.

**Parasuraman, Zeithaml and Berry (1988)** regressed an overall quality perceptions scores on the SERVQUAL scores to determine the relative importance of the five dimensions in influencing customers' overall quality perceptions. They found that regardless of the service being studied, reliability was the most important dimension, followed by assurance. Then followed responsiveness and tangibles and empathy was the least important dimension.

**Sultan and Simpson (2000), Bolton and Drew (1991), Zeithaml, Berry and Parasuraman (1991) and Berry, Zeithaml and Parasuraman (1985)** also found reliability as the most important dimension. Furthermore, **Zeithaml, Parasuraman and Berry (1990)** found that reliability was the most important of the dimensions and tangible the least important. In addition, **Johnston (1995)** also found out that tangibles comprised the least important dimension.

These results show that the adapted SERVQUAL is a valid research instrument and can give reliable results in the final research survey.

#### 5.2.4.3 Statistical Elaboration of the Final Survey Data

Final survey data were statistically analysed using the same approach as in the pilot survey. Further statistical analysis using the demographic characteristics was conducted and the mobile telephony operators were examined separately and comparisons were made. The deficiencies of the mobile telephony service and customers' unsatisfied needs were identified. In the final survey, data were missing for the independent variable and not the dependent variable. As in the pilot survey for each variable that had missing data, the variance of the variable before substituting means was equal to or less than the variance after substituting means. Thus, the mean replacement approach to dealing with missing data was considered the appropriate one for the final research survey as in the pilot survey.

The data collected from the final survey, revealed that item non-responses on the perceptions portions of the scale were more than on the expectations part of the scale. This suggested that mobile telephony users may have a clear idea on desirable levels of service attributes, but actual service performance was difficult to assess or to express it.

#### **Symbols used in the analysis**

*For expectations:*

ESQ 1-22 = Expectations part of the SERVQUAL model items 1-22

*For perceptions:*

PSQ 1-22 = Perceptions part of the SERVQUAL model items 1-22

*Perceptions-Expectation (P-E) differences:*

DSQ 1-22 = Differences between perceived and expected quality of the SERVQUAL model items 1-22

Using the importance weights of the SERVQUAL model the *weighted perceptions, expectations and differences* were also calculated and represented as:

WESQ 1-22 = Weighted expectations for items 1-22

WPSQ 1-22 = Weighted perceptions for items 1-22

WDSQ 1-22 = Weighted differences for items 1-22

OSQ1: Overall evaluation of service quality experience after using mobile telephony service

PP1: The price charged for the service (low/high)

RU1: The personal (physical) risk associated with using the service

PV1: The overall value (quality minus price) received

CS1: Overall satisfaction from the mobile telephony service (very dissatisfied /very satisfied)

RI1: Customer intention to repurchase the service from their mobile operator

RI2 : Customer's intention to recommend their mobile operator to someone they know.

SERVQUAL data were analysed and the gap scores were computed and as **Buttle (1996)**, argued, this analysis can take several forms:

- item-by-item analysis (e.g. P1 - E1, P2 - E2)
- dimension-by-dimension analysis (e.g.  $(P1 + P2 + P3 + P4/4) - (E1 + E2 + E3 + E4/4)$ , where P1 to P4, and E1 to E4, represent the four perception and expectation statements relating to a single dimension)
- computation of the single measure of service quality  $((P1 + P2 + P3 \dots + P22/22) - (E1 + E2 + E3 + \dots + E22/22))$ , the so-called SERVQUAL gap.

Pearson correlations coefficients and chi-square tests were applied for the elaboration of the demographic data of the final survey according to the nature of the scales.

The demographic characteristics of the final survey sample are presented in **Table 23**.



**Table 23: Demographic Characteristics of the Final Survey Sample**

<u>Age :</u>		<u>Gender:</u>	
18-24	31%	Female	49%
25-34	34%	Male	51%
35-44	25%		
45-54	7%		
55-64	3%		
<u>Occupation:</u>		<u>Education:</u>	
Businessmen	20.75%	No education	0.25%
Managers	1.25%	Primary (up to 15 years)	11%
Top executives	4.25%	Secondary	49%
Employees	27.25%	Post-secondary schools	24%
Workers	14.25%	University	15.75%
Farmers	1%		
Homemakers/retired/ unemployed	13.5%		
Students	17.75%		
<u>Family Status</u>		<u>Children at home</u>	
Not married	50.75%	Under 18 years old	37.5%
Married	42.75%	Over 18 years old	26%
Divorced	4.25%	No children	36.5%
Cohabit	1.25%		
Widowhood	1%		
<u>Operator</u>		<u>Type of usage</u>	
Cosmote (total)	25.25%	Business	29.25%
Prepaid (Cosmocarta)	7.75 %	Personal	5.5%
Panafon (total)	44.5%	Both	65.25%
(Panafon ala Carte)	24%		
Telestet (total)	30.25%		
Prepaid (B-Free)	16.75%		
<u>Residence</u>		N =400	
Athens	48.75%		
Thessaloniki	26%		
Larisa	12.75%		
Patra	12.5%		

In **Table 24** the relationships between the demographic variables of the final survey sample are presented.

**Table 24: Relationships between the Demographic Variables**

	Gender	Age	Education	Occupation	Family Status
Gender	-				
Age	ns	-			
Education	ns	.000	-		
Occupation	.000	.000	.000	-	
Family Status	ns	.000	ns	0.000	-
Children at home	ns	.000	.0132	.002	.000

Figures denote significance levels

ns = not significant ( $p > .10$ ) on chi-square test

	Type of Usage	Operator	Residence
Gender	ns	ns	ns
Age	ns	0.000	ns
Education	ns	ns	0.024
Occupation	ns	0.000	0.005
Family Status	ns	0.038	ns
Children at home	ns	ns	ns

Figures denote significance levels

ns = not significant ( $p > .10$ ) on chi-square test

In **Table 24**, it can be seen that there were not any unexpected relationships between the demographic variables, taking into consideration the norms and the standards of the Greek society. Older respondents with higher education had better jobs such as managers and top executives. Men had better jobs than women, since in the categories of 'businessmen' and 'managers' the respondents were mostly men and a good number of women were 'homemakers' or 'unemployed'. Older respondents were married and had children. Most of the respondents who had high positions e.g. managers and top executives were not married and students were not married. Respondents with higher education did not have children and younger respondents had better education. Many respondents between 25-35 years had completed post secondary education and university. Respondents who were not married did not have children. Younger respondents were not married and divorced respondents were older. Younger respondents did not have children or had younger children. Many businessmen lived in Athens and from the respondents not working a large number was from Thessaloniki and Larisa. Respondents from Athens had higher education.

The relationships between the different service quality measures, expected, perceived quality, the P-E difference and the single overall service quality measure (OSQ1), are presented in **Table 25**.

**Table 25:** Relationships between Expected, Perceived, P-E Difference and Overall Service Quality.

	Overall Quality (OSQ1)	P-E Difference (DSQ)	Perceived (PSQ)
Overall (OSQ1)	-		
Differences (DSQ)	0.302*	-	
Perceived (PSQ)	0.420*	0.742*	-
Expected (ESQ)	0.135	-0.426*	0.291*

Pearson correlation coefficients

\*significant at  $p < .01$

In **Table 25**, can be seen that the association between overall service quality (OSQ1) and perceived service quality is stronger than its association with the P-E difference. Therefore, it can be concluded that perceptions alone might be a better measure for service quality. In addition, the association between overall service quality (OSQ1) and those measured through SERVQUAL can suggest that the overall service quality scale might be proved as useful as the SERVQUAL instrument. This finding is in accordance with the results of **Kangis and Zhang (2000)**.

The 22 SERVQUAL items were ranked in terms of importance and were weighted for each respondent for expectations, for perceptions and for the P-E difference scores. The weighted SERVQUAL scores were obtained by multiplying the respondent's gap score for each item by the item's relative importance weight (summing the results across the items).

The relationship between the weighted expectations, weighted perceptions, weighted P-E difference scores and the single overall service quality measure (OSQ1) are presented in **Table 26**.

**Table 26:** Relationships between Weighted and Overall Service Quality Measures.

	Overall Service Quality (OSQ1)	Weighted Expectations (WESQ)	Weighted Perceptions (WPSQ)
Overall Service Quality (OSQ1)	-		
Weighted Expectations (WESQ)	0.236*	-	
Weighted Perceptions (WPSQ)	0.385*	0.765*	-
Weighted P-E Difference (WDSQ)	0.232*	-0.297*	0.387*

Pearson correlation coefficients, \*significant at  $p < .01$

In **Table 26** can be seen that overall service quality (OSQ1) has a correlation 0.232 with weighted P-E difference, instead of 0.302 with the non-weighted gap scores. Thus, it can be concluded that weighted SERVQUAL scores was not a more reliable measure than non-weighted scores. The association of weighted perceptions with the overall quality measure was higher (0.385) than that of the weighted difference scores (0.232). Weighted expected and perceived service quality were strongly correlated (0.765, instead of 0.291 of the non-weighted expected and perceived service quality) and it can be concluded that when adding importance weights customer expectations come very close to their perceptions.

The relationships between the demographic variables and overall service quality, P-E difference, perceived and expected quality are presented in **Table 27**.

*Table 27: Relationships between Demographic Characteristics and Quality Measures.*

	<b>Overall Quality (OSQ1)</b>	<b>P-E Difference (DSQ)</b>	<b>Perceived (PSQ)</b>	<b>Expected (ESQ)</b>
<b>Gender</b>	ns	ns	ns	ns
<b>Age</b>	ns	ns	ns	ns
<b>Education</b>	0.012	ns	ns	ns
<b>Occupation</b>	0.048	0.000	0.000	0.001
<b>Family Status</b>	ns	ns	ns	ns
<b>Children at home</b>	ns	ns	ns	ns
<b>Mobile Operator</b>	.ns	ns	ns	ns
<b>Type of usage</b>	ns	ns	ns	ns
<b>Residence</b>	0.042	ns	ns	0.052

*Figures denote significance levels  
ns = not significant ( $p > .10$ )*

In **Table 27**, can be seen that there is just a slight association (in comparison with the other relationships), between the occupation of the respondents and overall service quality, P-E difference, perceived and expected service quality. Further analysis and calculations of the difference of the means showed that respondents with higher positions rated service quality less. In addition, there is an association between the education of the respondents and overall service quality. Respondents with higher education gave lower rates. This may imply that respondents with higher education and higher positions might be more critical on the quality received. Concerning service quality expectations it seems that they may be somehow shaped by the occupation of the customer. Furthermore, there is a slight association between residence of the respondents, overall service quality and expected service quality. Respondents from Athens

rated service quality higher and followed the respondents from Patras. Respondents from Thessaloniki and especially respondents from Larisa gave lower rates.

The correlation of the two measures with which customers stated their repurchase intention for the service (from the same mobile operator), and their intention for positive word of mouth, are presented in **Table 28**.

**Table 28:** Relationship between Stated Repurchase Intention and Positive Word-of-Mouth.

	Repurchase Intention
Positive Word of Mouth	0.585

*Pearson correlation coefficients,  
Significance  $p = .000$*

From the existing literature it seems that there are relationships between demographic variables and customer loyalty. For example, **Snyder (1991)**, found some correlations between demographic variables and strong service loyalty. In addition, **Lacobucci and Ostrom (1994)** found that men and women often differed in how they valued the core and relationship aspects of services.

Thus, the relationships between demographic characteristics, stated repurchase intention and positive word of mouth were examined and are presented in **Table 29**.

**Table 29:** Relationships between Demographic Characteristics, Repurchase Intention and Positive Word-of-Mouth.

	Repurchase Intention	Positive Word-of-Mouth
Gender	ns	ns
Age	ns	ns
Education	0.064	0.180
Occupation	ns	ns
Family status	ns	ns
Children at home	ns	ns
Mobile Operator	0.006	0.034
Type of usage	0.017	0.023
Residence	0.082	0.111

*Figures denote significance levels  
ns = not significant ( $p > .10$ )*

In **Table 29**, it can be seen that education, the mobile operator, the type of usage and respondents residence are associated with repurchase intention and positive word of mouth but just slightly. Further analysis and calculations of the difference of the means showed that respondents with higher education were less likely to repurchase the service from their operators. Telestet and Panafon users were less likely to repurchase the service and recommend it to a relative or friend. Cosmote users had the strongest intention to repurchase the service

from their operator and were more likely to engage in positive word of mouth, then followed Telestet users and last came Panafon users.

From the three types of users (personal, business or both), business users were less likely to repurchase the service from their operators and recommend it to their relatives and/or friends. Furthermore, respondents from Athens were more likely to repurchase the service from their operators than respondents from the other cities.

Thus, it can be seen that the sample had a normal distribution and did not display any unexpected bias. Perceptions alone seemed to be a better way to measure service quality and the addition of importance weights showed that customer expectations come very close to their perceptions. Furthermore, the results showed that respondents from Athens rated service quality higher and respondents with higher positions and higher education rated service quality less.

The findings from the focus group survey and the final research survey will be presented in detail in the next chapter. The findings of the pilot survey will not be presented because as it has already been mentioned there are reservations concerning their validity.

## CHAPTER 6

### FINDINGS

This chapter will present the findings from the focus group research studies and the final research survey.

#### 6.1 The Results of the Focus Group Research

The demographic characteristics of the participants are presented in **Table 30**:

*Table 30: The Demographic Characteristics of the Participants of the Focus Groups*

	<b>Group 1 Athens 10 Participants</b>	<b>Group 2 Thessaloniki 9 Participants</b>	<b>Group 3 Larisa 8 Participants</b>	<b>Group 4 Patra 9 participants</b>
<u>Age</u>				
18-24	2	1	1	1
25-34	3	2	2	2
35-44	3	3	2	2
45-54	2	2	2	2
55-64	-	1	1	2
<u>Gender</u>				
Female	6	5	4	4
Male	4	4	4	5
<u>Occupation</u>				
Farmers	-		2	-
Businessmen	3	3	1	-
Managers/ Top exec.	1 3	1 5	- 3	3 5
Employees	-		1	-
Labourers	2		1	1
Not working Students	1		-	
<u>Education</u>				
Primary	-	-	2	-
Secondary	3	2	4	3
College	3	3	1	2
University	4	4	1	4
<u>Family Status</u>				
Not married	4	3	1	2
Married	5	4	4	7
Divorced	-	1	2	-
Cohabit	1		-	-

Widowhood	-	1	1	1
<u>Children at home</u>	4	3	4	3
Under 18 years old	1	1	-	2
Over 18 years old	6	5	4	4
No children				
<u>Mobile Operator</u>	3	3	2	3
Cosmote	4	3	3	4
Panafon	3	3	3	2
Telestet				
<u>Type of usage</u>	4	2	1	2
Professional	4	2	1	4
Personal	2	5	6	3
Both				
















The participants of the focus groups discussed the 22 items of SERVQUAL and expressed their perceptions and expectations. The comments of the participants on the expectations and perceptions of the 22 SERVQUAL items, classified under the five dimensions: tangibles, reliability, responsiveness, assurance and empathy, are presented in **Table 31, Table 32, Table 33, Table 34, Table 35, Table 36, Table 37, Table 38, Table 39** and **Table 40** in the following way:





<u>Dimension</u>	<u>Expectations</u>	<u>Perceptions</u>
Tangibles	Table 31	Table 32
Reliability	Table 33	Table 34
Responsiveness	Table 35	Table 36
Assurance	Table 37	Table 38
Empathy	Table 39	Table 40

In each one of the above tables the results of all the focus groups researches conducted in the four cities are presented. Explanations concerning the grouping of the items (1-22) of SERVQUAL under each one of the five dimensions as well as of the symbols used to evaluate the importance of these items, are presented at the end of these tables.



**Table 31:** Tangibles, Focus Group Participants Expectations and Importance.

CITY	ITEM 1		ITEM 2		ITEM 3		ITEM 4	
	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/ce
<b>Athens</b>	- should have excellent physical facilities (operators and shops)		- employees should have professional and neat appearance - Panafon employees should be younger and better looking than Teletet and Cosmote employees (perhaps because of the advertisements)		- they expected the material associated with the service to be visually appealing and easy to understand		- they all expected mobile handsets to be visually appealing of high quality and user friendly	
<b>Thes/i</b>	- should have excellent physical facilities (operators and shops)		- all expected employees to have neat and professional appearance		- they expected the material to be visually appealing and easy to understand	 	- they expected mobile handsets to be visually appealing, of high quality and user friendly	
<b>Larisa</b>	- operators and shops should have excellent physical facilities - Panafon and Teletet should have more luxury physical facilities because they are private and Cosmote is public	 	- employees should have neat and professional appearance		- they expected the material to be visually appealing and easy to understand	 	- mobile handsets should be visually appealing, of high quality and user friendly	



CITY	ITEM 1		ITEM 2		ITEM 3		ITEM 4	
	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/ce
Patra	- all expected operators and the shops selling the service to have excellent physical facilities		- they all expected employees to have professional and neat appearance		- they expected manuals, pamphlets and statements to be visually appealing and easy to understand		- they all expected mobile handsets to be visually appealing of high quality and user friendly	

**Table 32:** Tangibles, Focus Group Participants Perceptions

CITY	ITEM 1	ITEM 2	ITEM 3	ITEM 4
	Perceptions	Perceptions	Perceptions	Perceptions
<b>Athens</b>	<ul style="list-style-type: none"> <li>- operators have excellent physical facilities</li> <li>- big chain stores have excellent physical facilities</li> <li>- some of the small shops do not have</li> <li>- they prefer to buy from chain stores specialised in electronic equipment because of the variety</li> </ul>	<ul style="list-style-type: none"> <li>- employees of mobile operators have a neat and professional appearance</li> <li>- employees in the large chain stores have a more professional appearance than employees in the smaller shops.</li> </ul>	<ul style="list-style-type: none"> <li>- material is visually appealing</li> <li>- half of the participants stated that they can easily understand it and the other half stated that they have difficulty to understand it</li> </ul>	<ul style="list-style-type: none"> <li>- mobile handsets are good quality and visually appealing</li> <li>- most stated that they are user friendly</li> <li>- some had difficulties to use the various features</li> </ul>
<b>Thes/i</b>	<ul style="list-style-type: none"> <li>- operators' branches in Thes/ki have very good physical facilities</li> <li>- big chain stores have better physical facilities than small shops</li> </ul>	<ul style="list-style-type: none"> <li>- employees in the branches and in the big stores have neat and professional appearance</li> <li>- in smaller shops they have a more simple appearance</li> </ul>	<ul style="list-style-type: none"> <li>- the material is visually appealing, however it is not very easy to understand</li> </ul>	<ul style="list-style-type: none"> <li>- many of the existing handsets are appealing, of good quality and have advanced features</li> </ul>
<b>Larisa</b>	<ul style="list-style-type: none"> <li>- they have not visited the central offices of the operators in Athens.</li> <li>- in Larisa operators have shops with good physical facilities</li> </ul>	<ul style="list-style-type: none"> <li>- they have not visited the central offices of the operators</li> <li>- employees in the stores in Larisa have a professional and neat appearance</li> </ul>	<ul style="list-style-type: none"> <li>- material is visually appealing, but not easy to understand</li> <li>- only two of the participants had no difficulties to understand it</li> </ul>	<ul style="list-style-type: none"> <li>- they are visually appealing and of high quality especially some of them</li> <li>- it is not very easy to use them and someone must show you how</li> </ul>
<b>Patra</b>	<ul style="list-style-type: none"> <li>- they have not visited the central offices of the operators in Athens</li> <li>- in Patras the physical facilities of the shops are very good</li> </ul>	<ul style="list-style-type: none"> <li>- employees at the shops in Patras have a professional and neat appearance</li> </ul>	<ul style="list-style-type: none"> <li>- it is visually appealing and for most of the participants easy to understand</li> <li>- two of the participants could not understand the manuals and mentioned that technical knowledge is needed</li> </ul>	<ul style="list-style-type: none"> <li>- they are of high quality and visually appealing and some of them are really elegant</li> <li>- some of them stated that handsets are not user friendly and they had problems to learn to use them</li> </ul>

**Table 33: Reliability, Focus Group Participants Expectations and Importance**

CITY	ITEM 5		ITEM 6		ITEM 7		ITEM 8		ITEM 9	
	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/c
<b>Athens</b>	- all of the participants expected services to be performed at the promised time	●	- participants expected mobile operators to show a sincere interest in solving their problems	●	- all of the participants expected to have excellent coverage	●	- all of the participants expected their operators to provide value added services. Some of those services are very important	●	- all of the participants expected accurate and error free records.	●
<b>Thes/i</b>	- all expected mobile operators to provide services at the promised time	●	- all expected operators to show a sincere interest in solving their problems	●	- all expected excellent coverage	●	- they all expected their operators to offer value-added services - they are more important for business users	● ●	- they all expected accurate and error free records	●
<b>Larisa</b>	- they all expected mobile operators to provide services at the promised time	●	- all expected their operators to show a sincere interest in solving their problems	●	- all expected their operators to provide excellent coverage	●	- all expected to have value-added services. - they are necessary to business users	◐ ●	- they all expected accurate and error free records	●

CITY	ITEM 5		ITEM 6		ITEM 7		ITEM 8		ITEM 9	
	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/c
Patra	<ul style="list-style-type: none"> <li>- all expected operators to provide services at the promised time</li> <li>- two Cosmote users stated that they have lower expectations because in the public sector services are not provided at the promised time</li> </ul>	●	<ul style="list-style-type: none"> <li>- all expected operators to show a sincere interest in solving their problems</li> <li>- two Cosmote users stated that they have lower expectations because it is a public company</li> </ul>	●	<ul style="list-style-type: none"> <li>- they all expected excellent coverage</li> </ul>	●	<ul style="list-style-type: none"> <li>- all expected their operators to offer value-added services</li> <li>- they are important for business users</li> </ul>	  	<ul style="list-style-type: none"> <li>- all expected accurate and error free records</li> </ul>	●

**Table 34: Reliability, Focus Group Participants Perceptions**

CITY	ITEM 5	ITEM 6	ITEM 7	ITEM 8	ITEM 9
	Perceptions	Perceptions	Perceptions	Perceptions	Perceptions
<b>Athens</b>	- participants have not faced any problems with delays in the provision of services	- most of the participants stated that the operators were always solving their problems - one stated unable to answer because he never had any problems	- participants are not pleased with coverage	- the existing value added services are not enough some more are needed e.g. Internet for business users - the prices of some of these services are expensive and some should be free of charge e.g. messaging service	- most of the participants did not have a problem with the accuracy of their bills. - Only one had a problem however it was corrected immediately
<b>Thessaloniki</b>	- one Panafon user faced problems of delays in the provision of services and he had to contact the company many times - the others never had problems with the provision of services	- Panafon users with one exception, stated that their operator does not show interest to solve their problems - one Cosmote user stated that he did not find help when he asked information from the telephone directory	- Panafon users are not pleased with coverage and have serious problems - Telestet and Cosmote users do not have serious problems with coverage	- operators offer value-added services - their cost is high - Cosmote offered some basic value-added services like messaging service free of charge	- Panafon users have serious problems with the accuracy of their bills - Cosmote and Telestet users did not have problems - Cosmote customers stated that even if they don't pay their bill for a month their phone is not disconnected
<b>Larisa</b>	- two of the participants stated that operators do not provide services at the promised time - another mentioned that 1.5 years ago he asked Telestet to cancel his contract and he is still waiting	- participants using Panafon and Telestet mentioned that their operators do not show a sincere interest in solving their problems - Cosmote users receive some interest from their operator however not really a sincere interest	- they are not pleased with coverage	- some mentioned that it is difficult to use services such as e-mail and Internet, you must have technical knowledge - some mentioned that some services like fax and e-mail are essential for business users	- Panafon and Telestet users do not always get error free records

CITY	ITEM 5	ITEM 6	ITEM 7	ITEM 8	ITEM 9
	Perceptions	Perceptions	Perceptions	Perceptions	Perceptions
Patra	<ul style="list-style-type: none"> <li>- most stated that operators provide services at the promised time</li> <li>- Cosmote users stated that they are pleased and the company has unexpectedly exceeded their expectations</li> <li>- one Cosmote user complained because there are many lost calls</li> </ul>	<ul style="list-style-type: none"> <li>- Cosmote users stated their operator shows a higher interest to solve their problems than that they expected</li> <li>- another user of Panafon and the users of Telestet stated that they are very pleased</li> </ul>	<ul style="list-style-type: none"> <li>- Telestet users are not pleased with coverage</li> </ul>	<ul style="list-style-type: none"> <li>- most of the participants have used one or two of these services like messaging service and stock exchange information and they are pleased</li> </ul>	<ul style="list-style-type: none"> <li>- Telestet users did not have problems with the accuracy of their bills</li> <li>- Panafon users had serious problems</li> <li>- one Cosmote user mentioned that if he had delays to pay his bill the company automatically incorporates the delay in payment in the next payment however he does not want this</li> </ul>

Table 35: Responsiveness, Focus Group Participants Expectations and Importance

CITY	ITEM 10		ITEM 11		ITEM 12		ITEM 13	
	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/ce
<b>Athens</b>	- all of them expected employees to give them precise information on when services will be performed	●	- all of the participants expected employees to give them prompt service	◐	- participants expected their mobile operators' employees to be willing to help them.	◐	- all participants expected employees not to be too busy to respond to their requests.	●
<b>Thes/i</b>	- all expected their operators to have employees who will tell them exactly when services will be performed	●	- they all expected prompt service	●	- all expected employees to be willing to help them.	●	- all expected employees not to be too busy to respond to their requests	●
<b>Larisa</b>	- they all expected employees to tell them exactly when services will be performed	●	- all expected to get prompt service by their operators' employees	●	- they all expect employees to be willing to help them	●	- they all expected employees never to be too busy to respond to their requests	●
<b>Patra</b>	- all expected employees to tell them exactly when services will be performed - two Cosmote users stated that they have lower expectations because it is a public company	●	- all expected to receive prompt service - two Cosmote users stated they had lower expectations	●	- all expected employees always to be willing to help them - two Cosmote users stated they had lower expectations.	● ◐	- all expected employees never to be too busy to respond to their requests - two Cosmote users stated that they had lower expectations because it is a public company	●



**Table 36:** Responsiveness, Focus Group Participants Perceptions

CITY	ITEM 10	ITEM 11	ITEM 12	ITEM 13
	Perceptions	Perceptions	Perceptions	Perceptions
<b>Athens</b>	<ul style="list-style-type: none"> <li>- most of the participants always received precise information on when services will be performed.</li> <li>- one Panafon user stated that when he had asked for the WAP service he had to wait</li> </ul>	<ul style="list-style-type: none"> <li>- most of the participants stated that they get prompt service</li> <li>- only one Panafon user stated that he has not received prompt service</li> </ul>	<ul style="list-style-type: none"> <li>- most of the participants always came across employees willing to help them</li> <li>- one complained about an employee in Panafon who did not help him when he asked for the caller ID service</li> </ul>	<ul style="list-style-type: none"> <li>- one Panafon and o Telestet user stated th when they call custom service they have to w because the lines are busy</li> </ul>
<b>Thes/i</b>	<ul style="list-style-type: none"> <li>- most of the Panafon users mentioned that the employees do not tell them exactly when services will be performed and sometimes services are not performed at all</li> </ul>	<ul style="list-style-type: none"> <li>- Panafon users stated that they do not get prompt service</li> <li>- Cosmote and Telestet users stated that they get prompt service</li> </ul>	<ul style="list-style-type: none"> <li>- Panafon users stated that many times they had to deal with employees not willing to help them and answer their questions</li> </ul>	<ul style="list-style-type: none"> <li>- Panafon users stated th employees at customer service in Panafon are too busy and they don't respond to their requests properly</li> <li>- also the lines are always busy</li> </ul>
<b>Larisa</b>	<ul style="list-style-type: none"> <li>- Panafon and Telestet users stated that employees almost never tell them exactly when services will be performed.</li> <li>- one Cosmote user also mentioned the same problem</li> </ul>	<ul style="list-style-type: none"> <li>- all agreed that they do not get prompt service by their operators</li> <li>- Panafon and Telestet users stated that the service they get is unacceptable</li> </ul>	<ul style="list-style-type: none"> <li>- Panafon and Telestet users stated that the employees of Panafon and Telestet are not always willing to help customers</li> <li>- one Cosmote user stated that sometimes this happens also with the employees of Cosmote</li> </ul>	<ul style="list-style-type: none"> <li>- Panafon and Telestet users stated that its difficult to get employees on the phone because lines are busy</li> <li>- Cosmote users stated that they also have this problem sometimes</li> </ul>

CITY	ITEM 10	ITEM 11	ITEM 12	ITEM 13
	<b>Perceptions</b>	<b>Perceptions</b>	<b>Perceptions</b>	<b>Perceptions</b>
<b>Patra</b>	<ul style="list-style-type: none"> <li>- most of the participants stated that employees always told them exactly when services will be performed</li> <li>- one Panafon and one Cosmote users when they asked for the voice mail service were told that the time needed was three days and they had to wait one week</li> </ul>	<ul style="list-style-type: none"> <li>- most of the participants were pleased with the service</li> <li>- one Panafon user stated that he did not receive prompt service from an employee when he asked for information from the telephone directory</li> <li>- one Cosmote user stated that when he had asked for information concerning the use of his handset, he did not get it</li> <li>- Teletet users did not mention any problems</li> </ul>	<ul style="list-style-type: none"> <li>- the majority of the participants stated they are pleased with employees</li> <li>- one Panafon user, when he called customer service to get some information concerning the use of his handset, employees did not help him</li> <li>- a Cosmote user also had problems with an employee</li> <li>- Teletet users did not have any problems with the employees</li> </ul>	<ul style="list-style-type: none"> <li>- most of them have never met an employee too busy to respond to their requests</li> <li>- one Panafon user stated that the line at Panafon customer service is always busy</li> <li>- one Cosmote user mentioned that employees in the shops and especially general stores are sometimes busy and don't help customers properly</li> </ul>

**Table 37: Assurance, Focus Group Participants Expectations and Importance**























CITY	ITEM 14		ITEM 15		ITEM 16		ITEM 17	
	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/ce
<b>Athens</b>	- all of the participants expected their operators to have employees instilling confidence	●	- all of the participants expected to feel safe in their transactions	●	- all of the participants expected courteous employees - two Cosmote users stated they had lower expectations because it is a public company	● ◐	- all of the participants expected employees to have the necessary knowledge and skills to serve them	◐
<b>Thes/i</b>	- they all expected to find employees whose behaviour instils confidence	●	- all expected to feel safe in their transactions	●	- all expected to be courteous.	●	- all expected to find employees with the necessary knowledge and skills	◐
<b>Larisa</b>	- all of the participants expected mobile companies' employees to instil confidence	●	- all expected to feel safe in their transactions	●	- all expected to find employees constantly courteous	●	- they all expected to find employees who have the knowledge and skills to serve them	●
<b>Patra</b>	- all of the participants expected employees' behaviour to instil confidence	●	- all expected to feel safe in their transactions	●	- all expected to find consistently courteous employees - two Cosmote users stated they had lower expectations because in the public sector in Greece you seldom find courteous employees	● ◐	- all expected to find employees with the necessary knowledge and skills - two Cosmote users expressed lower expectations	● ◐

**Table 38: Assurance, Focus Group Participants Perceptions**

CITY	ITEM 14 Perceptions	ITEM 15 Perceptions	ITEM 16 Perceptions	ITEM 17 Perceptions
<b>Athens</b>	- all of the participants stated that they have never come across employees whose behaviour was not instilling confidence in them.	- Cosmote users mentioned that they feel safer with Cosmote because it is a public organisation (a subsidiary of Greek PTT) - one of them mentioned that he does not feel safe with Cosmote because of the economic scandals of the Greek PTT revealed some years ago	- most of the participants stated that they have always come across polite and gentle employees - one Panafon user complained about an employee with rude behaviour who however at last gave the information asked	- most of the participants stated they were pleased with the knowledge of the employees - one stated that the technical knowledge of the employees is limited and if one has a technical question to ask and it is outside working hour to call directly to the operator the 24-hour service employees cannot answer it
<b>Thessaloniki</b>	- Panafon users mentioned that in most cases employees' behaviour did not instil confidence - Telestet and Cosmote users do not have this problem	- Panafon users who have found mistakes in their bills and have paid the same bill twice did not feel at all safe in their transactions - the others who did not have such problems felt more safe, however not very safe because of what they had heard from friends and relatives	- one stated that an employee at Unifon, a distributor of Panafon, was rude when he went to buy the service - Panafon users mentioned that employees at customer service are not courteous - some stated that the employees in the small shops are more courteous than in the chain stores	- all agreed that employees at small shops even in the big chain stores do not have the technical knowledge to help them to use their handsets, they just give them the manuals to read - only Germanos (a big chain store) has employees with technical knowledge - not all of the employees at the customer service of the operators have technical knowledge
<b>Larisa</b>	- the participants stated that employees' behaviour in most cases instils confidence in them	- Panafon and Telestet users after all the mistakes in their bills did not feel safe in their transactions - Cosmote users felt because no mistakes were made and even if they did not pay a bill their phone was not disconnected and their debt was immediately incorporated in the next bill	- Panafon and Telestet users agreed that most of the employees in these companies are not courteous - one Cosmote user mentioned that employees are not always courteous with customers	- all agreed that the employees do not have the necessary knowledge and skills. They have to read the manuals to understand the service and the use of their handsets and this is tiring

CITY	ITEM 14	ITEM 15	ITEM 16	ITEM 17
	Perceptions	Perceptions	Perceptions	Perceptions
Patra	<ul style="list-style-type: none"> <li>- most of them came across employees instilling confidence in them</li> <li>- one user stated that sometimes employees in the shops try to sell the most expensive packages which are not always the most appropriate for customers' needs</li> </ul>	<ul style="list-style-type: none"> <li>- one Panafon user stated that after all the mistakes in his bills he did not feel safe</li> <li>- Cosmote users mentioned that they felt very safe and even if they did not pay a bill the company did not disconnect their phones</li> <li>- Telestet users did not mention any problems</li> </ul>	<ul style="list-style-type: none"> <li>- most of the participants stated that employees have always been courteous with them</li> <li>- Cosmote users mentioned that although it is public and employees have no reason to be courteous (losing their job, negative evaluation, etc.) in most cases they are courteous</li> </ul>	<ul style="list-style-type: none"> <li>- all agreed that in many cases the technical knowledge of employees at the shops is not the appropriate and they have only selling skills</li> <li>- some employees at customer service of Panafon and Cosmote do not have appropriate technical knowledge</li> </ul>

**Table 39: Empathy, Focus Group Participants Expectations and Importance**


CITY	ITEM 18		ITEM 19		ITEM 20		ITEM 21		ITEM 22	
	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/ce	Expectations	Im/ce
<b>Athens</b>	- most of the participants did not really expected individual attention from their mobile operators, however they would like to have it		- all of the participants expected 24 hours and 7 days per week service from their operator		- participants expected employees to give them personal attention		- all of the participants expected their operators to have their best interest at heart.		- all of the participants expected to find employees who understand their specific needs	
<b>Thes/i</b>	- they expected attention, however individual attention may be too much to ask		- all expected 24 hours and 7 days per week service from their operators		- they expected personal attention from employees		- all expected their operators to have their best interest at heart		- all expected employees to understand their specific needs	
<b>Larisa</b>	- they expected to get first at least some attention and then to ask for individual attention		- all expected their operators to offer service 24 hours per day and 7 days per week		- all expected to receive personal attention from employees		- they all expected their operators to have their best interest at heart		- all expected employees to understand customers' specific needs	
<b>Patra</b>	- all expected their mobile operators to give them individual attention - two Cosmote users stated that they had lower expectations		- all expected 24 hours per day and 7 days per week service.	 	- all expected employees to give them personal attention - two Cosmote users had lower expectations because it is a public company	 	- all expected mobile operators to have their best interests at heart		- they all expected employees to understand their specific needs	


**Table 40: Empathy, Focus Group Participants Perceptions**



CITY	ITEM 18	ITEM 19	ITEM 20	ITEM 21	ITEM 22
	Perceptions	Perceptions	Perceptions	Perceptions	Perceptions
<b>Athens</b>	<ul style="list-style-type: none"> <li>- they do not receive individual attention, they do not face them as unique individuals</li> <li>- all customers are treated in a common way</li> <li>- it may be the only way since the operators have thousands of customers</li> </ul>	<ul style="list-style-type: none"> <li>- the participants stated that they have 24 hours and 7 days per week service from their operators, however the quality of this service could be better</li> </ul>	<ul style="list-style-type: none"> <li>- most of the participants stated that employees give them attention and in most cases they try to do their best</li> <li>-Cosmote users stated that employees do not really show personal attention, however this always happens in the public sector in Greece</li> </ul>	<ul style="list-style-type: none"> <li>- all of the respondents agreed that they do not feel that their operators have their best interest at heart.</li> <li>- operators mainly care for their profits</li> </ul>	<ul style="list-style-type: none"> <li>- most of the participants agreed that employees in most cases try to understand their needs and resolve their problems</li> <li>- one Panafon stated that an employee did not have the technical knowledge to understand his problem</li> </ul>
<b>Thess/i</b>	<ul style="list-style-type: none"> <li>- Panafon users stated that they get no attention at all</li> <li>- the users of the other companies feel that they get attention however not individual attention</li> </ul>	<ul style="list-style-type: none"> <li>- all agreed they have 24 hours and 7 days per week service from their operators</li> <li>- Panafon users stated that during the day they have difficulties to call customer service because the line is always busy. At night it is easy to call, but they need it during the day</li> </ul>	<ul style="list-style-type: none"> <li>- most Panafon users stated that they do not find any attention at all</li> <li>- Cosmote and Telestet users stated that employees give them attention, however not really personal attention</li> </ul>	<ul style="list-style-type: none"> <li>- most Panafon users stated that it cares only for profit and its only aim is to get their money and give them as less as possible</li> <li>- Cosmote and Telestet users stated that their operators care for them, but they don't have their best interest at heart, they care more for their profits</li> </ul>	<ul style="list-style-type: none"> <li>- Panafon users stated that employees are not interested in understanding their need</li> <li>- Cosmote and Telestet users stated that employees understand their specific needs and in most cases answer their questions and resolve their problems</li> </ul>
<b>Larisa</b>	<ul style="list-style-type: none"> <li>- all agreed that they don't get individual attention from any of the three mobile operators</li> </ul>	<ul style="list-style-type: none"> <li>- operators have a 24hour service available every day of the week, however the quality of this service is not appropriate</li> </ul>	<ul style="list-style-type: none"> <li>- Panafon and Telestet users stated that they do not receive any attention at all</li> <li>- Cosmote users stated that they do not receive really personal attention</li> </ul>	<ul style="list-style-type: none"> <li>- Telestet users do not trust their operator and they feel that it cares only for profits</li> <li>-one Cosmote user stated that it is a company of Greek interests, it does not have its customers' best interest at heart, but the bills are accurate and it does not steal</li> </ul>	<ul style="list-style-type: none"> <li>- Telestet and Panafon users stated that employees do not understand their specific needs</li> <li>- one Cosmote user mentioned that employees understand customers' needs</li> <li>- another Cosmote user disagreed</li> </ul>

CITY	ITEM 18	ITEM 19	ITEM 20	ITEM 21	ITEM 22
	Perceptions	Perceptions	Perceptions	Perceptions	Perceptions
Patra	<ul style="list-style-type: none"> <li>- one stated that they get individual attention</li> <li>- another stated that very few companies in Greece and mostly small ones offer individual attention</li> </ul>	<ul style="list-style-type: none"> <li>- all stated that their mobile operators offer service all the days of the week and on a 24 hours basis</li> </ul>	<ul style="list-style-type: none"> <li>- all agreed that employees do not always give them personal attention</li> <li>- a Panafon and a Cosmote user stated that employees at customer service do not give personal attention</li> </ul>	<ul style="list-style-type: none"> <li>- they stated that operators do not really have their best interest at heart</li> </ul>	<ul style="list-style-type: none"> <li>- they stated employees have a general approach, they try to understand customer needs, however they do not resolve special problems</li> </ul>



 : not very important

 : very important

  
 : half of the participants stated that it is not very important and the other half that it is very important

Item 1: Mobile Telephony companies with visually appealing physical facilities

Item 2: Employees with professional and neat appearance

Item 3: Materials associated with the service (manuals, pamphlets, statements) visually appealing and easy to understand

Item 4 : Mobile handsets visually appealing, of high quality and user friendly.

Item 5 : Mobile telephony companies providing services at the promised time

Item 6 : When customers have problems showing a sincere interest in solving them.

Item 7 : Providing excellent coverage

Item 8 : Providing value added services such as e-mail, Internet, e-commerce, voice mail, various. types of information (weather, sports, stock exchange etc.)

Item 9 : Providing their customers accurate and error free records

Item 10 : Employees of mobile telephony companies' telling customers exactly when services will be performed.

Item 11. Employees of mobile telephony companies' giving prompt service to customers

Item 12 : Employees of mobile telephony companies' always be willing to help customers

Item 13 : Employees of mobile telephony companies' never be too busy to respond to customers' requests

Item 14: Employees with behaviour that instils confidence in customers

Item 15 : Customers feeling safe in their transactions

Item 16 : Employees consistently courteous with customers

Item 17 : Employees having the knowledge and skills to serve customers

Item 18. Mobile Telephony companies giving customers individual attention

Item 19. Operating 24 hours per day, 7 days a week

Item 20 : Having employees who give personal attention to customers.

Item 21. Mobile Telephony companies having their customers' best interests at heart

Item 22: Mobile telephony companies employees understanding customers' specific needs

In **Table 41**, participants perceptions concerning the overall service quality, price, risk, perceived service value, their satisfaction and their repurchase intentions are presented

**Table 41: Participants Perceptions on Overall SQ, Value, Price, Risk, their Overall Satisfaction and Stated Repurchase Intention**

CITY	Overall SQ	Perceived Value	Price	Risk	Customer satisfaction	Stated Repurchase Intention
<b>Athens</b>	- all of the participants stated that they were pleased with the overall quality of the service	- the quality of the service was good thought the price was high and thus the value they received was not so high	- all agreed that the cost was high - a lower price was one of the two main reasons to change operator (the other was coverage)	- it was not a reason to stop using the service - a heavy user mentioned that he suffered from headaches	- all of the participants stated that overall they were satisfied with the service	- most of the participants stated that they intended to repurchase the service from their operators
<b>Thessaloniki</b>	- most Panafon users were not pleased with the overall quality of the service - Telestet and Cosmote users were pleased	- the quality of the service was good but price was high and so the value was not high	- all of the participants agreed that price was the most important factor after coverage	- they were not particularly concerned with the risk from the radiation - they did not use their mobile phones so much to be in danger	- Cosmote and Telestet users were satisfied with the service - from Panafon users all except one stated that they were dissatisfied	- Panafon users except one, intended to change operator soon as their contracts expired and most of them intended to go to Cosmote - Cosmote users did not intend to switch
<b>Larisa</b>	- Telestet and Panafon users were not pleased with the overall service quality because of the problems with coverage and customer service	- service quality was not good and the price was high, therefore the overall perceived value was low	- all agreed that prices were still very high although lately they were significantly decreased	- they were aware of the risk but they didn't consider it high, since they never had any problems - they did not use their mobiles very much	- Panafon and Telestet users were not satisfied - Cosmote users were more satisfied however not very satisfied	- one Cosmote user was previously a customer of Telestet and Panafon and had no choices left - another Cosmote user did not intend to switch because Cosmote was cheaper although he was not pleased with coverage - Telestet users stated that they chose it because of better coverage. Some intended to stay because of coverage and some were thinking to switch to Cosmote because they had good recommendations from their friends - one Panafon user stated that he chose Panafon because one of its shareholders owned his favourite football team, however when he sold his shares he switched to Cosmote. - the other Panafon users did not intend to switch
<b>Patra</b>	- all agreed that overall quality is good, however it could be much better	- service quality was good but the price was high, thus the value was not high	- all agreed that the cost of the service was high	- they were aware of risk - most stated they never had any problems - one stated health problems	- most of the users of Cosmote as well as the users of Telestet stated that they were satisfied	- Cosmote users did not intend to switch. - two Panafon users intended to switch as soon as their contract expired - Telestet users intended to stay with their mobile operator

The SERVQUAL items that proved to be important and especially those added to the model on the basis of the interviews with the marketing executives and which were examined in the pilot survey were discussed further with the focus group participants in order to examine the validity of the adapted SERVQUAL instrument and adapt it further. These items were two items under the dimension of reliability coverage and value-added services and one item under the dimension of tangibles, mobile handsets.

The focus group participants emphasised the importance of coverage, they mentioned that value added services are important and especially for business users and raised concerns about their cost. They also stressed out the importance of the mobile handsets. The comments of the focus groups participants on the above issues are presented in **Table 42**, **Table 43** and **Table 44**.

All of the participants agreed that **coverage was the most important factor** and it was definitely a reason to change operator. All of the participants expected excellent coverage from their operators, however they did not get it. The most indicative comments of the participants concerning coverage and value-added services are presented in **Table 42** and **Table 43**:

*Table 42: Comments of the Focus Group Participants on Coverage*

<b>CITY</b>	<b>Focus Group participants comments on COVERAGE</b>
<b>Athens</b>	<ul style="list-style-type: none"> <li>- None of the operators provides excellent coverage</li> <li>- There are areas in Greece where some operators have a signal and others do not</li> <li>- During holidays like Christmas and New Years Eve it is impossible to call because the network is overloaded</li> </ul>
<b>Thessaloniki</b>	<ul style="list-style-type: none"> <li>- For global roaming a credit card number with at least 500.000 Drs deposit was needed</li> <li>- Some Panafon users did not have a signal inside their homes and they had to go out to make calls. Telestet and Cosmote users did not have this problem</li> </ul>
<b>Larisa</b>	<ul style="list-style-type: none"> <li>- It seems that Greece is divided into zones and each operator has its zones. The area of Larisa is the territory of Telestet thus it has better coverage</li> <li>- Some of the participants did not have a signal inside their homes and they had to buy two or three mobile phones from different operators so as to ensure coverage</li> </ul>
<b>Patra</b>	<ul style="list-style-type: none"> <li>- In some villages there is no signal</li> <li>- Panafon has the best coverage from all the other operators all over Greece (according to a user whose job requires a lot of travelling)</li> <li>- Cosmote users did not have problems with coverage</li> <li>- The advertisements of the operators promise excellent coverage, especially the one of Telestet, but they don't give it</li> </ul>

**Table 43: Comments of the Focus Group Participants on Value-Added Services**

CITY	Focus Group participants comments on VALUE-ADDED SERVICES
<b>Athens</b>	<ul style="list-style-type: none"> <li>- More value added services are needed they are important for business users</li> <li>- Prices of some of these services should be lower</li> <li>- Messaging services should be free of charge</li> </ul>
<b>Thessaloniki</b>	<ul style="list-style-type: none"> <li>- Operators should offer value-added services</li> <li>- The cost is high</li> <li>- Cosmote offered messaging service free of charge</li> <li>- They are important for business users</li> </ul>
<b>Larisa</b>	<ul style="list-style-type: none"> <li>- You need technical knowledge to use services such as e-mail and Internet</li> <li>- Fax and e-mail are essential for business users</li> </ul>
<b>Patra</b>	<ul style="list-style-type: none"> <li>- Messaging service and stock exchange information are very important</li> </ul>

All of the participants agreed that **mobile handset** is very important. The most indicative comments of the focus group participants are presented analytically in **Table 44**.

**Table 44: Focus Group Participants Views Concerning Mobile Handsets**

<b>CITY</b>	<b>Focus Group participants comments on MOBILE HANDSETS</b>
<b>Athens</b>	<ul style="list-style-type: none"> <li>- An offer of a handset they liked was the reason they chose their operator</li> <li>- The presents companies give together with the mobile handsets can be a reason to choose an operator</li> <li>- A good handset on offer is a sufficient reason to change operator</li> <li>- Each operator has different mobile handsets on offer and thus their prices vary</li> </ul>
<b>Thessaloniki</b>	<ul style="list-style-type: none"> <li>- Mobile handset is fashion and style and it can be used for various other uses e.g. as an agenda a calculator etc.</li> <li>- Mobile handsets on offer can be the reason to choose operators and to change operator</li> <li>- Men care more for the features of the handsets, they prefer them bigger, black or silver</li> <li>- Women care more for the appearance and the colour, they like small sizes and they prefer simple and easy to use handsets</li> </ul>
<b>Larisa</b>	<ul style="list-style-type: none"> <li>- Mobile handsets on special offer can be the reason to choose operator and can be a reason to change operator</li> <li>- Mobile handsets have technical problems, their batteries do not last for many hours</li> <li>- Mobile handsets must be dual-band to work with all the networks, but these handsets cost too much</li> </ul>
<b>Patra</b>	<ul style="list-style-type: none"> <li>- Mobile handsets on special offer can be the reason to choose operator and to change operator</li> </ul>

In addition, during the focus groups the importance of some serious problems with customer service (customer care) were indicated, errors in the monthly bills were further discussed and investigated. The issue of price was also widely discussed because all the focus group participants agreed that price is a very important factor and they mentioned that they considered prices high. The health risk of using the service deriving from the radiation of the handset, which in the pilot survey did not prove to be important, was also discussed. This risk seemed to be more important for heavy users, who stated that they suffered from headaches. However, most of the focus groups participants agreed that they are not yet sure how serious it is. Furthermore, the participants repurchase intention was discussed. The comments of the focus groups participants on these issues are presented in **Table 45, Table 46, Table 47, Table 48** and **Table 49**.

All of the participants expected to receive excellent service from their operators. Only the users of Cosmote stated that they had lower expectations because it is a public company and in the public sector in Greece you do not get good services. The participants did not always receive good service. Operators have

failed to meet their expectations in most of the attributes. Operators did not show a sincere interest to solve their problems. Especially the users of Panafon faced this problem. A general problem common for the three operators was that in all cities participants could not contact customer service because the lines were always busy. Furthermore, employees were not always courteous with customers and they did not have the appropriate technical knowledge to help customers. The most indicative comments of the focus group participants concerning **customer service** are presented in **Table 45**:

*Table 45: Comments of the Focus Group Participants on Customer Service*

<b>CITY</b>	<b>Focus Group participants comments on CUSTOMER SERVICE</b>
<b>Athens</b>	<ul style="list-style-type: none"> <li>- Companies do not care for us</li> <li>- Operators do not resolve our problems, it would be enough for us that our problems are finally resolved</li> </ul>
<b>Thessaloniki</b>	<ul style="list-style-type: none"> <li>- In Panafon customer service 'does not exist', they never give help and their lines are always busy</li> <li>- None of the three companies has employees having the knowledge and skills to serve customers</li> <li>- In case a new operator with specialised staff entered the market most of the participants would switch</li> <li>- It is important to find attention, however individual attention at this point may be too much to ask</li> <li>- There is not much choice, there are only three operators and they offer almost similar services</li> </ul>
<b>Larisa</b>	<ul style="list-style-type: none"> <li>- The line is always busy at customer service in Panafon</li> <li>- Operators do not give attention to their customers</li> <li>- What is really important is to get some attention</li> <li>- In some shops selling general goods employees are often busy with customers buying more expensive things</li> <li>- One Cosmote user stated that when he went to buy the service the employee ignored him because he was busy with other customers</li> <li>- Operating 24 hours per day, 7 days a week, is very important because mobiles are used day and night and in cases of emergency</li> </ul>
<b>Patra</b>	<ul style="list-style-type: none"> <li>- Customer service could be better</li> <li>- Operators do not have the right employees</li> <li>- If a new operator who has employees understanding customers' specific needs enters the market it is a reason to change operator</li> <li>- Operating during the day is enough, especially if this could decrease the cost of the service</li> <li>- Operators should give more in terms of customer service and attention to their customers</li> <li>- Operators have gained a lot of money and they could invest some of this money and offer to their customers a much better service, but they do not</li> </ul>

Another very important attribute for all the participants was error free records. However, Panafon and Telestet did not always sent error free records. This problem seemed to be more serious outside Athens. Some indicative views of the participants concerning error free records are presented in **Table 46**.

*Table 46: Comments of the Focus Group Participants on Error Free Records*

<b>CITY</b>	<b>Focus Group participants comments on ERROR FREE RECORDS</b>
<b><i>Thessaloniki</i></b>	<ul style="list-style-type: none"> <li>- Some Panafon users were asked to pay the same bill twice</li> <li>- All Panafon users complained about bills arriving late and many times after their expiration date</li> <li>- One Panafon user mentioned that the bill never arrived to her home and the operator forced her to go to his premises to pay it, otherwise her phone would be disconnected</li> </ul>
<b><i>Larisa</i></b>	<ul style="list-style-type: none"> <li>- One Telestet user stated that Telestet had sent him a very high bill and when he called to complain the company admitted that it was a mistake, however they told him that he should pay the bill first and then get his money back, otherwise his phone would be disconnected</li> <li>- One Panafon user stated that the bills arrived late</li> </ul>
<b><i>Patra</i></b>	<ul style="list-style-type: none"> <li>- One Panafon user stated that the company made mistakes</li> <li>- Another Panafon user complained that his operator asked him to pay the same bill twice</li> <li>- One of the participants was a customer of Telestet but he had to change because the bills arrived after their expiration date and his phone was disconnected</li> <li>- Also a user of Panafon mentioned this problem</li> <li>- Operators should inform customers about the total duration of their calls in advance each month, by sending them messages, so as to know what they have to pay</li> </ul>

The comments of the participants of the focus groups on price are presented in **Table 47**.

**Table 47: Comments of the Focus Group Participants on Price**

<b>CITY</b>	<b>Focus Group participants comments on PRICE</b>
<b>Athens</b>	<ul style="list-style-type: none"> <li>- Fixed monthly fee and the cost per unit are both very high</li> <li>- Prices should decrease to the prices of fixed telephony</li> <li>- One Cosmote user stated that it is the cheapest because it is public and can sell in lower prices</li> <li>- Another participant supported that Telestet had better offers</li> <li>- Another said that pricing is tricky, different operators give different prices for the fixed monthly fee, cost per unit and for the mobile handsets and customers can not figure out what is the cheapest package</li> <li>- Some services cost a lot for example for global roaming you had to pay a warranty 150.000 Drs</li> <li>- The WAP service was also considered expensive</li> </ul>
<b>Thessaloniki</b>	<ul style="list-style-type: none"> <li>- The customers of Telestet bought their mobiles because of special offers such as free handsets, cheaper connections and presents such as TVs, radios etc.</li> </ul>
<b>Larisa</b>	<ul style="list-style-type: none"> <li>- Price was considered the most important factor after coverage</li> <li>- Price was also considered the most important reason to change operator.</li> </ul>
<b>Patra</b>	<ul style="list-style-type: none"> <li>- All of the participants agreed that prices are still very high although lately they were significantly decreased</li> <li>- Pricing is very confusing and a lot of different packages exist</li> </ul>

The comments of the focus groups participants concerning risk are presented in **Table 48**.

**Table 48: Comments of the Focus Group Participants on Risk**

<b>CITY</b>	<b>Focus Group participants comments on RISK</b>
<b>Athens</b>	<ul style="list-style-type: none"> <li>- Not yet sure how serious is the risk from radiation of the mobile handsets</li> <li>- A heavy user stated that she suffered from headaches</li> </ul>
<b>Patra</b>	<ul style="list-style-type: none"> <li>- A user who used his mobile more than two hours every day stated that he suffered from headaches</li> <li>- Companies should adopt security measures against radiation and they should do something to solve this problem.</li> <li>- There are some mobile handsets with high antennas to receive the signal higher and small headphones, however they do not really solve the problem</li> </ul>

The characteristic comments of some of the participants of the focus groups concerning repurchase intentions are presented in **Table 49**.



**Table 49:** *Comments of the Focus Group Participants on Repurchase Intentions*

<b>CITY</b>	<b>Focus Group participants comments on REPURCHASE INTENTIONS</b>
<b><i>Athens</i></b>	<ul style="list-style-type: none"> <li>- Two of the participants intended to switch to Cosmote because it is public and they feel secure since private companies change</li> <li>- One stated that it is also a matter of pride because Cosmote is Greek</li> <li>- One participant stated that he had chosen Panafon because one of its shareholders was the owner of his favourite football team.</li> <li>- Some participants stated that it is not easy to change operator because you have to change number and this is a great inconvenience because colleagues and friends use mobile numbers even more than fixed numbers. If this problem did not exist they would more easily consider changing</li> <li>- Most of the participants mentioned that their friends and relatives influenced them to choose or change mobile operator</li> </ul>
<b><i>Thessaloniki</i></b>	<ul style="list-style-type: none"> <li>- Most of the participants stated that recommendations from their family and from friends are very important and can influenced them to choose and can influence them to change their mobile operators</li> </ul>

In addition, some general comments of the focus group participants concerning the advantages and the disadvantages of the mobile telephony service and the three mobile operators as well as the evaluations of the participants for each one of them are presented in **Table 50** and **Table 51**.

Some general comments of the participants concerning the advantages and the disadvantages of mobile telephony are presented in **Table 50**.

**Table 50: Advantages and Disadvantages of the Mobile Telephony Service According to the Focus Group Participants.**

<b>CITY</b>	<b>ADVANTAGES and DISADVANTAGES of mobile telephony</b>
<b>Athens</b>	<ul style="list-style-type: none"> <li>- Mobile phones have become a part of daily life and give accessibility, convenience and security.</li> <li>- Women mostly need security</li> <li>- Parents can control their children any time</li> <li>- They have caused a lot of stress to people and there are people all around with mobile phones in their hands everywhere</li> <li>- It is not always an advantage to be reached any time by anyone</li> </ul>
<b>Thessaloniki</b>	<ul style="list-style-type: none"> <li>- Mobile telephony service has become absolutely necessary and it is now a part of peoples' lives</li> </ul>
<b>Larisa</b>	<ul style="list-style-type: none"> <li>- Mobile telephony service has entered in daily life and it has significantly changed it</li> <li>- Women feel secure when they have their mobile with them</li> <li>- Men said that they can check their wives with the mobile so they ask them to carry it always with them</li> <li>- Farmers mentioned that when they did not have mobile phones and a farming machine broke down while working in the fields they had to walk miles to bring help</li> </ul>
<b>Patra</b>	<ul style="list-style-type: none"> <li>- Mobile telephony service has become very important and has changed peoples' lives</li> <li>- They have got used to their mobile phones and now they cannot do without them</li> </ul>

Some general comments of the participants concerning mobile operators are presented in **Table 51**.

**Table 51: Comments of the Focus Group Participants Concerning Greek Mobile Operators**

<b>CITY</b>	<b>Focus Group participants comments concerning the OPERATORS</b>
<b>Athens</b>	<ul style="list-style-type: none"> <li>- Teletet was considered the oldest and the pioneer in every new service (prepaid, satellite), but it is managed by Italians</li> <li>- Panafon is copying Teletet but Panafon is the biggest</li> <li>- Cosmote is constantly growing, it is public and offers security, also it has the infrastructure and the support of the Greek PTT and has the possibility to grow very much</li> </ul>
<b>Thessaloniki</b>	<ul style="list-style-type: none"> <li>- Cosmote is a public company and offers security because it is a subsidiary of the Greek PTT, it has also a great potential to grow quickly and steadily and has the power to close down its competitors</li> <li>- Panafon is the pioneer in the market and it is the first one to launch new services</li> </ul>
<b>Larisa</b>	<ul style="list-style-type: none"> <li>- Cosmote is the cheapest</li> <li>- Teletet has the best coverage in Thessalia (Larisa is the capital of Thessalia)</li> </ul>
<b>Patra</b>	<ul style="list-style-type: none"> <li>- Cosmote was considered the cheapest</li> <li>- Cosmote was preferred because it is public</li> <li>- Panafon was preferred because one of its shareholders was the owner of a popular football team, however when he gave up his shares some of the users switched. However, now that he has got his shares back they are thinking of returning.</li> <li>- Panafon is the biggest company and the pioneer in the sector and because it is private it can grow faster than a public company</li> <li>- Teletet is the most serious mobile operator, 'big and secure' as mentioned in the TV</li> </ul>

It should be mentioned that in the Group of Thessaloniki some users of Panafon were really disappointed and by expressing their anger and frustration they sometimes attempted to monopolise the discussion.

In the following a summary of the key findings which arose from the focus group research will be presented.

### **6.1.1 Key Findings of the Focus Group Research**

The 22 items of the five dimensions of the adapted SERVQUAL instrument (tangibles, reliability, responsiveness, assurance and empathy) were assessed for measuring service quality in the mobile telephony sector. The participants expressed their expectations and their perceptions and they evaluated the importance of the items.

The results showed that the participants had high expectations on all service attributes included in SERVQUAL. Their expectations were less high in tangibles. However, operators did not meet participants' expectations in most service attributes and their expectations were mostly met in tangibles.

Concerning the dimensions of responsiveness, assurance and empathy, the participants expected their operators to function 24 hours per day, 7 days a week, as well as to give them attention, prompt service, to feel safe in their transactions, contact courteous employees not too busy to help them who could understand their specific needs. However, operators did not show a sincere interest to solve their problems and employees did not have the appropriate technical knowledge to help them and they were not always courteous with them. The users of Panafon in particular had the most serious problems with customer service and the behaviour of employees. Another problem common for the three operators was that in all cities participants had difficulties in contacting customer service because the lines were busy.

From the items in the dimension of reliability, error free records were considered a very important attribute for all the participants. However, Panafon and Teletet did not always send error free records and this problem seemed to be more serious outside Athens.

Concerning the items added in SERVQUAL, coverage, value-added services and mobile handsets, the focus group participants mentioned that value added services are important especially for business users and raised concerns about their cost. They also stressed the importance of the mobile handsets and mentioned that the mobile handsets on offer could be the reason for choosing a particular operator and for changing operators. All of the participants agreed that coverage was the most important factor and it was definitely a reason to change operator, however operators did not offer good coverage. Furthermore, they agreed that all the adapted SERVQUAL items were meaningful and adequately defined mobile telephony service quality and they had no more attributes to add.

Price was considered to be the most important factor after coverage. The participants mentioned that prices were very high and they should be similar to the prices of fixed telephony. In addition, pricing was considered tricky, since different operators gave different prices and customers could not figure out what was the cheapest package.

Health risk deriving from the use of the service proved to be important for heavy users since they stated that they suffered from headaches. At the moment there are not many heavy users but if in the future their number increases, this may cause serious problems and subscribers may cease or diminish the use of the service just to protect themselves even if the quality of the service is high.

Concerning participants' repurchase intention, most of the Panafon users intended to change operator when their contract expires. Telestet users did not intend to change and Cosmote users although they were not very satisfied they also did not intent to change operator.

The way participants think about Cosmote was rather unexpected, since they stated that they had lower expectations because it is a public company and the public sector in Greece always offers low service quality. In spite of that, they felt more secure dealing with a public organisation and were ready to accept a lower level of service. Telestet was considered the most serious mobile operator, 'big and secure' as mentioned in the TV and also the oldest and the pioneer in every new service, however, the fact that it is managed by Italians did not seem to be well accepted. Panafon was considered the biggest and the pioneer in the market, however it was also mentioned that it is copying Telestet. Another issue revealed is that Panafon had gained customers because one of its shareholders was the owner of a popular Greek football team.

It was also shown that recommendations from family and friends are very important and can influence users to choose and even to change their operators. Some participants stated that it is not easy to change operators because they have to change their number and this is a great inconvenience because colleagues and friends use their mobile numbers even more than their fixed numbers. If this problem did not exist they would more easily consider changing.

Some of the advantages of mobile phones mentioned was that women feel secure when carrying their mobiles with them and parents can check on their children any time and men can check on their wives.

## **6.2 The Results of the Final Research Survey**

The results of the final survey research are presented in three sections. The first deals with the testing of the research hypotheses, the second with the identification of the deficiencies in the mobile telephony service and the third with a comparison of the three Greek mobile telephony operators.

### **6.2.1 Testing of the Research Hypotheses**

The relationships between the variables of the research model (**Figure 8**) were examined by testing the research hypotheses (**Chapter 4.2**).

#### **Hypothesis No1**

The null hypothesis:

**H<sub>01</sub>**: Perceived value of a mobile telephony company is not influenced by expected service quality

**H<sub>1</sub>:** Perceived value of a mobile telephony company is influenced by expected service quality

### **Hypothesis No2**

The null hypothesis:

**H<sub>02</sub>:** Perceived value of a mobile telephony company is not influenced by perceived service quality

**H<sub>2</sub>:** Perceived value of a mobile telephony company is influenced by perceived service quality

### **Hypothesis No3**

The null hypothesis:

**H<sub>03</sub>:** Perceived value of a mobile telephony company is not influenced by the difference of perceived service quality and expected service quality (P-E)

**H<sub>3</sub>:** Perceived value of a mobile telephony company is influenced by the difference of perceived service quality and expected service quality (P-E)

### **Hypothesis No4**

The null hypothesis:

**H<sub>04</sub>:** Perceived value of a mobile telephony company is not influenced by perceived price

**H<sub>4</sub>:** Perceived value of a mobile telephony company is influenced by perceived price

### **Hypothesis No5**

The null hypothesis:

**H<sub>05</sub>:** Perceived value of a mobile telephony company is not influenced by the risk of using the service

**H<sub>5</sub>:** Perceived value of a mobile telephony company is influenced by the risk of using the service

Hypotheses 1 to 5 are tested and presented in **Table 52**.

**Table 52:** Relationships between Perceived Value and Different Service Quality Measures and Perceived Price and Risk.

	<b>Perceived Value</b>	<b>Significance</b>
<b>Overall Service Quality</b>	0.355	0.000
<b>Perceived SQ (PSQ)</b>	0.274	0.000
<b>P-E Difference (DSQ)</b>	0.196	0.000
<b>Expected SQ (ESQ)</b>	0.090	0.073
<b>Perceived Price</b>	-0.125	0.012
<b>Personal/physical Risk</b>	-0.052	ns

*Pearson correlation coefficients, significance: ns=not significant ( $p>.10$ )*

As can be seen in **Table 52**, perceived service value is associated with service quality, however it has a stronger association with the overall service quality

measure (OSQ1) less with the perceived quality and even less with the P-E difference. The correlation with expected service quality is extremely low, however it is marginally significant. This would suggest that respondents received something different than what they were expecting. It is also negatively associated with perceived price but not associated with perceived risk. Thus, the null hypothesis  $H_{01}$ ,  $H_{02}$ ,  $H_{03}$  and  $H_{04}$ , are rejected for perceived service quality, expected service quality the P-E difference and perceived price, but and the null hypothesis  $H_{05}$  is not rejected for perceived risk.

The relatively low correlation between perceived price and perceived value might suggest that respondents might accept to pay a high price for a technological innovative service such as mobile telephony. The inexistence of an association between physical risk and value strengthened the results of the focus group research that mobile telephony users do not take into consideration the physical risk deriving from the radiation of the mobile handset, at least at their current low usage levels, however heavy users took this risk into consideration.

In **Table 53** the relationships between perceived value and the different weighted service quality measures are presented.

*Table 53: Relationships between Perceived Value and Different Weighted Service Quality Measures*

	Perceived Value	Significance
<b>Weighted Perceptions (WPSQ)</b>	0.232	0.000
<b>Weighted P-E Difference (WDSQ)</b>	0.177	0.000
<b>Weighted Expectations (WESQ)</b>	0.116	0.020

*Pearson correlation coefficients*

In **Table 53**, it can be seen that the association between perceived value and the weighted service quality measures is lower than that of the non weighted measures, therefore it can be concluded that weighting does not help to gain greater insight into the link between quality of service and perceived value. However, particularly weighted expectations were significantly associated with perceived value and non-weighted expectations were not.

### **Hypothesis No6**

The null hypothesis:

$H_{06}$ : Customer satisfaction of a mobile telephony company is not influenced by perceived value

$H_6$ : Customer satisfaction of a mobile telephony company is influenced by perceived value

Hypothesis 6 is tested and presented in **Table 54**.

**Table 54:** The Relationship Between Customer Satisfaction and Perceived Value

	<b>Customer Satisfaction</b>
<b>Perceived Value</b>	0.358

*Pearson correlation coefficients, significance  $p = .000$*

From **Table 54**, can be seen that customer satisfaction is associated with perceived value. Thus the null hypothesis **H<sub>06</sub>** is rejected.

### Hypothesis No7

The null hypothesis:

**H<sub>07</sub>**: Repurchase intention is not influenced by customer satisfaction

**H<sub>7</sub>**: Repurchase intention is influenced by customer satisfaction

Hypothesis 7 is tested and the results are presented in **Table 55**.

**Table 55:** The Relationship Between Customer Satisfaction, Repurchase Intention and Positive Word-of-Mouth

	<b>Repurchase Intention</b>	<b>Positive Word of Mouth</b>
<b>Customer Satisfaction</b>	0.384	0.440

*\* Pearson correlation coefficients, significance  $p = .000$*

From **Table 55**, it can be seen that positive word of mouth and repurchase intention are associated with customer satisfaction. Thus, the null hypothesis **H<sub>07</sub>** is rejected.

In a few cases, although respondents stated dissatisfied, they rated their repurchase intention high. Taking into consideration the respondents comments in the focus group research, it can be concluded that these respondents might have had other reasons to repurchase such as:

- 1) They did not want to change their mobile number, because they used it for business or even for personal reasons
- 2) They were previously customers of the other mobile operators and they were generally dissatisfied with all the operators
- 3) They wanted to support a certain operator because of personal reasons, (it was public and they felt national pride and/or increased security, or one of its shareholders was the owner of their favourite football team).

There were also a few cases of respondents who were very satisfied but stated low repurchase intention. The possible reasons for this might be:

- a) Lower prices from another operator
- b) A mobile handset on special offer by another mobile operator or free gifts.



However, the correlation between customer satisfaction and positive word-of-mouth is higher (.440), showing that dissatisfied respondents would not recommend their operator to relatives and friends.

**Hypothesis No8.1**

The null hypothesis:

**H<sub>08.1</sub>**: Repurchase intention is not influenced by:

- a. Perceived service quality,
- b. Expected service quality
- c. The (P–E) difference

**H<sub>8.1</sub>** Repurchase intention is influenced by:

- a. Perceived service quality,
- b. Expected service quality
- c. The (P–E) difference

Hypotheses 8.1 is tested and the results are presented in **Table 56**.

**Table 56:** *The Relationship Between Repurchase Intention and the Different Service Quality Measures.*

	<b>Repurchase Intention</b>	<b>Significance</b>
<b>Overall Service Quality</b>	0.406	0.000
<b>Perceived SQ</b>	0.247	0.000
<b>P-E Difference</b>	0.159	0.001
<b>Expected SQ</b>	0.107	0.033

*Pearson correlation coefficients*

**Table 57:** *The Relationship Between Positive Word Of Mouth and the Different Service Quality Measures.*

	<b>Positive Word of Mouth</b>	<b>Significance</b>
<b>Overall Service Quality</b>	0.499	0.000
<b>Perceived SQ</b>	0.340	0.000
<b>P-E Difference</b>	0.280	0.000
<b>Expected SQ</b>	0.060	ns

*Pearson correlation coefficients, significance: ns=not significant (p>.10)*

In **Table 56**, can be seen that there is a lower correlation between difference scores and repurchase intention than the correlation between the single measure of overall service quality and the perceived service quality which is higher. These results are in accordance with the results of **Liljander and Strandvik (1992)** and **Danaher and Haddrell (1996)**. They found that the correlation of the disconfirmation scale with the overall evaluation/likeliness to return/likeliness to recommend variables was lower than the correlation of the perception scale. There is also a low correlation between expected service quality and repurchase intention. This would suggest that respondents received something different and not related to what they were expecting. This might suggest that Greek mobile operators raise customers' expectations high e.g.

through advertising and then they provide a lower level of service which can not meet customers' expectations.

The correlation between service quality measures and positive word-of-mouth is higher than that with repurchase intention (**Table 57**), showing that when service quality is low respondents would not recommend their operator to relatives and friends. However, the association of expected service quality with positive word of mouth is not significant.

On the basis of the above the null hypothesis  $H_{08.1}$  is rejected.

In **Table 58** and **Table 59**, the relationships between repurchase intention/positive word of mouth and the different weighted service quality measures are presented.

**Table 58:** Relationships between Repurchase Intention and Different Weighted Service Quality Measures.

	Repurchase Intention	Significance
Weighted Perceptions (WPSQ)	0.256	0.000
Weighted P-E Difference (WDSQ)	0.113	0.024
Weighted Expectations (WESQ)	0.187	0.000

*Pearson correlation coefficients*

**Table 59:** Relationships Between Positive Word-of-Mouth and Different Weighted Service Quality Measures.

	Positive Word of Mouth	Significance
Weighted Perceptions (WPSQ)	0.319	0.000
Weighted P-E Difference (WDSQ)	0.244	0.000
Weighted Expectations (WESQ)	0.160	0.001

*Pearson correlation coefficients*

In **Table 58**, can be seen that the correlations between the weighted quality measures and repurchase intention are less than the correlations between the non-weighted measures and repurchase intention. Here again it can be seen that weighting does not help to gain greater insight into the link between quality of service and repurchase intention. An exception is weighted expectations which exhibit a significant relationship with repurchase intention and non-weighted expectations do not. Thus, it may be said that customers' expectations become more realistic with the addition of importance weights. The same is valid for the correlation between positive word of mouth and the weighted quality measures as it can be seen in **Table 59**.

### **Hypothesis No8.2**

The null hypothesis:

**H<sub>08.2</sub>**: Repurchase intention is not influenced by:

- a. Perceived service value
- b. Perceived price
- c. The risk of using the service

**H<sub>8.2</sub>**: Repurchase intention is influenced by:

- a. Perceived service value
- b. Perceived price
- c. The risk of using the service

In **Table 60** and **Table 61**, the relationships between repurchase intention/positive word of mouth and service value are presented.

**Table 60:** Relationships Between Repurchase Intention and Service Value

	<b>Repurchase Intention</b>	<b>Significance</b>
<b>Service value</b>	0.197	0.000

*Pearson correlation coefficients*

**Table 61:** Relationships Between Positive Word Of Mouth and Service Value

	<b>Positive Word of Mouth</b>	<b>Significance</b>
<b>Service value</b>	0.297	0.000

*Pearson correlation coefficients*

In **Table 60**, it can be seen that repurchase intention is influenced by perceived value. The same is valid for 'positive word-of-mouth' (**Table 61**). Thus the null hypothesis **H<sub>08.2a</sub>** is rejected for perceived service value.

In **Table 62** it can be seen that the correlation between repurchase intention and customer satisfaction is higher than the correlation between repurchase intention and service value. In addition, when taking into consideration the P-E difference quality scores, the correlation between repurchase intention and customer satisfaction as well as the correlation between service value and repurchase intention are higher than the correlation between service quality and repurchase intention. The same is also valid for positive word-of-mouth (**Table 63**).

**Table 62:** Relationships Between Repurchase Intention, Service Quality as a P-E Difference, Service Value and Customer Satisfaction

	<b>Repurchase Intention</b>	<b>Significance</b>
<b>P-E Difference</b>	0.159	0.001
<b>Service value</b>	0.197	0.000
<b>Customer satisfaction</b>	0.384	0.000

*Pearson correlation coefficients*

**Table 63:** Relationships Between Positive Word-of-Mouth, Service Quality as a P-E Difference, Service Value and Customer Satisfaction.

	Positive Word of Mouth	Significance
<b>P-E Difference</b>	0.280	0.000
<b>Service value</b>	0.297	0.000
<b>Customer satisfaction</b>	0.440	0.000

Pearson correlation coefficients,

The relationships between personal/physical risk associated with the use of the mobile telephony service and perceived price with repurchase intention and positive word of mouth were also examined and are presented in **Table 64** and **Table 65**.

**Table 64:** Relationships Between Risk, Perceived Price and Repurchase Intention.

	Repurchase Intention	Significance
<b>Personal/physical risk to use the service</b>	-0.014	ns
<b>Perceived price</b>	-0.148	0.003

Pearson correlation coefficients, significance: ns=not significant ( $p > .10$ )

**Table 65:** Relationships Between Risk, Perceived Price and Positive Word of Mouth.

	Positive Word of Mouth	Significance
<b>Personal/physical risk to use the service</b>	-0.064	ns
<b>Perceived price</b>	-0.097	0.052

Pearson correlation coefficients, significance: ns=not significant ( $p > .10$ )

From **Table 64** and **Table 65** it can be seen that perceived price influences repurchase intention and positive word of mouth, however perceived risk does not influence them. Thus, the null hypothesis  $H_{08.2b}$  is rejected for perceived price, but the null hypothesis  $H_{08.2c}$  is not rejected for personal/physical risk. This proves for once more that mobile telephony users do not take into consideration the physical risk deriving from the radiation of the mobile handset, at least at their current low usage levels, however as it has already been mentioned heavy users do take this risk into consideration.

### 6.2.2 Identification of the Mobile Telephony Service Deficiencies

The mean values for the P-E Difference scores, perceptions, expectations and importance ratings of all the SERVQUAL items for the 400 respondents are presented in **Table 66**.

**Table 66:** Means of Perceptions, Expectations and the P-E Difference Scores

SERVQUAL Items	P-E Difference	Perceptions	Expectations	Importance
Item 1	-0.232	<b>4.005</b>	4.238	3.952
Item 2	-0.055	<b>4.007</b>	4.062	3.840
Item 3	-0.659	3.932	4.591	4.263
Item 4	-0.590	<b>4.102</b>	<b>4.692</b>	<b>4.486</b>
Item 5	-0.748	3.895	4.642	4.426
Item 6	<b>-0.859</b>	3.846	<b>4.705</b>	4.402
Item 7	<b>-1.385</b>	3.398	<b>4.783</b>	<b>4.542</b>
Item 8	-0.538	3.537	4.075	3.680
Item 9	<b>-0.888</b>	3.877	<b>4.765</b>	<b>4.525</b>
Item 10	-0.600	<b>3.985</b>	4.585	4.384
Item 11	-0.670	3.930	4.600	4.385
Item 12	-0.742	3.935	4.677	4.416
Item 13	-0.737	3.835	4.572	4.311
Item 14	-0.738	3.940	4.677	4.421
Item 15	<b>-0.807</b>	3.919	<b>4.726</b>	<b>4.466</b>
Item 16	-0.625	<b>4.065</b>	4.690	<b>4.480</b>
Item 17	-0.755	3.933	4.688	4.431
Item 18	-0.645	3.942	4.587	4.356
Item 19	-0.627	3.970	4.598	4.375
Item 20	-0.728	3.902	4.630	4.368
Item 21	-0.648	3.982	4.631	4.418
Item 22	<b>-0.847</b>	3.792	4.639	4.397

Note: Items 1-22 are presented in APPENDIX III

From **Table 66**, it can be seen that mobile operators did not meet respondents expectations in all the service attributes. As **Kotler (1994)** claimed, only if performance exceeds expectations, the customer is highly satisfied or delighted, thus it can be concluded that the three operators do not delight their customers.

On the basis of **Table 66**, respondents' five most important attributes as well as the attributes with the higher expectations and perceptions are presented in **Table 67**.

**Table 67:** Respondents Five Most Important Attributes and Attributes with the Higher Expectations and Perceptions.

<b>Most Important Attributes</b>	<b>Higher Expectations</b>	<b>Higher Perceptions</b>
<ul style="list-style-type: none"> <li>- Excellent coverage</li> <li>- Accurate and error free records</li> <li>- Mobile handsets visually appealing, of high quality and user friendly</li> <li>- Employees consistently courteous with customers</li> <li>- Feel safe in their transactions</li> </ul>	<ul style="list-style-type: none"> <li>- Excellent coverage</li> <li>- Accurate and error free records</li> <li>- Feel safe in their transactions</li> <li>- When they have problems mobile operators to show a sincere interest in solving them</li> <li>- Mobile handsets visually appealing, of high quality and user friendly</li> </ul>	<ul style="list-style-type: none"> <li>- Mobile handsets visually appealing, of high quality and user friendly</li> <li>- Employees consistently courteous with customers</li> <li>- Employees with professional and neat appearance</li> <li>- Mobile Telephony companies with visually appealing physical facilities</li> <li>- Employees telling customers exactly when services will be performed</li> </ul>

From **Table 67**, it can be seen that respondents had high perceptions in the dimension of tangibles.

On the basis of the P-E difference scores, the most significant service shortfalls were found in the following attributes:

1. Coverage
2. Accurate and error free records
3. When customers have problems mobile operators to show a sincere interest in solving them
4. Understanding customers specific needs
5. Customers feeling safe in their transactions
6. Employees having the knowledge and skills to serve customers

### 6.2.2.1 Differences in Service Deficiencies Between Cities

The mean values were also calculated for the respondents according to their residence (Athens, Thessaloniki, Larisa, Patra). The results showed that respondents from Athens expected good coverage, accurate and error free records, to feel safe in their transactions, operators to show a sincere interest to solve their problems, and visually appealing mobile handsets. They considered coverage, error free records, feeling safe in their transactions, courteous employees and operators' sincere interest to solve their problems as very important. Their expectations were not met. They had high perceptions in the dimension of tangibles (employees with professional appearance and appealing mobile handsets). The five major service shortfalls according to the respondents from **Athens** were:

1. Coverage
2. Accurate and error free records
3. Show a sincere interest in solving customer problems
4. Understand customers' specific needs
5. Giving customers personal attention

Respondents from Thessaloniki mainly expected good coverage, to feel safe in their transactions, accurate and error free records, employees always willing to help them and operators showing a sincere interest to solve their problems. They considered accurate and error free records, visually appealing mobile handsets, good coverage, employees always willing to help them and consistently courteous as the most important attributes. In addition, in Thessaloniki, respondents had high perceptions in the dimension of tangibles (employees with professional appearance and appealing mobile handsets). Operators did not satisfy their customers' expectations. The five major service shortfalls according the respondents from **Thessaloniki** were:

1. Coverage
2. Accurate and error free records
3. Showing a sincere interest in solving customer problems
4. Customers feeling safe in their transactions
5. Understand customers' specific needs

Respondents from Larisa mainly expected accurate and error free records, good coverage visually appealing mobile handsets, employees always willing to help them and whose behaviour instils confidence. They considered having visually appealing mobile handsets, accurate and error free records, good coverage, to feel safe in their transactions and employees to understand their specific needs as most important. Their expectations were not met. They had high perceptions in the dimension of tangibles (good physical facilities and visually appealing mobile handsets).

The five most important service shortfalls according to the respondents from **Larisa** were:

1. Coverage
2. Materials associated with the service to be visually appealing and easy to understand
3. Employees to understand customers specific needs
4. Show a sincere interest in solving customers problems
5. Employees never be too busy to respond to their requests

Respondents from Patras mainly expected accurate and error free records, to feel safe in their transactions, employees with behaviour that instils confidence, courteous and with the knowledge and skills to serve customers. They considered having good coverage, accurate and error free records and courteous employees with the knowledge and skills to serve them as most important. Their expectations were not fulfilled. They had high perceptions for tangibles, (physical facilities, the appearance of the employees and mobile handsets). The five major service shortfalls according the respondents from **Patras** were:

1. Coverage
2. Customers feel safe in their transactions
3. Accurate and error free records
4. Provide services at the promised time
5. Show a sincere interest in solving customers problems

#### **6.2.2.2 Differences in Service Deficiencies Between Operators**

The means of the respondents attributes' importance, higher expectations and higher perceptions were also calculated, as well as the service shortfalls for each one of the three operators, Cosmote, Panafon and Telestet and the higher scores are presented in **Table 68**, **Table 69** and **Table 70**.



**Table 68:** *Cosmote: Respondents Five Most Important Attributes, Higher Expectations and Perceptions.*

Higher Expectations	Most Important Attributes	Higher Perceptions
<ul style="list-style-type: none"> <li>- Accurate and error free records (4.754)</li> <li>- Feel safe in their transactions (4.752)</li> <li>- Employees with behaviour that instils confidence (4.693)</li> <li>- When customers have problems mobile operators to show a sincere interest in solving them (4.673)</li> <li>- Mobile handsets visually appealing, of high quality and user friendly (4.683)</li> </ul>	<ul style="list-style-type: none"> <li>- Accurate and error free records (4.574)</li> <li>- Excellent coverage (4.51)</li> <li>- Feel safe in their transactions (4.495)</li> <li>- When customers have problems mobile operators to show a sincere interest to solve them (4.489)</li> <li>- Employees always be willing to help customers (4.489)</li> </ul>	<ul style="list-style-type: none"> <li>- Employees consistently courteous with customers (4.089)</li> <li>- Operating 24 hours per day, 7 days a week (4.04)</li> <li>- Employees of mobile telephony companies' telling customers exactly when services will be performed (4.04)</li> <li>- Materials associated with the service(manuals, pamphlets, statements) visually appealing, easy to understand (4.03)</li> <li>- Mobile handsets visually appealing, of high quality and user friendly (4.02)</li> </ul>

Cosmote did not meet respondents' expectations in all the service attributes presented in **Table 68**. Cosmote mostly met their perceptions concerning visually appealing, of high quality and user friendly mobile handsets. The most significant service shortfalls of **Cosmote** were in the following attributes :

1. Coverage
2. Accurate and error free records
3. Show a sincere interest to solve customers problems
4. Employees understanding customers specific needs
5. Employees with behaviour that instils confidence in customers

**Table 69: Panafon: Respondents Five Most Important Attributes, Higher Expectations and Perceptions.**

Most Important Attributes	Higher Expectations	Higher Perceptions
<ul style="list-style-type: none"> <li>- Excellent coverage (4.559)</li> <li>- Mobile handsets visually appealing, of high quality and user friendly (4.551)</li> <li>- Employees consistently courteous with customers (4.517)</li> <li>- Accurate and error free records (4.5)</li> <li>- Feel safe in their transactions (4.441)</li> </ul>	<ul style="list-style-type: none"> <li>- Excellent coverage (4.853)</li> <li>- Accurate and error free records (4.814)</li> <li>- When they have problems mobile operators to show a sincere interest in solving them (4.802)</li> <li>- Feel safe in their transactions (4.772)</li> <li>- Employees having the knowledge and skills to serve customers (4.768)</li> </ul>	<ul style="list-style-type: none"> <li>- Mobile handsets visually appealing, of high quality and user friendly (4.034)</li> <li>- Employees with professional and neat appearance (3.989)</li> <li>- Visually appealing physical facilities (3.921)</li> <li>- Employees consistently courteous with customers (3.966)</li> <li>- Operators having their customers' best interests at heart (3.927)</li> </ul>

Panafon did not meet respondents' expectations in all the service attributes. Panafon mostly met their perceptions concerning the dimension of tangibles (mobile handsets visually appealing, of high quality and user friendly). The most significant service shortfalls of **Panafon** were found in the following attributes:

1. Coverage
2. Employees understanding customers specific needs
3. Showing a sincere interest to solve customers problems
4. Employees never be too busy to respond to customers requests
5. Employees having the knowledge and skills to serve customers

**Table 70: Telestet: Respondents Most Important Attributes, Higher Expectations and Perceptions.**

Most Important Attributes	Higher Expectations	Higher Perceptions
<ul style="list-style-type: none"> <li>- Excellent coverage (4.542)</li> <li>- Accurate and error free records (4.521)</li> <li>- Mobile telephony companies providing services at the promised time (4.504)</li> <li>- Employees of mobile telephony companies' telling customers exactly when services will be performed</li> <li>- Feel safe in their transactions (4.479)</li> </ul>	<ul style="list-style-type: none"> <li>- Excellent coverage (4.821)</li> <li>- Accurate and error free records (4.767)</li> <li>- Feel safe in their transactions (4.714)</li> <li>- Mobile handsets visually appealing, of high quality and user friendly (4.708)</li> <li>- Employees with behaviour that instils confidence (4.7)</li> </ul>	<ul style="list-style-type: none"> <li>- Mobile handsets visually appealing, of high quality and user friendly (4.034)</li> <li>- Employees consistently courteous with customers (4.223)</li> <li>- Visually appealing physical facilities (4.2)</li> <li>- Employees having the knowledge and skills to serve customers (4.175)</li> <li>- Employees with behaviour that instils confidence (4.158)</li> </ul>

In addition, Telestet did not meet customers expectations in all the service attributes. Telestet mostly met their perceptions concerning the dimension of tangibles (visually appealing mobile handsets, of high quality and user friendly, visually appealing physical facilities). The most significant service shortfalls of **Telestet** were in the following attributes:

1. Coverage
2. Accurate and error free records
3. Show a sincere interest to solve customers problems
4. Employees understanding customers specific needs
5. Provide services at the promised time

From the three mobile operators Telestet performed better (mean P-E Difference: -0,51), then came Cosmote (-0,66) and last was Panafon (-0,79).

### 6.2.3 Operators Comparison

T-tests were done to compare the means of P-E gap scores for each of the 22 SERVQUAL items among the three operators. The t-tests examined the hypotheses that the means were equal and a confidence level of 5% was chosen.

On the basis of the means of the 22 SERVQUAL P-E Scores for Cosmote, Panafon and Telestet, the most problematic items for the three companies are presented in **Table 71**.

**Table 71:** Most Problematic Service Attributes for Cosmote, Panafon and Telestet.

Cosmote		Panafon		Telestet	
Item 7	-1.285	Item 7	-1.479	Item 7	-1.332
Item 9	-0.932	Item 22	-0.971	Item 9	-0.785
Item 6	-0.842	Item 6	-0.958	Item 6	-0.727

*Note: Items 1-22 are presented in APPENDIX III*

From **Table 71**, can be seen that coverage (item 7) is the biggest problem for all the mobile operators, as well as accurate and error free records (item 9) and operators showing a sincere interest in solving customer problems (item 6).

Tangibles (visually appealing physical facilities and employees with professional and neat appearance, items 1 and 2) are high in the three companies since the mean difference scores are low as it can be seen in **Table 72**.

**Table 72:** Less Problematic Service Attributes for Cosmote, Panafon and Telestet

Cosmote		Panafon		Telestet	
Item 1	-0.218	Item 1	-0.337	Item 1	-0.091
Item 2	-0.158	Item 2	-0.062	Item 2	0.041

Table 73, the SERVQUAL items where Cosmote performs differently than Panafon on the basis of the t-tests are presented.

**Table 73:** SERVQUAL P-E items with the most significant means differences between Cosmote and Panafon (T-Test).

SERVQUAL Items	Mean Difference
Item 3	0.337
Item 10	0.24
Item 11	0.202
Item 13	0.265
Item 19	0.274

*Note: Items 1-22 are presented in APPENDIX III*

Table 73, the five attributes found, where Cosmote performs better than Panafon are:

- Materials associated with the service (manuals, pamphlets, statements) visually appealing and easy to understand (item 3)
- Operating 24 hours per day, 7 days a week (item 19)
- Employees never be too busy to respond to customer requests (item 13).
- Employees telling customers exactly when services will be performed (item 10).
- Employees giving prompt service to customers (item 11).

Thus, it can be concluded that the major problem of Panafon is its employees.

In **Table 74**, the SERVQUAL items where Cosmote performs differently than Telestet, on the basis of the t-tests, are presented.

**Table 74:** *SERVQUAL P-E items with the most significant means differences between Cosmote and Telestet.*

<b>SERVQUAL Items</b>	<b>Mean Difference</b>
<b>Item 8</b>	-0.332
<b>Item 4</b>	-0.266
<b>Item 12</b>	-0.251
<b>Item 14</b>	-0.275
<b>Item 17</b>	-0.264

*Note: Items 1-22 are presented in APPENDIX III*

The attributes where Telestet performs better than Cosmote are:

- Providing value added services such as e-mail, Internet, e-commerce etc. (item 8).
- Employees with behaviour that instils confidence in customers (item 14).
- Mobile handsets visually appealing, of high quality and user friendly (item 4).
- Employees having the knowledge and skills to serve customers (item 17).
- Employees always be willing to help customers (item 12).

In **Table 75**, the SERVQUAL items where Panafon performs differently than Telestet, on the basis of the t-tests, are presented.

**Table 75:** *SERVQUAL P-E items with the most significant means differences between Panafon and Telestet (T-Test).*

<b>SERVQUAL Items</b>	<b>Mean Difference</b>
<b>Item 3</b>	-0.356
<b>Item 8</b>	-0.435
<b>Item 13</b>	-0.442
<b>Item 17</b>	-0.45
<b>Item 19</b>	-0.371

*Note: Items 1-22 are presented in APPENDIX III*

As shown in **Table 75**, Panafon does not perform better than Telestet in any of the attributes. The attributes where Telestet performs better than Panafon are the following:

- Employees having the knowledge and skills to serve customers (item 17).
- Employees never be too busy to respond to customer requests (item 13).
- Providing value added services such as e-mail, Internet, e-commerce, voice mail etc. (item 8).
- Operating 24 hours per day, 7 days a week (item 19).
- Materials associated with the service visually appealing and easy to understand (item 3).

### 6.2.3.1 SERVQUAL Items Importance Evaluation and Operators Comparison

**Rosen and Surprenant (1998)** claimed that because direct ratings of importance often do not adequately distinguish levels of importance (customers tend to say that everything is important) and proposed a different method of assessing importance. Importance was inferred from the data themselves. Using the average satisfaction scores for each customer, the group was divided into most satisfied (the highest quartile) and least satisfied (the lowest quartile). T-tests for the differences in the means of each item were then computed to identify those items on which satisfied and dissatisfied customers differed. Three product-related items and five customer service-related items emerged as important in distinguishing those customers who were satisfied from those who were not satisfied.

Thus, the 400 respondents were separated into quartiles according to their satisfaction ratings. The first quartile with those stated high satisfaction and the second with those stated low satisfaction. T-tests were then made to identify the difference in the means of each one of the 22 SERVQUAL items.

On the basis of the t-tests for the P-E scores for the two quartiles, high and low stated satisfaction, the five most significant service attributes influencing customer satisfaction are presented in **Table 76**.

*Table 76: The Most Important Service Attributes Influencing Customer Satisfaction.*

<b>SERVQUAL ITEMS</b>	<b>Mean Difference P-E scores</b>
<b>Item 17</b>	-0.892
<b>Item 7</b>	-0.848
<b>Item 14</b>	-0.783
<b>Item 22</b>	-0.731
<b>Item 9</b>	-0.673

*Note: Items 1-22 are presented in APPENDIX III*

As can be seen from **Table 76**, according to the mean differences of the gap scores, the most important attributes influencing customer satisfaction were:

1. Employees having the knowledge and skills to serve customers (item 17)
2. Excellent coverage (item 7)
3. Employees with behaviour that instils confidence in customers (item 14)
4. Employees understanding customers' specific needs (item 22)
5. Accurate and error free records (item 9).

Most of the attributes revealed from the T-test between respondents that stated high satisfaction and respondents that stated low satisfaction were common with

those identified by the P-E gap scores as stated by respondents during the survey.

Since satisfaction is significantly correlated with repurchase intention (0.333) and positive word of mouth (0.440) it can be concluded that mobile operators by improving their performance in the attributes identified above have better chances of retaining their customers.

In **Table 77**, the performance of the operators concerning the important attributes identified by both methods is presented.

**Table 77: Most Important Service Attributes and Operators Performance (P-E)**

<b>Attributes</b>	<b>Cosmote</b>	<b>Panafon</b>	<b>Telestet</b>
Accurate and error free records	-0.932	-0.933	-0.785
Employees understanding customers' specific needs	-0.842	-0.971	-0.669
Employees with behaviour that instils confidence in customers	-0.812	-0.831	-0.537
Excellent coverage	-1.285	-1.479	-1.332
Employees having the knowledge and skills to serve customers	-0.752	-0.938	-0.488
Operators showing a sincere interest in solving customers' problems.	-0.842	-0.958	-0.727
Customers feeling safe in their transactions	-0.783	-0.915	-0.668
Mobile handsets visually appealing, of high quality and user friendly	-0.663	-0.680	-0.397
Employees consistently courteous with customers	-0.624	-0.764	-0.421

From **Table 77**, can be seen that Panafon performed worse than Telestet and Cosmote in all the attributes. Telestet performed better than Cosmote in all the attributes except from coverage.

The occupation categories of the respondents in the highly satisfied group are:

- a) 16% businessmen
- b) 1% managers
- c) 1% top executives
- d) 28% employees
- e) 18% workers
- f) 17% homemakers/retired/unemployed and
- g) 18% students

The results of a study conducted in the Greek mobile telephony sector, clustering the Greek mobile telephony users (**Blery, 1997**), showed that the best customers for the mobile operators are customers with high income, customers coming from the upper social class, those who are frequent travellers abroad,

such as managers, top executives etc., those who are working long hours outside their work premises, such as doctors, technicians (e.g. plumbers etc), those who are working long hours away from fixed telephones, such as salesmen, drivers, couriers, etc. and those who are spending long hours outside their homes every day due to work or other reasons.

It can be concluded from an initial examination, though it needs further investigation, that customer satisfaction was higher among the most unprofitable customers in the customer base.

#### **6.2.4 Comparison of the Focus Group and the Final Survey Research Results**

Comparing the attributes extracted from the survey research with the results of the focus group research it can be seen that most of the attributes are common. The focus group participants stressed the importance of the following attributes:

1. coverage
2. mobile handsets
3. error free records
4. operators solving customers' problems
5. employees with the appropriate technical knowledge

It can be seen that the results of the focus group research supported the results of the research survey. The focus groups also agreed that price significantly influenced repurchase intention. Concerning the risk deriving from the radiation of the handsets most of the focus groups participants agreed that they are not yet sure how serious it is. Only heavy users stated that they suffered from headaches. The research survey also showed that risk did not influence repurchase intention, however it should be taken into consideration that most of the mobile telephony users are not heavy users and if they increased usage and started suffering from headaches then they might have another attitude to this issue.

Concerning participants repurchase intention, the focus group research showed that recommendations from their family and from friends are very important and this can influence them to choose or even to change their mobile operators. Another issue revealed is that it is not easy to change operator because one has to also change the number. This may be one of the reasons that some of the respondents stated that they intended to repurchase the service. However, the Greek Telecommunications Committee has announced plans concerning the portability of mobile numbers when changing operators and this reason will not exist in the near future.



The research survey, like the focus group research, did not reveal significant differences between respondents living in different cities, Athens, Thessaloniki, Larisa and Patra. The only difference was that participants from Athens seemed not to have such a serious problem with error free records like participants from the other cities.

According to the research survey and the focus group research, operators generally did not meet respondents expectations in all service attributes. Operators did not offer to their customers the attributes they value most, that is, good coverage and accurate and error free records. Respondents' perceptions were mostly high in the dimension of tangibles, that is, good physical facilities, employees with professional appearance and appealing mobile handsets.

Concerning the mobile operators, the focus groups participants commented that Telestet is the most serious operator, 'big and secure' as mentioned on TV. Cosmote is a public company and offers security and is also cheap. Panafon is the biggest and one of its shareholders is the owner of a popular Greek football team and this influenced customer repurchase intention.

Of the three mobile operators, Telestet proved to perform better overall, then came Cosmote and lastly Panafon. Cosmote outperformed Panafon in all the attributes. The only attribute where Panafon outperformed Cosmote was employees with professional and neat appearance. It can be concluded that the major problem of Panafon is its employees. Panafon did not perform better than Telestet in any of the attributes. Telestet was found to outperform Cosmote in all the attributes except coverage, employees telling customers exactly when services will be performed and provision of services at the promised time.

## CHAPTER 7

### CONCLUSIONS

Mobile communication systems, a phenomenon dating from the 1980s when the first generation networks were developed, are becoming the fastest growing telecommunications application, which already competes the fixed networks in size, level of integration and complexity. However, mobile operators worldwide are losing a large percentage of their customers each year.

In Greece, the mobile telephony market has now reached its mature stage and as **Zeithaml, Berry and Parasuraman (1996)** stated, particularly for companies with an established customer base, the net return on investments in mature markets could be much higher for retention strategies than for strategies to attract new customers.

This study aimed to identify the factors influencing customers repurchase intention in the mobile telephony sector in Greece. However, it should be noted that as **Rust and Zahorik (1995)** 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 thing as actual repurchase. As mentioned in **Chapter 3.2**, apart from attitudes, social influences and pressures as well as factors internal to the individual, such as skills, abilities, emotions and also external factors, such as time, opportunity and dependence on others, may cause a discrepancy between behavioural intention and behaviour and the customer may not repurchase.

In order to carry out the study, a model was developed proposing eight research hypotheses: service value is influenced by perceived and expected service quality; by the P-E difference; by perceived price and by perceived risk; customer satisfaction is influenced by perceived value; repurchase intention is influenced by customer satisfaction; repurchase intention is influenced by perceived, expected service quality, the (P-E) difference, perceived value, price and risk. This model included value, which has not been widely examined and a limited number of researchers have incorporated value in their models. However, as **Patterson and Spreng (1997)** argued the inclusion of the value construct in models provides a richer portrayal of the dynamics surrounding satisfaction evaluations and intentions (**Chapter 3.3.3.3**).

In this study customer loyalty was defined according to the behavioural view as customers intention to repurchase (**Chapter 3.1**). In addition, service quality was defined and measured as an attitude (**Chapter 3.4.1.1**). Furthermore, service value was operationalized with a single overall measure and finally customer

satisfaction was also measured by using an overall measure, a conventional cumulative measure that is considered as reasonably valid (**Chapter 3.7.1**).

In this study the hypothetico-deductive approach was used and quantitative research was conducted using the survey methodology because the results should be representative for the whole sector. The method of personal interviewing was preferred because the questionnaire was not brief and with a mail survey there was the danger of not obtaining enough and appropriate responses (fully answered questionnaires). In addition, by personal interviewing any needed explanations were given to the respondents so that they were able to answer the questionnaire properly. The sample for the final survey research was selected using a stratified random sampling method. Respondents were telephoned in advance and were asked to grant an interview. The interviews took place mainly on the premises of the respondents either at home or in their offices. In addition to the research survey, qualitative focus group research was also conducted. Thus, this study was accomplished in three stages:

1. The pilot survey
2. The focus group research
3. The final research survey

To measure service quality, the SERVQUAL model (including expectations, perceptions and importance weights) was chosen and it was adapted for the mobile telephony sector in two phases. The questionnaire was translated into Greek using the back translation method. The first version of the questionnaire was modified on the basis of 15 in-depth interviews conducted with top executives in the marketing division of the three mobile operators and it was used in the pilot survey. Then taking into account the results of the SERVQUAL reliability and validity tests using the pilot survey research results and the focus group research conclusions, the finalised version of the questionnaire was used in the final survey research.

The in-depth interviews with the marketing executives of the three mobile operators showed that three questions should be added to SERVQUAL: one under the dimension of tangibles concerning mobile handsets, another concerning value added services under the dimension of reliability and a third concerning coverage under the dimension of reliability. **Lee, Lee and Feick (2001)**, in their research concerning the impact of switching costs on the customer satisfaction-loyalty in the mobile phone service in France, also included coverage in their measures of customer satisfaction. Furthermore, their results showed that heavy users showed a strong attachment to value-added services. The addition of the two items, coverage and value added services under the dimension of reliability also contributed in the measurement of 'outcome' quality in SERVQUAL (**Chapter 3.4.3.2.3**).

The pilot survey had three purposes: to adapt the SERVQUAL model further, to test the questionnaire and to calculate a representative sample size for the final research survey. 100 mobile telephony users were personally interviewed for the pilot survey and the results were statistically analysed so as to test the reliability and the validity of the research instrument. The pilot survey showed that all items and dimensions were relevant and should be retained. The representative sample for the final survey research was calculated to 379 users, however 400 users were surveyed.

Focus group research was also conducted to adapt the SERVQUAL instrument further before the final research survey and to compare the findings and strengthen the validity of the results of the final survey research. Four focus groups studies were conducted in four cities in Greece: Athens, Thessaloniki, Larisa and Patras. According to the results of the focus groups, of the 22 attributes included in the SERVQUAL model, **coverage** proved to be the most important factor and was definitely a reason to change operator. All of the participants expected excellent coverage from their operators but they do not get it. Value-added services were also considered important, especially for business users, who although they are smaller in number, are higher in usage and is a segment where the profit margins are high and bad debts, low. The **mobile handset** proved also to be very important. A good handset on offer was a serious reason to choose or change their operator.

Participants were also expecting to receive excellent **service** from their operators and their operators to solve their problems. The users of Cosmote stated that they had lower expectations because it is a public company and in the Greek public sector, services are generally of a low quality. Participants did not always receive good service, especially the users of Panafon/Vodafone. Many of the participants were dissatisfied with the employees and the service of Panafon/Vodafone. A general problem for all the operators in all the cities was that customers could not contact customer service because the lines were busy. In addition, the employees did not have the appropriate technical knowledge to help and they did not always solve their problems.

Another important factor for the participants was **error free records**. However, Panafon and Telestet did not always send error free records. This problem seemed to be more serious outside Athens. The focus group participants agreed that **price** was the most important factor after coverage and it was the most important reason to choose and change operator. They mentioned that prices of mobile telephony are high and should decrease to reach the prices of fixed telephony. Pricing was also considered tricky, since different operators gave different prices and customers could not figure out which the cheapest package was. They all agreed that prices were still very high, although lately there had been a significant decrease. As far as the risk deriving from the radiation of the handsets was concerned, most participants did not seem to be sure how serious this risk is, though heavy users stated that they suffered from headaches. At the

moment there are not many heavy users but if in the future their number increases, this may cause serious problems.

Most of the participants stated that recommendations from their family and from friends are very important and can influence them to choose and even to change their mobile operators. Concerning their intention to repurchase the service from their mobile operators, some of the participants stated that it is not easy to change operator because they have to change number and this is a great inconvenience because their colleagues and friends use their mobile number even more than their fixed. If this problem did not exist they would consider a change more easily. However, the Greek Telecommunications Committee has announced plans concerning the portability of mobile numbers when changing operators and this reason will not exist in the near future.

Participants also stated that mobile phones have become a part of their daily life and give them accessibility, convenience and security. Women especially needed this security. Parents mentioned that they could check on their children any time and some of the men that they could check on their wives.

In judging the mobile operators themselves, the focus groups participants commented that Telestet is the most serious mobile operator, 'big and secure' as mentioned on TV. Cosmote is a public company and thus offers security and it is also cheap. Panafon is the biggest company and one of its shareholders was the owner of a popular Greek football team, which seemed to influence customer repurchase intention. Furthermore, concerning the items contained in SERVQUAL, they commented that they adequately define mobile telephony service quality and they had no more attributes to add.

The questionnaire used for the final research survey comprised the adapted SERVQUAL items for measuring service quality (perceptions, expectations and importance) and some additional questions concerning overall service quality, service value, customer satisfaction, repurchase intention and demographic characteristics. An additional question was also added concerning 'customer's intention to recommend their mobile operator to someone they know'. Many researchers (**Andreassen and Lanseng, 1997, Jones and Sasser 1995** and others), considered this an important proxy to customer loyalty and thus it strengthened customers' stated repurchase intention measure (**Chapter 3.1.5**). In the final survey 400 mobile telephony users were interviewed.

The reliability and the validity of the SERVQUAL scale were assessed once again and all the items and dimensions proved to be relevant. The most important dimension was reliability, followed by assurance and then came empathy, then responsiveness and tangibles. These results were in accordance with **Parasuraman, Zeithaml and Berry (1988)** who found that regardless of the service being studied, reliability was the most important dimension, followed by assurance. Then followed responsiveness and tangibles. However,

concerning empathy, they found that it was the least important dimension. In addition, **Sultan and Simpson (2000)**, **Zeithaml, Berry and Parasuraman (1991)** and **Berry, Zeithaml and Parasuraman (1985)** also identified reliability as the most important dimension and the main source of service quality. Furthermore, **Zeithaml, Parasuraman and Berry (1990)** found that reliability was the most important of the dimensions and tangible the least important. **Johnston (1995)** results also showed that tangibles comprised the least important dimension.

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. The statistical elaboration of the results supported the first five hypotheses and showed that service value was associated with perceived and expected service quality, the P-E difference and it also had a negative association with perceived price and was not associated with perceived risk. As described in **Chapter 3.3**, researchers such as **Storbacka, Strandvik and Grönroos (1994)**, **Bolton and Drew (1991)**, **Chang and Wildt (1994)**, **Fornell et al (1996)**, **Patterson and Spreng (1997)**, **Ravald and Gronroos (1996)**, **Drew and Bolton (1987)**, **Cronin, Brady and Hult (2000)**, **Zeithaml (1988)** maintained that value is influenced by perceived service quality and price. **Fornell et al (1996)** asserted that value is also influenced by customers expectations. **Bolton and Drew (1991)** claimed that value is also influenced by disconfirmation.

The findings also confirmed the sixth hypothesis and showed that customer satisfaction was influenced by perceived value. As it has been described in **Chapter 3.3**, researchers such as **Heskett et al. (1994)**, **Patterson and Spreng (1997)**, **Liljander and Strandvik (1995)** also maintained that customer satisfaction is influenced by service value.

In addition, the findings verified the seventh hypothesis and showed that customer satisfaction influenced repurchase intention. As previously mentioned in **Chapter 3.3**, many researchers including **Parasuraman, Zeithaml and Berry (1985)**, **(1988)**, **Storbacka, Strandvik and Grönroos (1994)**, **Rust and Zahorik (1993)**, **Hallowell (1996)**, **Taylor and Baker (1994)** **Cronin and Taylor (1992)**, **Dabholkar, Shepherd and Thorpe (2000)**, **Woodside Frey and Daly (1989)** supported the view that customer satisfaction influences purchase intention.

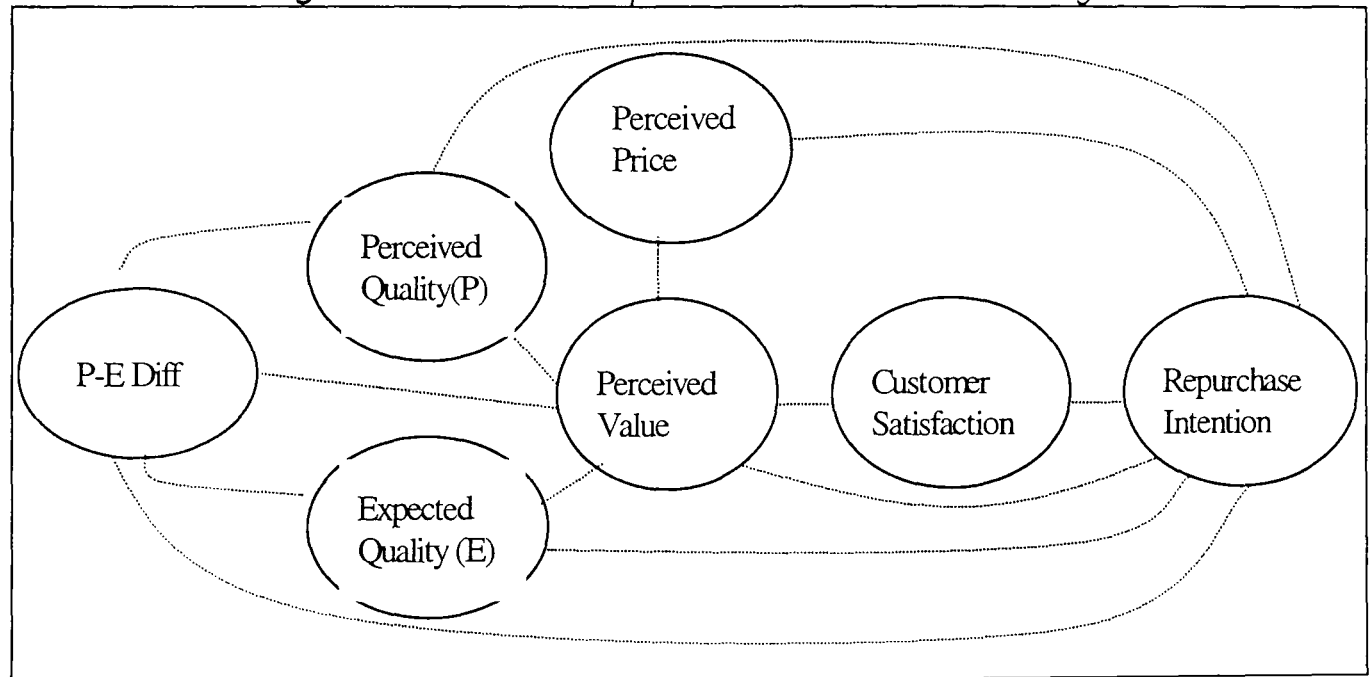
The research results also supported the eighth hypothesis and showed that service quality (perceived service quality, expected service quality and the P-E difference) influenced repurchase intention. **Zeithaml, Berry and Parasuraman (1996)**, **Ennew and Binks (1996)**, **Chang and Wildt (1994)**, **McAlexander, Kaldenberg and Koenig (1994)**, **Headley and Miller (1993)**, **Boulding et al. (1993)**, also found that perceived service quality has an influence on purchase intention (**Chapter 3.3**). However, the association between expected service

quality and repurchase intention was marginal and this might suggest that customers received less than they were expecting.

The findings also showed that perceived value and perceived price were associated with repurchase intention. **Chang and Wildt (1994)** also found an effect of price on purchase intention (**Chapter 3.3.4.2**). However, perceived risk did not prove to influence customers' repurchase intention. Furthermore, the results showed that when taking into consideration the P-E difference quality scores, the correlation between repurchase intention and customer satisfaction as well as the correlation between service value and repurchase intention are higher than the correlation between service quality and repurchase intention. These findings are in keeping with the literature and are in accordance with the findings of **Heskett et al, (1994)**, **Liljander and Strandvik (1995)**, **Storbacka, Strandvik and Grönroos (1994)** and **Patterson and Spreng (1997)**. However, there are also relationships between service quality, service value and repurchase intention. This finding is in accordance with the results of **Cronin, Brady and Hult (2000)**.

Thus, on the basis of the findings of this study a model presenting the factors influencing customers' repurchase intention is proposed in **Figure 10**.

**Figure 10: The Model Proposed on the Basis of the Findings**



Source: Blery (2003)

As can be seen in **Figure 10**, perceived value is influenced by perceived and expected service quality, the P-E difference and by perceived price. Repurchase intention is influenced by customer satisfaction which is influenced by perceived value. Repurchase intention is also influenced by expected and perceived quality, the P-E difference, perceived value and perceived price.

Furthermore, the findings showed that Overall Service Quality had a higher correlation with repurchase intention than did difference scores. In addition, the association between overall service quality (OSQ1) and those measured through SERVQUAL can suggest that the overall service quality scale might prove as useful as the SERVQUAL instrument. This finding is in accordance with the results of **Kangis and Zhang (2000)**. Furthermore, other researchers such as **Headley and Miller (1993)** measured service quality in medical care services and applied SERVQUAL. They concluded that service quality as measured by SERVQUAL was positively related to an overall service quality measure which they included in their questionnaire (**Chapter 3.3.4.1**). However in this study SERVQUAL was used since it is a richer construct than the overall service quality measure and it can represent better the multifaceted nature of service quality.

The findings also showed that perceptions alone seemed to be a better measure for service quality. Other researchers such as **Mazis, Ahtola and Klippel (1975)**, **Bolton and Drew (1991)**, **Babakus and Boller (1992)**, **Babakus and Mangold (1992)**, **Cronin and Taylor (1992, 1994)**, **Boulding et al. (1993)**, **Brown, Churchill and Peter (1993)**, **Teas (1993b)**, **Patterson and Johnson (1993)**, supported the use of perceptions only operationalization, to measure service quality (**Chapter 3.4.2.4.1**). In addition, **McAlexander, Kaldenberg and Koenig (1994)**, in their study measuring service quality in dental practises, applied SERVQUAL and SERVPERF and concluded that perceptions alone were a better measure for service quality. However, this research study also aimed at identifying service shortfalls, and in this case as **Zeithaml, Berry and Parasuraman (1996)** mentioned, the use of expectations is essential (**Chapter 3.4.2.4.1**).

The findings also showed that weighted SERVQUAL scores was not a more reliable measure than non-weighted scores. Thus, the inclusion of importance weights did not bring any meaningful changes. This is in accordance with **Mazis, Ahtola and Klippel (1975)** who maintained that the inclusion of importance weights does not enhance the predictive ability of attitude models. In addition, **Cronin and Taylor (1992)**, concluded that the unweighted measurement of performance is a better method for measuring service quality.

Operators did not exceed respondents' expectations in any of the 22 SERVQUAL attributes and as **Kotler (1994)** maintained, the customer is highly satisfied or delighted only if performance exceeds expectations. The analysis of the final survey research results showed that the following service quality attributes were very important to customers:

1. **Excellent coverage**
2. **Accurate and error free records**
3. **Operators showing a sincere interest in solving customers' problems**
4. **Employees understanding customers' specific needs**



5. **Customers feeling safe in their transactions**
6. **Employees having the knowledge and skills to serve customers**
7. **Mobile handsets visually appealing, of high quality and user friendly**
8. **Employees consistently courteous with customers**

Coverage was the most important of the attributes, followed by accurate and error free records. The finding concerning coverage is in accordance with the results of **Lee, Lee and Feick (2001)**. Panafon proved to perform worse than Telestet and Cosmote in all the above attributes. Telestet proved to perform better than Cosmote in all the attributes apart from coverage. Since satisfaction was significantly correlated with repurchase intention and positive word of mouth, it can be said that mobile operators would significantly increase their chances of retaining their customers by improving their performance in these attributes.

Mobile operators did not meet respondents' expectations in any of the 22 SERVQUAL attributes. Respondents expectations were mostly met in the dimension of Tangibles, operators had good physical facilities and employees with neat and professional appearance. However, customers were not pleased with coverage, did not receive accurate and error free records, did not feel safe in their transactions and operators did not show a sincere interest in solving their problems.

Of the three mobile operators Telestet performed better, followed by Cosmote and last was Panafon. Cosmote outperformed Panafon in all the attributes. The only attribute that Panafon outperformed Cosmote was employees with professional and neat appearance. Panafon did not perform better than Telestet in any of the attributes. It could be concluded that the major problem of Panafon is the behaviour and skills of its employees. Telestet outperformed Cosmote in all the attributes apart from coverage, employees telling customers exactly when services will be performed and providing services at the promised time.

The final research survey, like the focus group research did not reveal significant differences between respondents living in the different cities of Athens, Thessaloniki, Larisa or Patra. The focus group research fully supported the results of the research survey in all aspects.

Comparing the results of this study with the results of surveys conducted in the US and Europe (**Chapter 3.1.2**), it can be seen that the reasons causing customer defection are similar. In the US, price was considered as the most important factor followed by coverage. In Europe the most important factors were coverage, prices and dissatisfaction with the service (customer service). These were similar to the results of this study.

## 7.1 The Contribution of this Study

This study proposed a model for understanding the factors influencing customers' repurchase intention in the mobile telephony sector, addressed the issues related to service quality measurement and provided an adaptation and testing of the SERVQUAL model for the mobile telephony service. The proposed model confirmed the relationship between service quality, service value, customer satisfaction and repurchase intention.

This study contributes to the service sector literature by examining customers' assessment of mobile telephony service and, as has already been mentioned, the service sector is constantly growing (**Chapter 2.1**). Furthermore, in particular, the mobile telephony sector is a sector of continually increasing importance (**Chapter 2.2**). In addition, this study empirically examined the relationships between service quality, service value, customer satisfaction and customers repurchase intention and contributed to the customer satisfaction and service quality literature by shedding some light on these relationships.

This study also empirically examined the concept of value, which although it is recognised as of significant importance by many researchers in the literature but, has not been widely examined. Furthermore, this study examined these relationships in the mobile telephony sector, a sector where up to now, little investigation has taken place and there is little insight concerning these issues since no such references can be found in the literature.

In addition, this study was the first to provide an adaptation and testing of SERVQUAL, an instrument for measuring service quality widely discussed and applied, for the mobile telephony sector. Moreover, it was conducted in Greece, where very limited research has taken place in the service sector and where there is no research in the mobile telephony sector. Therefore, this study will be a valuable addition to the international literature as it starts gathering knowledge concerning these issues in the Greek market.

Finally, in strategic terms, this study has provided important new information and should become a valuable tool for the mobile telephony operators' policymakers and marketing managers. It will enable them to better define their strategy on important issues such as investing in network extensions, physical facilities, employees training and the introduction of innovative services which should lead to better customer retention and company growth and profitability.

To summarise, this study has contributed to the service sector literature and in particular to the mobile telephony sector literature which is of continually increasing importance. In addition, it has contributed to the customer satisfaction and service quality literature and is one of the few studies to have empirically examined the concept of value, which is widely recognised as of significant importance. Furthermore, it is the first to provide an adapted and tested version

of SERVQUAL for mobile telephony. It provides an important addition to the international literature on mobile telephony as it is the only study so far that has gathered knowledge concerning these issues in the Greek market, where very limited research has taken place in the service sector and where there has been no research in the mobile telephony sector. Furthermore, the developed SERVQUAL should become a valuable tool for policymakers and marketing managers in this sector.

## CHAPTER 8

### RECOMMENDATIONS FOR MANAGEMENT

Mobile telephony is now a mature industry with strong competition thus customer retention is crucial. As the consultancy company **AC Nielsen (2000)** mentioned, companies increasingly look to quality, satisfaction and loyalty as keys to achieving market leadership. Understanding what drives these critical elements and how they are linked is fundamental to company success. The statistical relationships in this study suggested that strategic decisions based on assumed connections between perceived service quality and consumer behaviour in the mobile telephony service sector are highly significant.

The existence of 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. The relationship of value and satisfaction with repurchase intention, showed that they should be all improved collectively as a means of improving customer retention. Establishing initiatives to improve only one of these variables is therefore an incomplete strategy if the effects of the others are not considered. Thus, to achieve customer loyalty, improving quality, value and satisfaction in parallel is essential.

In the Greek mobile telephony market there is strong competition between operators and also with possible new entrants. All the operators have already invested on the most innovative technologies (networks etc.) thus, there is more opportunity to increase service quality. As **Andreassen and Lanseng (1997)** stated, to retain customers, companies must deliver services that at least meet their customers' expectations. The information provided in this study is essential to help operators to identify service shortfalls, meet their customers' expectations and develop sustainable relationships with them.

On the basis of the findings of this study, up to now operators find it easier to meet customer expectations in the area which customers rate as least important, that is tangibles, while they find it more difficult to meet expectations of assurance, reliability and empathy, the factors most valued by customers. Thus, they should spend more management time and resources on improving the other dimensions and less on tangibles. They should implement service quality improvements, offering excellent coverage, accurate and error free records and ensuring that mobile telephony service is performed accurately and dependably and these would offer the best return on customer satisfaction and customer bonding for repeat business.

Operators should also invest in improved training and development of their staff to respond more effectively to the expectations of customers. As **Bitner, Booms and Tetreault, (1990)** suggested companies seeking to deliver excellent service quality as a business strategy, need to inspire their employees to meet customer needs since employees proper responses can lead to increased customer satisfaction. As mentioned in **Chapter 3.4.1.2**, part of customer service is human and part is process. Therefore, processes should also be examined because there is the possibility that the processes do not allow employees to serve customers properly and changes in the processes might be needed.

In the mobile telephony market, price is considered important and users are price-sensitive, thus a low cost leader may provide a level of value that can create a high level of customer satisfaction and retention. Although, price reductions are a way of increasing perceived value, the results of this study showed that value was largely defined by perceptions of quality and customers seemed to place a great importance on service quality as well. In addition another price problem in the mobile telephony sector is confusion marketing. Pricing is so complicated with all the different packages available that consumers cannot decide which is the cheapest.

Operators should take into consideration that the cues that signal quality, may change over time due to competition, promotional efforts of companies, changing consumer tastes and information. The dynamic nature of quality suggests that marketers must track perceptions over time and align their service promotion strategies with these changing views. They should also take into consideration that if quality remains constant in the future, customer satisfaction is likely to decrease because service improvements are needed to continue to impress the customer (**McAlexander, Kaldenberg and Koenig, 1994**).

Operators should understand what quality and value mean to their customers to improve their positions in the market. As **Zeithaml (1988)** argued, the selection of a strategy for a particular product or market segment should depend on its customers' definition of value. Strategies based on customer value standards and perceptions will channel resources more effectively and will meet customer expectations better than those based only on company standards. As **Cronin et al (1997)** claimed, many companies nowadays are shifting their emphasis to value and perhaps Total Value Management (TVM) may provide better results than Total Quality Management (TQM). As **Zeithaml (1988)** claimed, anything that can be built into products/services to reduce time, effort and search costs can reduce perceived sacrifice and thereby increase perceptions of value.

Operators may educate consumers on ways to evaluate quality and advertising and the information provided can be managed to evoke desired quality perceptions. Operators can either increase perceptions of service quality or lower expectations. As **Boulding et al. (1993)** argued, increasing customer expectations of what a firm will provide during future service encounters actually

leads to higher perception of quality after the customer is exposed to the actual service all else equal. Thus, firms should manage customers predictive 'will' expectations up rather than down if they want to increase customer perceptions of overall service quality. However, firms should manage customers' 'should' expectations downwards. Operators should take into consideration that advertising which creates images of experiences that are subsequently not met after usage can only serve to widen the gap between customer expectations and perceptions of service. The consequence of expectations set unrealistically is that service quality will rarely meet the expectations of customers.

To gradually increase consumption, operators should be competitive in the quality of basic offerings and also provide consumption-based incentives. Proper incentives can be designed by analysing customers' evaluation of different satisfaction components and usage patterns. For example, they might include free hours, lower rates, more attractive weekend pricing, a new handset at a discounted price, and free value-added services for heavy users.

In conclusion, the results of this study show that to achieve customer loyalty, it is essential to improve quality, value and satisfaction in parallel, however price should remain as low as possible. Operators should have knowledgeable and well-trained employees, with well-designed company processes to enable them to do their jobs more effectively. Managers should also take into consideration that quality signals change over time and they should make a sustained, long-term effort to impress and retain customers. The recommendations and adapted SERVQUAL instrument from this study may become a useful marketing tool involved in the development of mobile telephony operators' management strategies.

## CHAPTER 9

### RESEARCH IMPLICATIONS

The model developed in this piece of research, probably did not include all the possible factors influencing customers' repurchase intention in the mobile telephony sector. Consideration was limited to the identified variables and this study examined the relationships between consumers' service quality and value perceptions, their satisfaction and their behavioural intentions. However, the relationships between the constructs might be more complex than those proposed in this study. In addition, in this study the correlations between the variables were examined and correlation does not provide any evidence for causality, thus, only the association of repurchase intention with service quality, service value, perceived price, risk and customer satisfaction was examined.

It should be pointed out that one drawback to the questionnaire used in this study might be that it was difficult for consumers (or at least for some of them) to distinguish between service quality and customer satisfaction and also more difficult to conceive what the concept of value represents.

Where service quality is concerned, an important issue raised by **Storbacka, Strandvik and Gronroos (1994)** is that a dynamic perspective should be added to service quality. As **Kangis and Zhang (2000) p. 315**, mentioned, "it could be that customers constantly shift their benchmark to newer positions as a result of having experienced a given level of service". As **Boulding et al, (1993)** claimed consumers frequently update their expectations thus biases are present and that these biases are due to prior expectations. The existing models of service quality including the model used in this study are static conceptual and measurement models.

Concerning SERVQUAL, the instrument of choice for measuring service quality in this study, as it has been mentioned, according to the literature several studies raised important questions about SERVQUAL. The use of difference scores in service quality measurement has been questioned by many researchers (**Cronin and Taylor 1992, 1994; Boulding et al. 1993; Teas, 1993b, 1994**). Difference score measures were considered as having lower reliability and validity than perceptions-only measures. This was evident also in this study because perceptions proved to have a higher correlations with the overall service quality measure than did gap scores.

In addition the ambiguous definition of the "expectations" construct in SERVQUAL was questioned by researchers such as **Teas (1993b, 1994)** who argued that SERVQUAL expectations have been variously defined as desires,

wants, what a service provider should possess, normative expectations, ideal standards, desired service and the level of service a customer hopes to receive. These multiple operationalizations of "expectations" in the SERVQUAL literature result in a concept that is loosely defined and open to multiple interpretations. In this study only the "should" expectations were measured. However, the word 'should' may lead to unrealistically high expectations. Sometimes should expectations may be unrelated to what is feasible because uncontrolled factors may not allow companies to meet these expectations.

Furthermore, the dimensionality of SERVQUAL was put into question (**Cronin and Taylor, 1992; Brown, Churchill and Peter, 1993**) and even the developers of the instrument **Parasuraman, Zeithaml and Berry (1994a)** acknowledged potential overlap among the dimensions. In many studies, during factor analysis, factor loading patterns reflected weaker evidence of convergent validity because of the low loadings of the items on their respective dimensions. These studies implied overlap among the dimensions, especially among responsiveness, assurance and empathy. Some researchers such as **Carman (1990)** due to the dimensional overlap used a subset of the original 22 SERVQUAL items. In this study dimensional overlap was identified between all the dimensions during the factor analysis (**Tables 18, 19 and 20**). However, the values of all the items' loadings to one of the factors were at least 0,35 and according to **Devellis (1991)**, if all the items relate strongly (at least 0.35) to one of the factors are meaningful and should be retained. In addition, SERVQUAL scale in this study showed high reliability measured by alpha coefficients for the gap scores (**Table 16**). The high values of the reliability coefficients indicate high internal consistency among items within each dimension and this reflects a high degree of cohesiveness among the scale items, which is an indirect indicator of convergent validity (**Parasuraman, Zeithaml and Berry, 1991**). Furthermore, **Carman (1990)**, **Brown, Churchill and Peter (1993)** and **Andersson (1992)** raised reservations concerning the adequacy of performing factor analysis with difference scores (**Chapter 5.1.5.2.3**). Finally, **Parasuraman, Zeithaml and Berry (1991)** indicated that the number of dimensions found by factor analysis may be different in the various studies because of across-dimension similarities and/or within dimension differences in respondents' evaluations. They argued that SERVQUAL is the basic "skeleton" underlying service quality and it should be used in its entirety as much as possible and keeping the five-dimensional structure of SERVQUAL may serve as a meaningful conceptual framework for summarizing the criteria customers use in assessing service quality. Thus, because of all the above reasons in this study all the items were retained.

In addition, in this study the ideal point multiattribute approach was adopted, and importance weights were included. However, overall, weighted SERVQUAL did not perform better and did not prove to be a more reliable measure than the unweighted model and importance weights did not bring any meaningful changes. Only weighted expectations exhibited a significant relationship with repurchase intention and non-weighted expectations did not, thus, it may be



concluded that customers' expectations become more realistic with the addition of importance weights. As it has been mentioned above, expectations defined as what ideal companies should offer may be unrealistic. Consequently, the ideal point multiattribute approach for measuring service quality is put into question.

On this basis, doubts may be raised over the future use of SERVQUAL as a means for measuring service quality. Thus, when planning to use SERVQUAL in any research study all the above mentioned problems and the criticisms put forward by researchers should be taken into account and also alternative methods for measuring service quality should be considered and evaluated.

Concerning the adaptation of SERVQUAL, although the modified scale included all the items that were the result of in-depth interviews with marketing managers and top executives of the Greek mobile operators, the pilot survey research and focus group research, the scale might have missed items. Future research could deal with a second approach for further development of the adapted SERVQUAL instrument used in this study for the mobile telephony sector.

Furthermore, in this study service value was considered to be influenced by service quality, price and risk associated with using the service. However, as **Lee, Lee and Feick (2001)** mentioned, there might be some more items important to customers such as for example time and effort needed to acquire the service. For a subscriber who would like to acquire the service from another operator, this change might include the time and effort needed to inform all his relatives and friends about his new number. These could have been included in the measurement of value. However, since the Greek Telecommunications Committee announced plans concerning the portability of mobile numbers when changing operators they were not included in this study. Future research could establish more rigorous multiple item measures of the value construct in the mobile telephony sector. Furthermore, value may be considered both pre- and post-purchase. As **Patterson and Spreng (1997)** argued, in much the same way that expectations of performance influence post-purchase perceived performance, value perceptions after purchase and consumption may indeed be influenced by pre-purchase perceived value. The extent to which pre-purchase value (based on expectations prior to purchase) impacts upon post-purchase value perceptions was not examined. In addition, as previously mentioned in **Chapter 3.5.2**, value is in some ways similar to the equity construct, however, as **Patterson and Spreng (1997)** argued the extent to which these two constructs overlap, and the relationship between them and satisfaction has yet to be examined. In this study, the influence of equity on satisfaction was not examined because benefits and sacrifices were assessed only from the buyers' perspective.

Customer satisfaction was operationalized with one single measure, however, as **Oliver (1980)** argued satisfaction may not be a uni-dimensional concept and

it is better measured by using a battery of questions to tap different forms of satisfaction.

Furthermore, this study measured the gap between customer expectations and perceptions of service. As **Zeithaml, Parasuraman and Berry (1990)** mentioned, there are also other 'gaps' measured by SERVQUAL such as the difference between management perceptions and customer expectations. Thus, the views of the managers and employees of the mobile telephony operators as they think customers perceive the quality of the service can also be examined in a future research.

This study examined customers repurchase intention, however to examine customer loyalty a more comprehensive paradigm might be needed. As mentioned in **Chapter 3.1**, many proxies can be used to measure customer loyalty such as spend more with the company and pay price premiums. In addition, as it has been mentioned behavioural intentions do not imply actual behaviour. As **Zeithaml, Berry and Parasuraman (1996)** stated research could ask customers to indicate not only their behavioural intentions but also their actual behaviours. For example customers could be asked whether they have said positive things about the company (actual behaviour) instead of how likely they would be to say positive things (behavioural intentions). Furthermore, measures of actual purchase behaviour, as opposed to behavioural intentions, could enhance the validity of the study (longitudinal study). However, this would need a second approach to the respondents after some time and such data were not gathered. These data can be gathered in a future research and customers stated repurchase intention can be compared with their actual repurchase behaviour.

In addition, as it has been mentioned, in the final survey research, the sample was designed using the random stratified sampling method by the three Greek mobile telephony operators, however, each one of the operators was asked to supply some additional subscribers because some of the respondents were not willing to be interviewed or because they were far from the 4 cities where the interviews were planned to take place. As a result, the final sample was not quite random since some respondents were excluded. Furthermore, in the pilot survey the judgement and convenience sampling methods were applied because of the speed with which information can be collected and the accessibility/convenience. Thus, the sample for the pilot study cannot be considered as representative of the entire population of the Greek mobile telephony users since it was not selected using random sampling. However, the results of the pilot survey are not used in this study to assess the proposed model and the relationships and to derive conclusions concerning the Greek mobile telephony population.

In the process of conducting this study no important or unexpected difficulties were encountered. There was a small problem during the focus group research,

particularly with the group of respondents in Thessaloniki who were really frustrated with Panafon/Vodafone. During the interview they were expressing their anger and frustration so they sometimes attempted to monopolise the discussion. This caused some difficulty because it took some time to calm them down and they might have also influenced the other respondents negatively, thus skewing the results. The data obtained from the research survey did not raise any difficulties or anomalies during the statistical analysis,

In general, this study achieved the main research objectives that were to investigate factors such as service quality, price, service value and customer satisfaction, which influence customer loyalty in the mobile telephony sector. In addition, the factors causing customers to switch operators were investigated and on the basis of this certain recommendations were proposed. At a practical level, these findings can become a useful marketing tool for managers of mobile telephony companies. However academically, further research based on these findings can add to the present pool of knowledge by investigating the extension of the proposed model and by the inclusion of additional factors thus developing a further refinement of SERVQUAL as a tool for measuring service quality in the mobile telephony sector.

## REFERENCES

- Aaker D A (1992) The Value of Brand Equity, Journal of Business Strategy, 13 (7-8), pp 27-32.
- Acxiom (1997) Is Loyalty Worth it ?, Conway, AR, Case-in-Point 3(5), Available from: (<http://www.acxiom.com/cip-v3n5-a.htm>), [accessed Nov 1998]
- Adams J. S. (1965) Inequity in Social Exchange, in Advances in Experimental Social Psychology, 2, Leonard Berkowitz, eds. New York: Academic Press, pp 267-99.
- AFSM International (1997), Customer Service, Available from: <http://www.asfmi.org/chapter /E12/summer97/ uknews11.rtml>), [accessed Dec 1997].
- Ajzen I (1985) From Intentions to Actions: a Theory of Planned Behaviour, In J., Kuhl and J. Bechman (eds.), Action-Control: From Cognition to Behaviour, Springer, Heidelberg.
- Ajzen I (1988) Attitudes, Personality and Behaviour, Open University Press, Milton Keynes pp 4-7.
- Ajzen I, & Fishbein M (1975) Understanding Attitudes and Predicting Social Behaviour, Pendice-Hall Inc, Englewood Cliffs, New Jersey 07632.
- Albaum G, & Peterson R A (1984) Empirical research in international marketing 1976-1982, Journal of International Business Studies, 15(Spring/Summer), pp 161-73.
- Albrecht K (1992) ISO 9000: A great Leap Backward, Quality Digest, 19 August, p 62.
- Albrecht K, & Zemke R (1985) Service America, Dow Jones-Irwin, Homewood IL.
- Alexandris K, & Paliatia E (1999) Measuring Customer Satisfaction in Fitness Centres in Greece: An Exploratory Study, Journal of Retailing, 66(3), pp. 315-35.
- Anderson E W, & Fornell, C (1994) A Customer Satisfaction Research Prospectus, In Rust R T and Oliver R L (Eds.), Service Quality: New Directions in Theory and Practice, London: Sage, 1994, pp 241-268.

Anderson E W, Fornell C & Lehmann D R (1994) Customer Satisfaction, Market Share, and Profitability, Journal of Marketing, 58(July), pp. 53-66.

Anderson E, & Sullivan M W (1990) Customer Satisfaction and Retention Across Firms, presentation at the IMS College of Marketing Special Interest Conference on Services Marketing, Nashville, TN, (September).

Andersson, T. D. (1992) Another Model of Service Quality: A Model of Causes and Effects of Service Quality Tested on a Case Within the Restaurant Industry, in Kunst, P. and Lemmink, J. (Eds), Quality Management in Service, Van Gorcum, The Netherlands, pp. 41-58.

Andreassen T. W. (1995) (Dis)satisfaction With Public Services: The Case of Public Transportation, Journal of Services Marketing, 9(5), p 32.

Andreassen T W, & Lanseng E (1997) The Principal's and Agents' Contribution to Customer Loyalty Within an Integrated Service Distribution Channel, European Journal of Marketing, 31(7/8), p 487.

Armistead C G (1990) Service Operations Strategy: Framework for matching the Service Operations Task and the Service Delivery System, International Journal of Service Industry Management, 1(2), pp. 6-17

Armstrong A & Hagel J (1996) The Real Value of On-Line Communities, Harvard Business Review, reprint 96301, May-June 1996, pp: 134-141.

Asubonteng P, McCleary K J & Swan J E (1996) SERVQUAL Revisited: A Critical Review of Service Quality, The journal of Services Marketing, 10(6), pp. 62-81.

Atkins, P M, Marshall B S, & Javalgi R G (1996) Happy Employees Lead to Loyal Patients, Journal of Health Care Marketing, 16(4) pp 14-23..

Avison S (1996) From Loyalty To Eternity (Customer Loyalty Through Cross-Branding), Marketing, June 06, p 27.

Awde P (1998) Survey - Ft Telecoms 98: New Entrants: The Focus is on Loyalty, Financial Times, MCC 1998, Mar. 17.

Babakus E, & Boller G W (1992) An Empirical Assessment of the SERVQUAL Scale, Journal of Business Research, 24(3), pp. 253-68.

Babakus E, & Mangold W G (1992) Adapting the SERVQUAL Scale to Hospital Services: An Empirical Investigation, Health Service Research, 26(6), pp 767-80.

Babakus E, & Inhofe M (1991) The Role of Expectations and Attribute Importance in the Measurement of Service Quality, in Gilly, M.C. et al. (Eds), Proceedings of the Summer Educators' Conference, American Marketing Association, Chicago, IL, pp. 142-4.

Babakus E, Pedrick D L, & Inhofe M (1993) Empirical Examination of a Direct Measure of Perceived Service Quality Using SERVQUAL Items, unpublished manuscript, Memphis State University, TN.

Babin B J, Darden W R, & Griffin M (1994) Work and/or Fun: Measuring Hedonic and Utilitarian Shopping Value, Journal of Consumer Research, 20(3), pp. 644-56.

Badcock, C R, (1980) The Psychoanalysis of Culture, Oxford : Basil Blackwell.

Balaguer N S, & Stoddard D (1993) Gleason Component Group (A): Information Technology Support of Business Integration, Harvard Business School, No 9 pp. 189-136.

Baldiger A L, & Rubinson J (1996) Brand loyalty: The Link Between Attitude and Behaviour, Journal of Advertising Research, November/December 1996.

Bandell R (1997) Earning Loyalty Takes More Than Just Low Prices, Marketing, Feb 20, p 22.

Banwari M, & Lassar W M (1996) The Role of Personalization in Service Encounters, Journal of Retailing, 72(1) pp95-115.

Barbeau J B (1985) Predictive and Normative Expectations in Consumer Satisfaction: A Utilisation of Adaptation and Comparison Levels in Hunt H K and Day R L, eds, a Unified Framework, in Consumer Satisfaction, Dissatisfaction and Complaining Behaviour.

Barlow R G (1992) Relationship Marketing -The Ultimate in Customer Services, Retail Control, 60(3) pp 29-37.

Barnes J G (1994) The Issue of Establishing Relationships With Customers in Service Companies: When Are Relationships Feasible and What Form Should They Take? Working paper, Memorial University of Newfoundland.

Bartunek J M, Bobko P, & Venkatraman N (1993) Toward Innovation and Diversity in Management Research Methods. (Special Research Forum: Methodological Issues in Management Research, Academy of Management Journal, 36(6) pp1362-1374.

Becker T E, Randall D M & Riegel C D (1995) The Multidimensional View of Commitment and the Theory of Reasoned Action: A Comparative Evaluation, Journal of Management, 21(4) pp 617-618.

Bell J, Gilbert D & Lockwood A (1977) Service Quality in Food Retailing Operations: A Critical Incident Analysis, International Review of Retail Distribution and Consumer Research, 7(4), pp 405-423.

BellSouth (1997) Growing Revenues by Winning Customer Loyalty, BusinessSystems, Available from: <http://www.bellsouthcorp.com/investor/annualreport94/winning.html> [accessed March 1998].

Bemowski K (1996) Americans' Nostalgic Affair with Loyalty, Quality Progress, 29(2), pp 33-36.

Bennington L, & Cummane J (1998) Measuring Service Quality: A Hybrid Methodology, Total Quality Management, 9(6), p395.

Berry L L (1983) Relationship Marketing, in Berry, L.L., Shostack G L & Upah G (Eds), Emerging Perspectives on Services Marketing, American Marketing Association, Chicago, IL, pp. 25-8.

Berry L L, Zeithaml V A & Parasuraman A (1985) Quality Counts in Services, too, Business Horizons, May-June, pp. 44-52.

Berry L L (1986) 3 Approaches to Measuring Quality of Service, American Banker, 151(28 May), p 6-8.

Berry L L (1995) Relationship Marketing of Services-Growing Interest, Emerging Perspectives, Journal of Academy of Marketing Science, 23(4), pp 236-45.

Berry L L, & Parasuraman A (1991) Marketing Services – Competing Through Quality, Free Press, New York, NY.

Betts E J, & McGoldrick P J (1996) Consumer Behaviour and the Retail Sales: Modelling the Development of an Attitude Problem, European Journal of Marketing, 30(8), p 40-59.

Bhote K R (1995) It's Customer Loyalty, Stupid: Nurturing and Measuring What Really Matters, National Productivity Review, 14(3), pp 39-59.

Birt R, & Hanssens M D (1996) Customer-Focused Database Marketing, The Next Unknown (1996b) Horizon for High Tech Markets, Acxiom, Conway, AR, Case-in-Point v2n1, Available from: <http://www.acxiom.com/cip-rpt-b.htm> [Accessed Jan 1998].

Bitner M J (1990) Evaluating Service Encounters: The Effects of Physical Surroundings and Employees Responses, Journal of Marketing, 54(2), pp. 69-82.

Bitner M J (1995) Building Service Relationships: It's all About Promises, Journal of the Academy of Marketing Science, 23(Fall), pp 246-251.

Bitner M J, & Gwinner K P (1998) Relational Benefits in Service Industries: The Customer's Perspective, Journal of the Academy of Marketing Science, 26(2), p101-115.

Bitner M J, & Hubbert A R (1994) Encounter Satisfaction versus Overall satisfaction versus Quality, In Roland T. Rust and Richard L. Oliver (Eds.), Service Quality: New Directions in Theory and Practice, London: Sage, 1994, pp 72-94.

Bitner M J, Booms B H, & Tetreault M S (1990) The Service Encounter: Diagnosing Favourable and Unfavourable Incidents, Journal of Marketing, 54(1), pp. 71-84.

Blery E (1997) Clustering of the Greek Mobile Telephony Users, Unpublished MBA dissertation, Surrey European Management School, Guildford

Bolton R N, & Drew J H, (1991) A Longitudinal Analysis of the Impact of Service Changes on Customer Attitudes, Journal of Marketing, 55(1), pp 1-10.

Bolton R N, & Drew J H (1992) Mitigating the Effect of Service Encounters, Marketing Letters, 3(1), pp 57-70.

Bolton R N, & Lemon K N (1999) A Dynamic Model of Customers' Usage of Services: usage as an Antecedent and Consequence of Satisfaction, Journal of Marketing Research, 36(2) p171.

Bond C (1996) Relationships Designed to Last (Choosing and Using Customer Loyalty), Marketing, April 4, p12-14.

Boulding W, Kalra A, Staelin R, & Zeithaml V A (1993) A Dynamic Process Model of Service Quality: From Expectations to Behavioural Intentions, Journal of Marketing Research, 30(1), pp 7-27.

Bouman M, & van der Wiele T (1992) Measuring Service Quality in the Car Service Industry: Building and Testing an instrument, International Journal of Service Industry Management, 3(4), pp. 4-16.



Bradley F (1995) Marketing Management: Providing, Communicating and Delivering Value, London, Prentice Hall.

Branham M (1998) Measuring What Matters, The Competitive Strength Index Evaluates Factors that Customer Satisfaction Can't Begin to Address, Competitive Benchmarking Associates, Available from: <http://www.competitiveanalysis.com/article.html> [Accessed Dec 1998].

Brensinger R & Lambert D (1990) Can the SERVQUAL Scale be Generalised to Business to Business?, in Knowledge Development in Marketing, 1990 AMA's Summer Educators' Conference Proceedings.

Brierley, H M (1994) The Art of Relationship Management (Part 2), Direct Marketing, 57(5), pp 22-24.

Bring J (1994) How to Standardize Regression Coefficients, American Statistician, 48(3), pp. 209-213.

Broadhead J L (1991) The Post-Deming Diet: Dismantling a Quality Bureaucracy, Training: The Magazine of Human Resources Development, 28(2), pp 41-44.

Brown T J, Churchill G A Jr, & Peter J P (1993) Improving the Measurement of Service Quality, Journal of Retailing, 69(1), pp 127-140.

Burrell G, & Morgan G (1979) Sociological Paradigms and Organisational Analysis, Heinemann, London.

Buttle F (1996) SERVQUAL: Review, Critique, Research Agenda (Service Quality Measurement and Management Technology), European Journal of Marketing, 30(1), pp 8-33.

Cable-World (1994) BT Turns Up the Heat, February 14, p16.

Calder J (1998) Survey Research Methods, Medical Education, 32, pp 636-652.

Caldwell N (2002), (Rethinking) the Measurement of Service Quality in Museums and Galleries, International Journal of Nonprofit and Voluntary Sector Marketing, 7(2), pp. 161-171.

Campbell L (1997) Orange Sets Up Loyalty Scheme, Marketing, Nov 13, p6.

Cane A (1997) Companies and Finance: Orange Slices Foreign Prices, Financial Times, MCC 1997, Sep 22.

Cane A (1997a) Mobile Phone Companies Play Their Loyalty Cards: Operators are now Offering Additional Services to Keep and Reward Customers, Financial Times, MCC 1997, May 02.

Cane A (1997b) Survey - FT Telecoms: Comment: Churn Is 'Cause For Profound Concern', (Operators of Mobile Telecommunications Services Need to Boost Customer Loyalty), Financial Times, Nov 19.

Cane A (1997c) UK: Barclays Link To Cellnet Enhanced, Financial Times, Apr. 30.

Cardozo R N (1965) An Experimental Study of Consumer Effort, Expectation and Satisfaction, Journal of Marketing Research, 2(August), p 244.

Carman J M (1990) Consumer Perceptions of Service Quality: An Assessment of the SERVQUAL Dimensions, Journal of Retailing, 66(1), pp. 33-55.

Carpenter J (2000), Critical Incident Technique: Method at a Glance, Oregon Health and Science University (OHSU), MINF 522, Available from: <http://medir.ohsu.edu/~carpentj/cit.html>, [accessed May 2002].

Carson R (1998) Category Volume and Brand Loyalty, Available from: <http://www.pizzano.com/catvol.htm> [Accessed Dec 1998]

Caruana A, Ewing M T & Ramaseshan B (2000), Assessment of the Three-Column Format SERVQUAL-An Experimental Approach, Journal of Business Research, 49(1), pp 57-65.

Chamberlain D P (1996) Customer Bonding: Pathway to Lasting Customer Loyalty, Journal of Consumer Marketing, 13(1), pp 65-67.

Chang T Z, & Wildt A R (1994) Price, Product Information and Purchase Intention: An empirical study, Journal of the Academy of Marketing Science, 22(1), pp. 16-27.

Choe S T, Pittman G A, & Collins FD (1997) Proactive Retail Strategies Based on Consumer Attitudes Towards the Community, International Journal of Retail & Distribution, 25(10-11), pp 365-402.

Christopher M, Payne A, & Ballantyne D (1991), Relationship Marketing: Bring Quality, Customer Service and Marketing Together, Butterworth-Heinemann, Oxford, UK.

Churchill G A (1991) Marketing Research: Methodological Foundations, 5th edn, The Dryden Press, Hinsdale, IL; Orlando, FL; Chicago, IL.

Churchill G A Jr, & Surprenant C (1982) An Investigation into the Determinants of Customer Satisfaction, Journal of Marketing Research, 19(November), pp. 491-504.

Clemmer E C, & Schneider B (1996) Fair Service, in Advances in. Swartz T A, Bowen D E. & Brown S W., eds Services Marketing and Management, Vol. 5,. Greenwich, CT: JAI Press, pp 109-26.

Clow K E, & Vorhies D W (1993) Building a Competitive Advantage for Service Firms, Journal of Services Marketing, 7(1), pp 22-32.

Cobb R (1996a) A Hard Drive For Readers (Choosing and Using Customer Loyalty), Marketing, April 4, 1996, p12-14.

Cobb R (1996b) Investment In Readership (Customer Periodicals From The Financial Sector In The United Kingdom)(Customer Loyalty 1996), Marketing, Feb 8, p 4-6.

Cobb R (1997) A new line on loyalty. (customer care lines in UK), Marketing, August 28, p14-17.

Cohen J & Cohen P (1983) Applied Multiple Regression /Correlation Analysis for the Behavioural Sciences, 2<sup>nd</sup> ed. Hillsdale, NJ: Erlbraun.

Conley C (1997a) Cellnet Names O&Md as its Target Market Leader, Precision Marketing, MCC 97, Apr 21.

Conley C (1997b) Vodafone Puts Bates on Targets, Precision Marketing, MCC 97, Aug 11.

Convergence Europe, (1997) Market Insight: Customised Services Will Create Mass Market For UMTS, April 7, MCC 1997.

Couldwell C (1996) Setting Sites on Net Profit (Online Publishing in the World Wide Web)(Customer Loyalty 1996), Marketing, Feb 8, 1996, pp 8-10.

Crompton J, & MacKay K (1989) User's Perceptions of the Relative Importance of Service Quality Dimensions in Selected Public And Recreation Programs, Leisure Sciences, 11, pp 367-75.

Cronin J J, & Taylor S A (1992) Measuring Service Quality: A Re-examination and Extension, Journal of Marketing, 56(3), pp.55-68.

Cronin J J, & Taylor S A (1994) SERVPERF Versus SERVQUAL: Reconciling Performance-Based and Perceptions-Minus-Expectations Measurement of

Service Quality (response to article by A. Parasuraman, V. Zeithaml and L. Berry, in this issue), Journal of Marketing, 58, pp125-156.

Cronin J J, Brady M K, Brand R R, Hightower Roscoe Jr, & Shemwell D J (1997) A Cross-Sectional Test of the Effect and Conceptualisation of Service Value, The Journal of Services Marketing, 11(6), pp 375-391.

Cronin J J Jr, Brady M K & Hult G T M (2000) Assessing the Effects of Quality, Value and Customer Satisfaction on Consumer Behavioural Intentions in Service Environments, Journal of Retailing, 76(2), pp193-117.

Curtis J (1996) Loyal Following (J. Sainsbury's Customer Loyalty Card), Marketing, 6(6), pp 23-26.

Dabholkar P A, Shepherd D C, Thorpe D I (2000) A Comprehensive Framework for Service Quality: An Investigation of Critical Conceptual and Measurement Issues Through a Longitudinal Study, Journal of Retailing, 76(2), pp139-168.

Danaher P J, & Haddrell V (1996) A Comparison of Question Scales Used for Measuring Customer Satisfaction, International Journal of Service Industry Management, 7(4), pp 4-26.

Darlington R B (2001) Factor Analysis, Available from: (<http://www.psych.cornell.edu/Darlington/factor.htm>), [accessed 9-10-2001]

Dawkins P, & Reichheld F E (1990) Customer Retention as a Competitive Weapon, Directors and Boards, 14(4), pp 42-47.

Dawkins R (1976) The Shellfish Gene, Oxford : OUP.

Day G S (1969), A Two Dimensional Concept of Brand Loyalty, Journal of Advertising Research, 9 (3), pp 29-35.

Desatnick R L (1988) Managing to Keep the Customer, Houghton Mifflin, Boston, MA.

Devellis R (1991) Scale Development. Theory and Applications, Applied Social Research Methods Series, Volume 26, Sage Publications, Newbury Park and London.

Devlin S J, Dong H K, & Brown M (1993) Selecting a Scale for Measuring Quality, Marketing Research, 5(3), pp 12-17.

Dick A S, & Basu K (1994) Customer Loyalty: Toward an Integrated Conceptual Framework, Journal of the Academy of Marketing Science, 22, pp. 99-113.

- Dobbins K (1996) Achieving Customer Loyalty Through Increased Usage of Teleservices, Direct Marketing, 59(7), pp 46-50.
- Dodds W B (1991) In Search of Value: How Price and Store Name Information Influence Buyers' Product Perceptions, The Journal of Services Marketing, 5, (Summer), pp. 27-36.
- Dodds W B, Monroe K B, & Grewal D (1991) The Effect of Price, Brand And Store Information on Buyers' Product Evaluations, Journal of Marketing Research, 28(August), pp. 307-326.
- Donnelly M & Shiu E (1999) Assessing Service Quality and its Link With Value for Money in a UK Local Authority's Housing Repairs Service Using the SERVQUAL Approach, Total Quality Management, 10(4/5), pp 498-506
- Donovan J (1996) The True Price of Loyalty (Developing Customer Loyalty), Marketing, Feb 8, 1996, pp11-13.
- Donthu N, & Yoo B (1998) Cultural Influences on Service Quality Expectations", Journal of Service Research, 1(2), pp. 178-86.
- Douglas S P, & Craig C S (1983) International Marketing Research, Prentice-Hall, Englewood Cliffs, NJ.
- Dowling G R, & Uncles M. (1997) Do Customer Loyalty Programs Really Work?, Sloan Management Review, 38(4), pp 71-82.
- Doyle M (1997) Orange Vows Improvements as Losses are Cut to Pounds 74m, The Daily Telegraph, MCC 1997, August 15.
- Drew J H, & Bolton R N (1987) Service Value and Its Measurement,' in Add Value to Your Service, Carol Surprenant, ed. Chicago: American Marketing Association pp 49-54.
- Dwek R (1996) A Hard Drive for Software (Microsoft Establishes Customer Loyalty Via Microsoft Advantage), Marketing, August 29, pp 40-42..
- Eccles G R (1991) The Performance Measurement Manifesto, Harvard Business Review, reprint 91103, pp 2-8, January -February 1991.
- Ehrenberg A S C (1969) Towards an Integrated Theory of Consumer Behaviour, Journal of the Market Research Society, 11(4), October 1969.
- Einhorn M A (1994) Optimal Nonuniform Pricing with Generalised Consumer Choice, Journal of Industrial Economics, 42(1), pp 105-112.

Engel J F, Blackwell R D, & Miniard P W (1995) Consumer Behaviour, The Dryden Press Series in Marketing, Eighth Edition, 1995.

Ennew C T, Reed G V, & Binks M R (1995) Importance-Performance Analysis and the Measurement of Service Quality, European Journal of Marketing, 27, pp. 59-70.

Ennew C T & Binks M R (1996) The Impact of Service Quality and Service Characteristics on Customer Retention: Small Businesses and their Banks in UK, British Journal of Management, Vol 7, pp 219-230.

Espinoza M M (1999) Assessing the Cross-Cultural Applicability of a Service Quality Measure, International Journal Of Service, Industry Management, 10(5), pp. 449-468.

Ettorre B (1997) The Bottom Line on Customer Loyalty (The Loyalty Effect' author Frederick F. Reichheld Interview), Management Review, 86(3) pp16-18.

Expansion-Spain (1997) Telefonica Moviles facilidades a los transportistas, Jan 23, p 4.

Field C (1998) Swipe Your Shopping, The Times, March 11.

Financial Times (1997) FT Telecoms -Survey: New Technology For Era Of Mobile Commerce: Telecoms Futures: A New Breed Of Mobile Phones - With A Range Of Fresh Functions - Is On The Way, November 19.

Finn D W, & Lamb C W (1991) An Evaluation Of The SERVQUAL Scales in a Retailing Setting, Advances in Consumer Research, Vol 18, pp. 483-90.

Firnstahl W T (1989) My Employees are my Service Guarantee, Harvard Business Review, reprint. 89407, July-August, pp. 2-6.

Fishbein M, & Ajzen I (1975) Belief, Attitude, Intention and Behaviour, an Introduction to Theory and Research, Reading, Mass: Addison-Welsley, Reading.

Fishbein M & Stasson M (1990) The Role of Desires, Self-Predictions, and Perceived Control in the Prediction of Training Sessions Attendance, Journal of Applied Social Psychology, Vol 20, pp 1743-1941.

Fisk R P, Brown S W, & Bitner M J (1993) Tracking the Evolution of the Services Marketing Literature, Journal of Retailing, 69(1) pp 61-144.

Fornell C (1992) A National Customer Satisfaction Barometer: The Swedish Experience, Journal of Marketing, 56(1), pp 6-21.

Fornell C, & Wernefelt B (1987) Defensive Marketing Strategy by Customer Complaint Management: A Theoretical Analysis, Journal of Marketing Research, 24(4), pp 337-46.

Fornell C, & Wernerfelt B. (1988) Model for Customer Complaint Management, Marketing Science, 7(Summer), pp 271-86.

Fornell C, Johnson M D, Anderson E W, Cha J, & Bryant B E (1996) The American Customer Satisfaction Index; Nature, Purpose and Finding, Journal of Marketing, 60(Oct.) pp 7-18.

Fort M (1993) Customer Defined Attributes of Service Quality in the IBM Mid-Range Computer Software Industry, unpublished MBA dissertation, Manchester Business School, Manchester.

Furnier S, Dobscha S, & Mick G D (1998) Preventing the Premature Death of Relationship Marketing, Harvard Business Review, 76(1), pp 42-51.

Fusilier M R, & Simpson P M (1995) Aids Patients Perceptions of Nursing Care Quality, Journal of Health Care Marketing, 15(1), pp. 49-53.

Gagliano K B, & Hatchcote J (1994) Customer Expectations and Perceptions of Service Quality in Retail Apparel Stores, Journal of Services Marketing, 8, pp. 60-69.

Gemme, E M (1997) Retaining Customers in a Managed Care Market, Marketing Health Services, 17(3), pp 19-21.

Gerbing D W, & Anderson J C (1988) An Updated Paradigm for Scale Development Incorporating Unidimensionality and Its Assessment, Journal of Marketing Research, 25(2), pp. 186-92.

Giarini O (1991), Notes On The Concept of Service Quality and Economic Value, in Brown S W, Gummesson E, Edvardsson B, & Gustavsson B (Eds), Service Quality: Multidisciplinary and Multinational Perspectives, Lexington Books, Lexington, MA, pp. 57-69.

Gierl H (1993), Zufriedene Kunden als Markenwechsler, Absatzwirtschaft, 36(2), pp 90-94.

Gill J, & Johnson P (1991) Research Methods for Managers, Paul Chapman Publishing Ltd.

Gilmore A, & Carson D (1992), Marketing Intelligence & Planning, European Journal of Marketing, 10(7), pp. 5-7.

Gofton K (1997a) Publishing Loyalties (Customer Magazines Lead UK Circulation Titles), Marketing, Jan 30, 1997, p27-29.

Gofton K (1997b) So, How Many Ps in Marketing? Marketing Technique : Customer Loyalty Supplement , July 31, pp. 11-12.

Goldberg A (1996) Branding Can't be a Band-Aid For Covering up Bad Products, PC Week, Jan 29, 13(4), p 18.

Goldberg L W, Digman J M (1994), Revealing Structure in the Data: Principles of Exploratory Factor Analysis, in S. Strack & M. Lorr (Eds.), Differentiating normal and abnormal personality, New Your: Springer pp.216-242

Gorton K, & Doole I (1989), Low-cost Marketing Research, 2nd Edn, Chichester, John Wiley & Sons.

Goubil-Gambrell P (1992) A practitioner's Guide to Research Methods. (Special Issue: Research in Technical Communication), Technical Communication, 39(4), pp 582-592.

Gould G (1995) Why it is Customer Loyalty that Counts (And How to Measure it), Managing Service Quality, 5(1) pp 15-19.

Greek Ministry of Economy (2002), 'National Research for the New Technologies and the Information Society – 2002'.

Gremler, D D (1994) Word-of-Mouth About Service Providers: An Illustration of Theory Development in Marketing, In AMA Winter Educators' Conference Proceedings, Eds. Park C W, & Smith D, American Marketing Association, 5, pp 62-70.

Griffin J (1996) The Internet's Expanding Role in Building Customer Loyalty, Direct Marketing, 59(7), pp 50-54.

Grønhaug K, & Gilly M C (1991) A Transaction Cost Approach to Consumer Dissatisfaction and Complaint Actions, Journal of Economic Psychology, Vol 12, pp. 165-83.

Gronroos C. (1982) Strategic Management and Marketing in the Service Sector, Swedish School of Economics and Business Administration, Helsinki.

Gronroos C (1988) Service Quality: The Six Criteria of Good Perceived Service Quality, Review of Business, 9(3), pp 10-13.



Gronroos C (1990) Relationship Approach to Marketing in Service Contexts: The Marketing and Organizational Behaviour Interface, Journal of Business Research, 20(1), pp 3-11.

Gronroos C (1993) Toward a Third Phase in Service Quality Research: Challenges and Future Directions, in Swartz T A, Bowen D E, & Brown S W (Eds), Advances in Services Marketing and Management, 2, JAI Press, Greenwich, CT, pp. 49-64.

Gunn R (2002a), The In-Depth Interview, PRA Inc, Available from: ([www.pra.ca/resources/indepth.pdf](http://www.pra.ca/resources/indepth.pdf)), [accessed January 2002].

Gunn R (2002b), Focus Groups, PRA Inc, ([www.pra.ca/resources/indepth.pdf](http://www.pra.ca/resources/indepth.pdf)), [accessed January 2002].

Guthrie J (1997) Personal Finance: Loyalty Battle Heats up: Credit Cards, Financial Times, MCC 1997, Mar 15.

Gutman J (1982) A means-end chain model based on consumer categorization processes, Journal of Marketing, 46(Spring), pp. 60-72.

Gypaki A (2001) The Use of Mobile Phones in Greece is Expensive, Newspaper Apogeumatini: 25 July.

Hall E T (1983), The Dance of Life: the Other Dimension of Time, 1st ed., Anchor Press/ Doubleday, Garden City, New York, NY.

Hallowell R (1996), The Relationships of Customer Satisfaction, Customer Loyalty and Profitability: An Empirical Study, International Journal of Service Industry Management, 7(4), pp.27-42.

Hallowell R, O'Jones T, & Schlesinger A L (1993) Air Miles Canada, Harvard Business School, 9-694-008, July 1.

Handy C (1996) Trust and the Virtual Organisation, The Quest for Loyalty: Creating Value Through Partnership / edited with an introduction by Frederick F Reichheld; foreword by Scott D Cook, Harvard Business Review Book Series, HF54415.5.Q47.

Hangel J, & Rayport J F (1997) The Coming Battle for Customer Information, Harvard Business Review, reprint 97104, (January- February).

Hansen S W, Swan J E, & Powers T L, (1996), The Perceived Effectiveness of Marketer Responses to Industrial Buyer Complaints: Suggestions for Improved Vendor Performance and Customer Loyalty, Journal of Business & Industrial Marketing, 11(1), pp 77-90.

Hart W L, Heskett J L, & Sasser W E Jr, (1990), The Profitable Art of Service Recovery, Harvard Business Review, No.90407, (July-August), pp: 58-66.

Headley D E, & Miller S J (1993), Measuring Service Quality and its Relationship to Future Consumer Behaviour, Journal of Health Care Marketing, 13(4), pp. 32-41.

Heath C, & Soll J B (1996) Mental Budgeting and Consumer Decisions, Journal of Consumer Research, 23(1), pp 40-52.

Heath C, & Fennema M G (1996) Mental Depreciation and Marginal Decision-Making, Organisational Behaviour and Human Decision Processes, 68(2), pp 95-108.

Helson H (1964), Adaptation-Level Theory, Harper & Row Publishers Inc, New York.

Hemmasi M, Strong K C, & Taylor S A (1994) Measuring Service Quality for Strategic Planning And Analysis In Service Firms, Journal of Applied Business Research, 10(4), pp. 24-34.

Herche J I, Swenson M J, & Verbeke W, (1996) Personal Selling Constructs and Measures: Emic versus Etic Approaches to Cross-National Research. (Personal Selling and Sales Management), European Journal of Marketing, 30(7) pp 83-98.

Heskett J L, Sasser W E Jr, & Schlesinger L A (1997) The Service-Profit Chain, The Free Press.

Heskett, J L, Jones T O, Loveman G W, Sasser W E, & Schlesinger L A (1994) Putting the Service-Profit Chain to Work, Harvard Business Review, 72(2), pp 164-174.

Heylen P J, Dawson B, Sampson P (1980) An Implicit Model of Consumer Behaviour, Journal of the Market Research Society, 37(1), pp 23-45.

Higgins L F, Ferguson J M, & Winston J M (1991) Understanding and Assessing Service Quality in Health Maintenance Organizations, Health Marketing Quarterly, 9(1-2), pp. 5-20.

Hill R C (1993) When the Going Gets Rough: A Baldrige Award Winner on the Line, Academy of Management Executive, 7(3), pp 75-79.

Hill A (1999) Mobile Phone Companies Fight for Churn, Financial Times, MCC 1999, March 19.

Hirschman A O. (1970) Exit, Voice and Loyalty, Harvard University Press, Cambridge, MA.

Hlavac R (1995) Retaining Customers Through Modelling, Acxiom, Conway, AR, Available from: (<http://www.acxiom.com/cip-rpt-k.htm>) [accessed May 1998]

Hofstede G H (1993) Cultural Constraints In Management Theories. (comparison of Worldwide Management Concepts), The Academy of Management Executive, 7(1), pp 81-95.

Hofstede G H (1980), Culture's Consequences, International Differences in Work-related Values, Sage Publications, Beverly Hills, CA.

Holbrook M B (1994), "The Nature of Customer Value", in Rust, R.T. and Oliver, R.L. (Eds), Service Quality, New Directions in Theory and Practice, Sage Publications, London, pp. 21-71.

Holbrook, M B & Corfman K P (1985) Quality and Value in the Consumption Experience: Phaedrus Rides Again", in Jacoby, J. and Olson, J. (Eds), Perceived Quality, Lexington Books, Lexington, MA, pp 31-57.

Hollinger P (1997) Survey - Europe's Most Respected Companies Winner Of Popularity Stakes, Financial Times, MCC 1997, September 24.

Hope J, & Hope T (1997) Competing in the Third Wave, Harvard Business School Press.

InfoCom (2002), Telecommunications Consultancy, Available from: <http://www.infocom-de.com/graph181102.html>, [accessed December 2002].

Infopolis (2000), Task Analysis Methods: Critical Incident Technique, European Commission, Telematics Application Programme, Available from: <http://www.ul.ie/~infopolis/methods/incident.html>, [accessed May 2002].

Johnson M D, & Fornell C (1991) A Framework for Comparing Customer Satisfaction Across Individuals And Product Categories, Journal of Economic Psychology, 12, pp. 267-353.

Johnston R (1995) The Determinants Of Service Quality: Satisfiers And Dissatisfiers, International Journal of Service Industry Management, 6(5), pp. 53-71.

Johnston R, Silvestro R, Fitzgerald L, Voss C (1990) Developing the Determinants of Service Quality, in Langeard E & Eiglier P (Eds), Marketing, Operations and Human Resources Insights into Services, First International

Research Seminar on Services Management, Institut d'Administration des Entreprises, Aix-en-Provence, pp. 373-400.

Jones P J (1996) The Double Jeopardy of Sales Promotions, Harvard Business Review, reprint 90505, September-October, pp 2-9.

Jones T O, & Sasser E W (1995) Why Satisfied Customers Defect, Harvard Business Review, reprint 95606, November-December, pp 1-13.

Jones M A & Suh J (2000) Transaction-Specific Satisfaction and Overall Satisfaction: An Empirical Analysis, Journal of Services Marketing, 14 (2), pp 147-159.

Kangis P, & Zhang Y. (2000) Service Quality and Customer Retention in Financial Services, Journal of Financial Services Marketing, 4(4), pp 306-318.

Keat R, & Urry J (1975) Social Theory as Science, Routledge, London.

Keaveney S (1995) Customer Switching Behaviour in Service Industries: An Exploratory Study, Journal of Marketing, 59(April) pp.71-82.

Kelman H C (1961) Processes of Opinion Change, Public Opinion Quarterly, 25, pp 57-78.

Kettinger W J, Lee C C, & Lee S. (1995) Global Measures Of Information Service Quality: A Cross-National Study, Decision Sciences, 26(5), pp 569-88.

Killgren (1997) Orange's Magazine, 'O', as it Moves to the Next Stage in its development, Marketing Week, MCC 1997, Jun 12.

Klemperer P (1987) Markets With Consumer Switching Costs, Quarterly Journal of Economics, 102(May), pp: 375-394.

Knutson B, Stevens P, Wuallaert C, Patton M, & Yokoyama F (1990) LODGSERV: A Service Quality Index for the Lodging Industry, Hospitality Research Journal, 14(2) pp 277-284.

Kohli A (1989) Determinants of Influence in Organisational Buying: A Contingency Approach, Journal of Marketing, 53(3), pp 50-65.

Kontokolias X (2001) After the Truce a New Commercial Battle in Mobile Telephony, Newspaper Naftemporiki: April 23.

Koob C J (1994) Turning Lost Customers into Gold, Small Business Reports, 19(5), pp. 58-60.

Kordupleski R, Rust R T, & Zahorik A J (1993) Why Improving Quality Doesn't Improve Quality (or Whatever Happened to Marketing?), California Management Review, 35(Spring), pp. 82-95.

Kotler, P. (1994) Marketing Management: Analysis, Planning, Implementation and Control, Prentice Hall, Englewood Cliffs, NJ.

Krech D, & Crutchfield R (1948) Theory and Problems in Social Psychology, McGraw-Hill, New York, NY.

Kurtz D L, & Clow K E (1998) Services Marketing, John Wiley, New York, NY.

Lacobucci D, Grayson K A, & Ostrom A L (1994a) The Calculus of Service Quality and Customer Satisfaction: Theoretical and Empirical Differentiation and Integration, in Swartz T A, Bowen D E, & Brown S T, Advances in Services Marketing and Management, 3, JAI Press, Greenwich, CT, pp. 1-67.

Lacobucci D, Grayson K, & Ostrom A (1994b) Customer Satisfaction Fables, Sloan Management Review, 35(4), pp. 93-99.

Lacobucci D, & Ostrom A (1994) Men and Women: Seeing Services Differently, Stores, 76(4), pp. 8-9.

Lam S, & Woo Ka Shing (1997) Measuring Service Quality: A Test-Retest Reliability Investigation of SERVQUAL, Journal of the Market Research Society, 39(2), p 381.

Lapierre J (1997) What Does Value Mean in Business-to-Business Professional Services?, International Journal of Service Industry Management, 8(5), pp. 377-397.

Lee J, Lee J & Feick L, (2001) The Impact of Switching Costs on the Customer Satisfaction-Loyalty Link: Mobile Phone Service in France, Journal of Services Marketing, 15(1), pp 35-48.

Lehtinen J R, & Lehtinen O (1982) Service Quality: a Study of Quality Dimensions, unpublished working paper, Service Management Institute, Helsinki.

Lester T (1998) Knowing Me, Knowing You, MBA, The Magazine for Business Masters, 1(5), p 11.

Levitt T (1990) The Case of Migrating Markets, Harvard Business Review, reprint 90408, (July-August), pp 2-7.

Lewis B R (1993) Service Quality Measurement, Marketing Intelligence & Planning, 11(4), pp. 4-12.

Lewis H G (1997) Does your 'Loyalty' Program Inspire any Loyalty? Direct Marketing, 60(2), pp 46-49.

Light L (1997) Brand Loyalty Management: The Basis for Enduring Profitable Growth, Direct Marketing, 59(11), pp 36-44.

Liljander V & Strandvik T (1992) The Relation Between Service Quality, Satisfaction and Intentions, in Kunst D and Lemmink J (Eds), Managing Service Quality, Vol II, Paul Chapman, 1995, pp 45-63.

Liljander V & Strandvik T (1995) The Nature of Customer Relationships in Services, in Swartz T, Bowen D and Brown S (Eds), Advances in Services Marketing and Management, Vol. 4, JAI Press, London.

Linton I (1993) Building Customer Loyalty, Pitman Publishing.

Little R J A, & Rubin D B (1987) Statistical Analysis with Missing Data, New York: Wiley.

Lord F M (1958) The Utilisation of Unreliable Difference Scores, Journal of Educational Psychology, 19(3), pp 150-152.

Louie D L, & Rayport J F (1997) QVC Inc., Harvard Business School, 9-897-050, Rev. June 20.

Lovelock C H (1983) Classifying Services to Gain Strategic Marketing Insights, Journal of Marketing, 47(3), pp. 9-20.

Lovelock C H (1994) Product Plus: How Product + Service = Competitive Advantage, New York, Mc Graw-Hill.

Lovelock C H (1996) Services Marketing, 3rd edition, Prentice Hall International Editions, pp 582-592.

Lowenstein M W (1993) The Voice of the Customer, Small Business Reports, 18(12), pp 57-58.

Lynn M (1997) Vodafone Launches Air Miles Venture, The Sunday Times, MCC 97, March 9.

Lytle B, Barsness T. & Janssens (1995) A Paradigm for Confirmatory Cross-Cultural Research in Organisational Behaviour, in Cummings L L & Stan B M

(Eds), Research in Organisational Behaviour, An Annual Series of Analytical Essays and Critical Reviews, 17, pp. 167-214, JAI Press Inc., Greenwich, CT.

Majchrzak A, & Qianwei W (1996) Breaking the Functional Mind-Set in Process Organizations, Harvard Business Review, reprint 96505, (September-October), pp 93-99.

Malhotra N K, Ulgado F M, Agarwal J, & Baalbaki I B (1994) International Services Marketing, a Comparative Evaluation of The Dimensions of Service Quality Between Developed and Developing Countries, International Marketing Review, 11(2), pp 5-15.

MapInfo, (1999) Mobile Telephony, Presentation of the Information Discovery Company, Hotel Pentelikon, Athens, GR, April 28, 1999.

Marketing Week (1997) Mobile Phone Outfits Line up Xmas Blitz, MCC 1997, October 30.

Maruca F R, & Halliday A L (1993) When New Products and Customer Loyalty Collide, Harvard Business Review, reprint 93608, November-December, pp 37-44.

Mattila A S (1999) The Role of Culture in the Service Evaluation Process', Journal of Service Research, 1(3), pp 250-161.

Mazis M B, Ahtola O T, & Klippel R E (1975) A Comparison of Four Multi-Attribute Models in the Prediction of Consumer Attitudes, Journal of Consumer Research, 2(June), pp 38-52.

McAlexander J H, Kaldenberg D O, & Koenig H F (1994) Service Quality Measurement: Examination of Dental Practices Sheds More Light on the Relationships Between Service Quality, Satisfaction, and Purchase Intentions in a Health Care Setting, Journal of Health Care Marketing, 14(3), pp 34-40.

McColgan A E (1997) How Fidelity Invests in Service Professionals, Harvard Business Review, reprint 97109, (January-February), pp 3-8.

McCray S (1997) Versioning Builds Relationships with Customers, Acxiom, Conway, AR, Available from: <http://www.acxiom.com/cip-rpt-w.htm> [Accessed Nov 1998]

Mehta S C, Lalwani A K, Li Han S (2000) Service Quality in Retailing: Relative Efficiency of Alternative Measurement Scales for Different Product-Service Environments, International Journal of Retail & Distribution Management, 28(2), pp. 62-72.

- Merrills R (1989) How Northern Telecom Competes on Time, Harvard Business Review, reprint No 89409, (July-August).
- Miles L (1997) To Have and to Hold, Marketing, Jan 30, p30-32.
- Miles M. B. & Huberman, M.A (1994), Qualitative Data Analysis, SAGE Publications, Second Edition.
- Monroe K B (1991) Pricing - Making Profitable Decisions, McGraw-Hill, New York, NY.
- Monroe K B, & Krishnan R (1985) The Effect of Price on Subjective Product Evaluations, in Jacoby J, & Olson J (Eds), Perceived Quality: How Consumers View Stores and Merchandise, Lexington Books, Lexington, MA, pp. 209-232.
- Mortished C (1997) Mobile Phones; Tempus, The Times (London), MCC 1997.
- Murfin D E, Schlegelmilch B B, & Diamantopoulos A (1995) Perceived Service Quality and Medical Outcome: An Interdisciplinary Review and Suggestions for Future Research, Journal of Marketing Management, 11, pp 97-117.
- Murphy P (1999) Service Performance Measurement Using Simple Techniques Actually Works, Journal of Marketing Practice, Applied Marketing Science , 5(2), pp 56-73.
- NCSU (2001) Factor Analysis, Statistics Department of North Carolina State University (NCSU), USA, Available from: (<http://www2.chass.ncsu.edu/garson/pa765/factor.htm>) [accessed 9-10-2001].
- Newman L W (2000), Social Research Methods: Qualitative and Quantitative Approaches, Allyn & Bacon, A Pearson Education Company, Fourth Edition.
- News in.gr (2002), Problems in the blood system of the brain caused by the use of mobile phones, Available from: <http://www.in.gr> [accessed 20 June 2002].
- Newspaper Apogeumatini (2001) Penetration of Mobile Phones in Western Europe in 1997 and 2000, Newspaper Apogeumatini: 25 July.
- Newspaper Economia (2001), Mobile Telephony, Derby for the First Place, Newspaper Economia: 18 April 2001.
- Newspaper Express (2000), Mobile Telephony Users Exceeded Five Million, Newspaper Express: Thursday 19 October.
- Newspaper Naftemporiki (2000), Geometrical the Increase Mobile Telephony, Newspaper Naftemporiki, 9 October 2000.



NJIT- New Jersey Institute of Technology, (2002), Repertory Grid, Asynchronous Learning Networks (ALN), Available from: <http://www.alnresearch.org/html/assessmentTutorial/Strategies/RepertoryGrid.html>, [accessed May 2002].

Nuki P (1997), Chaos Pricing' Baffles Shoppers out of Bargains, The Sunday Times, MCC 97, January 26.

Nunnally, J.C. (1978), Psychometric Theory, 2nd ed., McGraw-Hill, New York, NY.

O'Brien L, & Jones C (1995), Do Rewards Really Create Loyalty? Harvard Business Review, reprint 95307, May-June, pp 16-23.

Olins R (1997) Orange Turns up Heat in Mobile-Phone War, The Sunday Times (United Kingdom), MCC 1997, August 17.

Oliver R L (1980), A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions, Journal of Marketing Research, 17(November), pp 460-469.

Oliver R L (1981) Measurement and Evaluation of Satisfaction Processes in Retailing Setting, Journal of Retailing, 57(Fall), pp 25-48.

Oliver R L (1989) Processing of the Satisfaction Response in Consumption: A Suggested Framework and Research Propositions, Journal of Satisfaction, Dissatisfaction and Complaining Behaviour, 2, pp 1-16.

Oliver R L (1993) A Conceptual Model of Service Quality and Service Satisfaction: Compatible Goals, Different Concepts, in Swartz T A, Bowen D E, & Brown S W (Eds), Advances in Services Marketing and Management, 2, JAI Press, Greenwich, CT, pp 65-85.

Oliver R L, & Swan J E (1989) Consumer Perceptions of Interpersonal Equity and Satisfaction in Transactions: A Field Survey Approach, Journal of Marketing, 53(2), pp 21-35.

Olshavsky, R W (1985) Perceived Quality in Consumer Decision Making: An Integrated Theoretical Perspective, in Perceived Quality, Jacoby J & Olson J, (Eds), Lexington, MA: Lexington Books.

Olson J C, & Dover P (1976) Disconfirmation of Consumer Expectations Through Product Trial, Journal of Applied Psychology, 64(April), pp 179-189.

Owen D (1997) Companies and Finance: International: France Telecom Hands out 'Welcome Present', Financial Times, MCC 1997, November 21.

Panafon (1999) Company Presentation, June 1999.

Parasuraman A, Zeithaml V A, & Berry L L (1985) A Conceptual Model of Service Quality and its Implications for Future Research, Journal of Marketing, 49(Fall), pp. 41-50.

Parasuraman A, Zeithaml V, & Berry L (1988) SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality, Journal of Retailing, 64(1), pp12-37.

Parasuraman A, Berry L L & Zeithaml V A (1991) Refinement and Reassessment of the SERVQUAL Scale, Journal of Retailing, 67(4), pp. 420-450.

Parasuraman A, Berry L L, & Zeithaml V A (1993) More on Improving Service Quality Measurement, Journal of Retailing, 69(1), pp.140-148.

Parasuraman A, Zeithaml V A, & Berry L L (1994a) Alternative Scales for Measuring Service Quality: A Comparative Assessment based on Psychometric and Diagnostic Criteria, Journal of Retailing, 70(3), pp. 201-230.

Parasuraman A, Zeithaml V A, & Berry L L (1994b) Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Further Research, Journal of Marketing, 58(1) 1994, pp 111-24.

Patterson P G & Johnson L W (1993) Disconfirmation of Expectations and the Gap Model of Service Quality: An Integrated Paradigm, Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behaviour, Journal of Marketing, 56 (3), pp. 55-68.

Patterson P G, & Spreng R A (1997) Modelling the Relationship Between Perceived Value, Satisfaction and Repurchase Intentions in a Business-To-Business, Services Context: An Empirical Examination, International Journal of Service Industry Management, 8(5), pp. 414-434.

Pavone L (1995) Quality Service and the Bottom Line, LIMRA's Market Facts, 14(2), pp 4-5.

Pearce Mike (1996a) Bought or Beguiled? (Developing Customer Loyalty), Marketing, Feb 8, 1996, p6.

Pearce Mike (1996b) Loyalty in a Foreign Climate (Choosing and Using Customer Loyalty), Marketing, April 4, 1996, p3.

Pearce M (1997) The True Science of Nurturing Customer Loyalty (Marketing Technique), Marketing, July 31, 1997, p6-9.

Peters T J (1988) Thriving on Chaos, New York: Alfred A. Knopf.

Peterson R A (1995) Relationship Marketing and the Consumer, Journal of the Academy of Marketing Science, 23(Fall), pp 278-281.

Peterson R A, & Wilson W R (1985) Perceived Risk and Price Reliance Schema as Price Perceived Quality Mediators, in Jacoby J. and Olson G. (Eds), Perceived Quality, Lexington Books, Lexington, MA.

Peterson R A, & Wilson W R (1992) Measuring Customer Satisfaction: Fact and Artifact, Journal of the Academy of Marketing Science, 20(1), pp 61-71.

Philip G, & Hazlett S A (1997) The Measurement of Service-Quality: A new P-C-P Attributes Model, International Journal of Quality & Reliability Management, 14(2-3), pp 260-287.

Philips L W (1981) Assessing Measurement Error in Key Informant Reports: A Methodological Note on Organisational Analysis in Marketing, Journal of Marketing Research, 18, pp. 395-415.

Pine J B, Peppers D, & Rogers M (1996) Do You Want to Keep Your Customers Forever?, The Quest for Loyalty: Creating Value Through Partnership / edited with an introduction by Frederick F Reichheld; foreword by Scott D Cook, Harvard Business Review Book Series, HF54415.5.Q47.

Polk R S (1996) Why Customers Defect, Acxiom, Conway, AR, November-December 1996, Case-in-Point 2(5) Report, Available from: <http://www.acxiom.com/cip-v2n5-d.htm>, [accessed in Nov 98].

Porter M (1985) Competitive Advantage - Creating and Sustaining Superior Performance, Free Press, New York, NY.

Poulos N G (1996) Customer Loyalty and the Marketing Database, Direct Marketing, 59(3), pp 32-36.

Prokesch S E (1995) Competing on Customer Service: An Interview with British Airways' Sir Collin Marshall, The Quest for Loyalty: Creating Value Through Partnership / edited with an introduction by Frederick F Reichheld; foreword by Scott D Cook, Harvard Business Review Book Series, HF54415.5.Q47.

Prus A & Brandt D R (1995) Understanding Your Customers, American Demographics, Marketing Tools Supplement, (July-August), pp. 10-14.

Rajshekhar G J, & Moberg C R (1997) Service Loyalty: Implications for Service Providers, The Journal of Services Marketing, 11(3), pp. 165-179.

Ravald A & Gronroos C (1996) The Value Concept and Relationship Marketing, (Nordic Perspective on Relationship Marketing), European Journal of Marketing, 30(2) pp 19-31.

Reichheld F F (1993) Loyalty-Based Management, Harvard Business Review, 71(March-April) pp 64-73.

Reichheld F F (1996) Learning From Customer Defections, Harvard Business Review, reprint 96210, (March-April), pp 56-69.

Reichheld F F (1996a) Letter to the editor in response to "Competing on Customer Service: An Interview with British Airway's Sir Colin Marshall", The Quest for Loyalty: Creating Value Through Partnership / edited with an introduction by Frederick F Reichheld; foreword by Scott D Cook, Harvard Business Review Book Series, HF54415.5.Q47.

Reichheld F F (1997) Business Loyalty, Executive Excellence, 14(6), p 19.

Reichheld F F, & Sasser W E (1990) Zero Defections: Quality Comes to Services, Harvard Business Review, reprint No. 90508, September-October, pp 67-75.

Reidenbach R E, & Sandifer-Smallwood B (1990) Exploring Perceptions of Hospital Operations by a Modified SERVQUAL Approach, Journal of Health Care Marketing, 10(December) pp 47-55.

Richard M D, & Allaway A W (1993) Service Quality Attributes and Choice Behaviour, Journal of Services Marketing, 7(1), pp 59-68.

Riddle D I (1992) Leveraging Cultural Factors In International Service Delivery, in Swartz, Bowen & Brown (Eds), Advances in Services Marketing and Management, 1, JAI Press, Greenwich, CT, pp. 297-322.

Rines S (1995), Blind Data, Marketing Week, Customer Loyalty Supplement, November 17, pp 26-27.

Robson J (1993) Soaring to New Heights, Managing Service Quality, 3(2), pp 465-468.

Rosen D E, & Surprenant C (1998) Evaluating Relationships: are Satisfaction and Quality Enough? International Journal of Service Industry Management, 9(2), pp 103-125.

Rosenberg L J, & Van West J H (1984), The Collaborative Approach to Marketing, Business Horizons, 27( November-December), pp. 29-35.

Rosenblatt P C (1977) Needed Research on Commitment in Marriage, in Levinger G, & Raush H L (Eds), Close Relationships: Perspectives on the Meaning of Intimacy, Amherst: University of Massachusetts Press, pp 73-86.

Rothschild M L, & Gaidis W C (1981) Behavioural Learning Theory: Its Relevance to Marketing and Promotions, Journal of Marketing, 45(spring), pp 70-78.

RSCF-Resource Strategic Change Facilitators (2002), The Application of Repertory Grid, Bradford, UK, Available from: <http://www.adapt.uk.com/repgrid.htm>, [accessed May 2002].

Rucci J A, Kirn P S, & Quinn T R (1998), The Employee-Customer-Profit Chain at Sears, Harvard Business Review, 76(1), pp 83-97.

Rust R T, & Zahorik A J (1993) Customer Satisfaction, Customer Retention and Market Share, Journal of Retailing, 69(2), pp. 193-215.

Rust R T, & Zahorik A J (1995) Return on Quality (ROQ): Making Service Quality Financially Accountable, Journal of Marketing, 59(2), p 58.

Rust R T, Zahorik A J & Keiningham T L (1994) Return on Quality – Measuring the Financial Impact of Your Company's Quest for Quality, Probus Publishing, Chicago, IL.

Rust R T, & Oliver R L (1994) Service Quality: New directions in Theory and Practice, SAGE Publications Inc.

Rust R T. & Oliver R L, (2000) Should we Delight the Customer?, Journal of the Academy of Marketing Science, 28(1), pp86-95.

Saleh F, & Ryan C (1992) Analysing Service Quality In The Hospitality Industry Using The SERVQUAL Model, Services Industries Journal, 11(3), pp 324-243.

Samovar L A, & Porter R E (1991) Communication Between Cultures, Wadsworth Publishing Company, Belmont, CA.

Sasser W E, Olsen R P, & Wyckoff D D (1978) Management of Service Operations, Allyn & Bacon, Boston, MA.

Sawyer A G, & Dickson P (1984) Psychological Perspectives on Consumer Response to Sales Promotion, in Jocz C (Eds), Research on Sales Promotion: Collected Papers, Marketing Science Institute, Cambridge, MA, pp. 1-21.

Saxe R, & Weitz B A (1982) The SOCO Scale: A Measure of the Customer Orientation of Salespeople, Journal of Marketing Research, 19(August), pp 343-351.

Schlesinger L & Heskett J (1991) Breaking the Cycle of Failure in Services, Sloan Management Review, 32(Spring), pp 17-28.

Seybold P (1996) Long Live Loyalty (Customer Loyalty Critical to Success in Computer Industry), Pc Week Executive, 13(12), March 25, p3.

Shapiro B P (1997) Buy Low, Sell High, Creating and Extracting Customer Value by Enhancing Organisational Performance, Harvard Business School, 9-597-071, January 30.

Shedd W (1997) Learning the Hard Way About Customer Loyalty, Communications Week-International, April 21, p 9.

Sheppard B H, Hartwick J, & Warshaw P R (1988) The Theory of Reasoned Action: A Meta Analysis of Past Research With Recommendations for Modifications and Future Research, Journal of Consumer Research, 15, pp 325-343.

Sheth J N, & Parvatiyar A (1995) Relationship Marketing in Consumer Markets: Antecedents and Consequences, Journal of the Academy of Marketing Science, 23(4), pp 255-271.

Singh J (1988) Consumer Complaint Intentions and Behaviour: Definitional and Taxonomical Issues, Journal of Marketing, 52(January), pp 93-107.

Smith A K, Bolton R N, & Wagner J (1996) A Model of Customer Satisfaction With Service Encounters Involving Failure and Recovery, Journal of Marketing Research, 36(3), pp 356-363.

Snyder D R (1991) Demographic Correlates to Loyalty in Frequently Purchased Consumer Services, Journal of Professional Services Marketing, 8(1), pp. 45-55.

Spector P (1992) Summated Rating Scale Construction: An Introduction, Sage Publications, New-bury Park and London.

Spiegel M R (1961) Statistics, Schaum Series, October 1961, pp 141-155.

Spiro R L, & Weitz B A (1990), Adaptive Selling: Conceptualisation, Measurement and Nomological Validity, Journal of Marketing Research, 27(1), pp 61-70.

Spreng R A & Singh A K (1993) An Empirical Assessment of the SERVQUAL Scale and the Relationship Between Service Quality and Satisfaction, in Cravens, D W, & Dickson P (Eds), Proceedings of the 1993 American Marketing Association, American Marketing Association, Chicago, IL, pp. 1-6.

Spreng R A & Olshavsky R W (1992), A Desires-as-Standard Model of Consumer Satisfaction: Implications for Measuring Satisfaction, Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behaviour, 5, pp 45-54.

Spreng R A, MacKenzie, S B, & Olshavsky R W (1996) A Re-Examination of the Determinants of Consumer Satisfaction, Journal of Marketing, 60(July), pp. 15-32.

Stafford M R, Stafford T F, & Wells B P (1998) Determinants of Service Quality and Satisfaction in the Auto Casualty Claims Process, The Journal of Services Marketing, 12(6), pp. 426-440.

Stauss B, & Neuhaus P (1997), The Qualitative Satisfaction Model, International Journal of Service Industry Management, 8(3), pp 236-249.

Steagall J W, & Hale R L (1994) MYSTAT for Windows, Course Technology Inc, 1994.

Stevens P, Knutson B, & Patton M (1995), DINESERV: A Tool for Measuring Service Quality in Restaurants, Cornell Hotel & Restaurant Administration Quarterly, 36(2) pp 56-61.

Stewart V (2002), A New Acronym I Give Unto You, EnquireWithin, Available from: <http://www.enquirewithin.co.nz/HINTS/acronym.htm>, [accessed May 2002].

Stokes R C (1985) The Effect of Price, Package Design and Brand Familiarity on Perceived Quality, in Jacoby J, & Olson J (Eds), Perceived Quality: How Consumers View Stores and Merchandise, Lexington Books, Lexington, MA, pp. 233-246.

Storbacka K (1994) The Nature of Customer Relationship Profitability. Analysis of Relationships and Customer Bases in Retail Banking, Swedish School of Economics and Business Administration, 55, Helsingfors.

Storbacka K, Strandvik T, & Grönroos C (1994) Managing Customer Relationships for Profit: The Dynamics of Relationship Quality, International Journal of Service Industry Management, 5(5), pp. 21-38.

Strandvik T (1994) Tolerance Zones in Perceived Service Quality, Swedish School of Economics and Business Administration, Helsinki.

Strategic International (2002), 'The Nightmare of Exclusion from the Digital Economy is now Wandering Around Greece', Strategic International Kataras, Available from: <http://www.strategic.gr/press/Docs/EN/EN-November18-DWF2002p3.doc>, [accessed December 2002].

Struebing L (1996) Customer Loyalty: Playing for Keeps, Quality Progress, 29(2), pp 25-30.

Sultan F & Simpson Jr M C (2000) International Service Variants: Airline Passenger Expectations and Perceptions of Service Quality, Journal of Services Marketing, 14(3), pp 191-216.

Sunday Express (1997) Loyalty Bid For Orange Customers, MCC 1997, July 20.

Sviokla J J (1996) Turning Data Into Dollars, Harvard Business School, No 9-192-110, Rev. March 20.

Swartz T A, & Brown S W (1989) Consumer and Provider Expectations and Experience in Evaluating Professional Service Quality, Journal of the Academy of Marketing Science, 17(Spring) pp. 189-95.

Sweeney J (1994) An Investigation of a Theoretical Model of Consumer Perceptions of Value, unpublished doctoral dissertation, School of Management and Marketing, Curtin University of Technology, Perth, Australia.

Tabachnick B & Fidell L (1989) Using Multivariate Statistics 2nd Edition, Harper Collins, New York.

Taylor P (1998) Companies and Finance: Gemplus Plans Share Debut, Financial Times, MCC 98, January 26.

Taylor S A, & Baker T L (1994) An Assessment of the Relationship Between Service Quality and Customer Satisfaction in the Formation of Consumers' Purchase Intentions, Journal of Retailing, 70(20), pp. 163-178.

Teas K R (1993a) Expectations, Performance Evaluation and Consumers' Perceptions of Quality, Journal of Marketing, 57(4), pp 18-24.



Teas, K R (1993b) Consumer Expectations and the Measurement of Perceived Service Quality, Journal of Professional Services Marketing, 8(2), pp. 33-53.

Teas R K (1994) Expectations as a Comparison Standard in Measuring Service Quality: An Assessment of a Reassessment, Journal of Marketing, 58(January), pp. 132-39.

The Express (1998) Orange is Hit by Festive Squeeze, MCC 98, January 6.

The Northern Echo (1998) Mobile Future is Bright for Orange, MCC 98, January 6.

The Sunday Business Post (1997) Profile: College Buddy With Corporate Polish, Waging War for Hearts and Mobiles, MCC 97, February 23.

The U.S. Department of Commerce (2002) The Service Sector and the US Economy, Office of Service Industries, International Trade Administration, (<http://usinfo.state.gov/journals/ites/0496/ijef/ej7a.htm>), [Accessed January 2002].

Tippen M (1996) Building Customer Loyalty Through Quality Telemarketing, Direct Marketing, 59(5), pp14-16.

Triandis H C, Bontempo R, Villareal M, Asai M, & Lucca N (1988), Individualism and Collectivism: Cross-Cultural Perspectives of Self-ingroup Relations, Journal of Personality and Social Psychology, 54(2), pp. 323-38.

Trickett E (1997) Orange's Customer Loyalty Drive, Set it Apart From Competitors?, Financial Times, MCC 1997, December 5.

Tse D K, & Wilton P C (1988) Models of Consumer Satisfaction Formation: An Extension, Journal of Marketing Research, 25(2), pp 204-12.

Tutt N (1997) Survey - FT Telecoms: An Effective Performer, Financial Times, MCC 1997, November 19.

Uhlig R (1997) Special Report on Mobile Communications: A Stomach Churning Time for the Big Players, Daily Telegraph, MCC 97. April 30.

Usabilitynet (2001), Critical Incident Technique, EU Framework V IST Programme, February 2001, Available from: <http://www.usabilitynet.org/methods/testmeasure/criticalincidents.asp>, [accessed May 2002].

Usunier J C (1991) Business Time Perceptions and National Cultures: A Comparative Survey, Management International Review, 31(3), pp. 197-217.

Van Dyke T P, Kappelman L A, & Prybutok V R (1997), Measuring Information Systems Service Quality: Concerns on the Use of the SERVQUAL Questionnaire, MIS Quarterly, 21(2), pp195-209.

Vantrappen H (1992) Creating Customer Value by Streamlining Business Processes, Long Range Planning, 25 (1), pp 53-62.

Vichas R P (1982) Complete Handbook of Profitable Marketing Research Techniques, Englewood Cliffs, NJ, Prentice Hall.

Walker D (1990) Customer First: A Strategy for Quality Service, Gower, Aldershot.

Walters J (1994) Will Air Miles Turn into BA's Time Bomb? Travel-Trade-Gazette-UK-and-Ireland, January 12, 1994, P. 6.

Waters R & Daniel C (2001) The Crisis in Mobile Telephony Industry, Newspaper Kathimerini, Friday 25 June.

Watts B L (2000), Mixed methods make research better, Marketing News, 34(5) p16.

Weiser C R (1996) Championing the Customer, The Quest for Loyalty: Creating Value Through Partnership / edited with an introduction by Frederick F Reichheld; foreword by Scott D Cook, Harvard Business Review Book Series, HF54415.5.Q47.

Westbrook R A (1980) A Rating Scale for Measuring Product/Service Satisfaction, Journal of Marketing, 44(Autumn), pp. 68-72.

Westbrok K W, Pedrick D & Bush V (1996) A Quality Tool for Health Insurers: A new Scale Measures Quality Orientation From the Customers Point of View, Journal of Health Care Marketing, 16(4), pp 30-36.

Wetzels M, Ko de Ruyter, Lemmink J, & Koelemeijer K (1995) Measuring Customer Service Quality in International Marketing Channels: A Multimethod Approach, Journal of Business & Industrial Marketing, 10(4), pp50-60.

Winsted K F (1997) The Service Experience in two Cultures: A Behavioural Perspective, Journal of Retailing, 73(3), pp. 337-60.

Wikström S, & Normann R (1994) Knowledge and Value: A New Perspective on Corporate Transformation, Routledge, London.

Wirtz J (1993) A Critical Review Of Models in Consumer Satisfaction, Asian Journal of Marketing, 2(1), pp 7-22.

Wirtz J, & Bateson J E G (1995) An Experimental Investigation of Halo Effects in Satisfaction Measures of Service Attributes, International Journal of Service Industry Management, 6(3), pp 84-102.

Woodruff R B, Cadotte E R, & Jenkins R L (1983) Modelling Consumer Satisfaction Processes Using Experience-Based Norms, Journal of Marketing Research, 20(August), pp. 296-304.

Woodside A G, Frey L L, & Daly R T (1989) Linking Service Quality, Customer Satisfaction and Behavioural Intention, Journal of Health Care Marketing, 9 December, pp. 5-17.

Worldbank (2002) The In-Depth Interview, Available from: (<http://www.worldbank.org/poverty/impact/methods/indepth.htm>) [accessed January 2002].

Yi Y (1990), A Critical Review of Customer Satisfaction, in Zeithaml V (eds), Review of Marketing, American Marketing Association, Chicago IL, pp 68-123.

Zeithaml V A (1981) How Consumer Evaluation Processes Differ Between Goods and Services, Marketing of Services, American Marketing Association, Chicago, IL.

Zeithaml V A (1988) Consumer Perceptions of Price, Quality and Value: A Means-End Model and Synthesis of Evidence, Journal of Marketing, 52(3), pp. 2-22.

Zeithaml V A, Parasuraman A & Berry L L, (1990), Delivering Quality Service: Balancing Customer Perceptions and Expectations, The Free Press, New York, NY.

Zeithaml V A, Berry L L & Parasuraman A (1991), The Nature and Determinants of Customer Expectations of Service, working paper 91-113, Marketing Science Institute, Cambridge, MA.

Zeithaml V A, Berry L L & Parasuraman A (1996), The Behavioural Consequences of Service Quality, Journal of Marketing, 60(2), pp 31-47.

## APPENDIX I

### THE IN- DEPTH INTERVIEW QUESTIONNAIRE

*Questionnaire for the initial adaptation of the SERVQUAL Model to measure the quality of the mobile telephony service.*

The SERVQUAL model will be applied in order to measure the quality of the services offered in the mobile telephony sector from the perspective of the customer and identify the service shortfalls and the crucial service quality factors.

#### **General Information about the SERVQUAL Model**

The SERVQUAL instrument was proposed by Parasuraman, Zeithaml and Berry in 1985 for measuring service quality. SERVQUAL. It involves the subtraction of customers' expectations of the service they would receive from their perceptions of the service they actually did get with respect to specific items. The differences are averaged to produce a total score for service quality.

SERVQUAL has been designed to be applicable across a broad spectrum of services. As such, it provides a basic skeleton through its expectations/perceptions format encompassing statements for each of the service-quality dimensions. However, the scale items that define service quality in one industry may be different in another. Perhaps high involvement services such as health care or financial services have different service quality definitions than low involvement services such as fast food or dry clean. *Therefore, when necessary, the skeleton, can be adapted or supplemented to fit the characteristics or specific needs of a particular sector/organisation.*

Parasuraman, Zeithaml and Berry (1985) revealed that the criteria used by consumers in assessing service quality fit 10 potentially overlapping dimensions :Tangibles, Reliability, Responsiveness, Credibility, Courtesy, Understanding/Knowing the customer, Communication, Security, Competence, Access. These 10 original dimensions of SEVQUAL were later (1988) condensed into 5 dimensions including 22 items: Tangibles, Reliability, Responsiveness, Assurance, Empathy. Therefore, Assurance and Empathy contain items representing seven original dimensions-communication, credibility, security, competence, courtesy, understanding/knowing customers and access. Assurance involves knowledge and courtesy of employees and their ability to inspire trust and confidence. Empathy involves caring, individualised attention the firm provides its customers.

## Directions for the Interviewees

The SERVQUAL model will be adapted for the particular service of mobile telephony so as to reflect the range of values mobile telephony users attach to the service.

First, in **Table 1**, the 5 dimensions of the condensed SERVQUAL should be examined and the 22 items should be rated for their importance in measuring the quality of the mobile telephony service. In addition, other items which are not included under these dimensions but are important for measuring the quality of the mobile telephony service should be identified.

Second, in **Table 2**, the rest of the dimensions of the original 10-dimension SERVQUAL scale should be assessed, identify if any of their items, is relevant to the measurement of the mobile telephony service and was not included in the 22-items SERVQUAL scale and therefore it should be added.

An analytical description of the dimensions is presented below, please add any item you consider important under each of the dimensions and evaluate the importance of all the parameters of all the dimensions using the scale 1-5 (*circle one of the numbers 1-5*).

1                      2                      3                      4                      5

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Not important Very Important

**Table 1**

ATTRIBUTES	IMPORTANCE
<b>Tangibles*</b> , include the physical evidence of the service physical facilities and appearance of the contact personnel	
Mobile Telephony companies with visually appealing physical facilities	1 --- 2 --- 3 --- 4 --- 5
Employees with professional and neat appearance	1 --- 2 --- 3 --- 4 --- 5
Materials associated with the service (manuals, pamphlets, statements) visually appealing and easy to understand	1 --- 2 --- 3 --- 4 --- 5
Mobile Telephony companies having modern looking equipment	1 --- 2 --- 3 --- 4 --- 5
Other Tangible items ( <i>state if any</i> )	
	1 --- 2 --- 3 --- 4 --- 5
<b>Reliability</b> involves the ability to perform the promised service dependably and accurately. It involves consistency of performance and dependability. It also means that the firm performs the service right the first time and honours its promises	
MT companies providing services at the promised time	1 --- 2 --- 3 --- 4 --- 5
When customers have problems showing a sincere interest to solve them	1 --- 2 --- 3 --- 4 --- 5
Mobile Telephony companies performing the service right the first time	1 --- 2 --- 3 --- 4 --- 5
When MT companies promise to do something by a certain time they will do so	1 --- 2 --- 3 --- 4 --- 5
Providing accurate and error free records	1 --- 2 --- 3 --- 4 --- 5
Other Reliability items ( <i>state if any</i> )	
	1 --- 2 --- 3 --- 4 --- 5
<b>Responsiveness</b> concerns the willingness or readiness of employees to provide prompt service	
Employees of MT companies telling customers exactly when services will be performed	1 --- 2 --- 3 --- 4 --- 5
Employees giving prompt service to customers	1 --- 2 --- 3 --- 4 --- 5
Always be willing to help customers	1 --- 2 --- 3 --- 4 --- 5
Never be too busy to respond to customers requests	1 --- 2 --- 3 --- 4 --- 5
Other Responsiveness items ( <i>state if any</i> )	
	1 --- 2 --- 3 --- 4 --- 5
<b>Assurance</b> involves knowledge and courtesy of employees and their ability to inspire trust and confidence	
Employees with behaviour that instils confidence in customers	1 --- 2 --- 3 --- 4 --- 5
Customers feeling safe in their transactions	1 --- 2 --- 3 --- 4 --- 5
Employees consistently courteous with customers	1 --- 2 --- 3 --- 4 --- 5
Having the knowledge and skills to serve customers	1 --- 2 --- 3 --- 4 --- 5
Other Assurance items ( <i>state if any</i> )	
	1 --- 2 --- 3 --- 4 --- 5
<b>Empathy</b> involves caring, individualised attention the firm provides its customers	
Mobile telephony companies giving customers individual attention	1 --- 2 --- 3 --- 4 --- 5
Operating 24 hours per day, 7 days a week	1 --- 2 --- 3 --- 4 --- 5
Having employees who give customers personal attention	1 --- 2 --- 3 --- 4 --- 5
Mobile Telephony companies having their customers' best interest at heart	1 --- 2 --- 3 --- 4 --- 5
Other Empathy items ( <i>state if any</i> )	
	1 --- 2 --- 3 --- 4 --- 5

**Table 2**

ORIGINAL SERVQUAL ITEMS	RELEVANT	NOT RELEVANT	REPETITIVE
<b>Competence</b> means possession of the required skills and knowledge to perform the service			
Knowledge and skill of the contact personnel			
Knowledge and skill of operational support personnel (i.e. marketing and sales)			
Research capability of the organisation			
Other Competence items ( <i>state if any</i> )			
<b>Access</b> involves approachability and ease of contact			
The service is easily accessible by telephone			
Waiting time to receive service is not extensive			
Convenient hours of operation			
Other Access items ( <i>state if any</i> )			
<b>Courtesy</b> involves the comportment of the contact personnel towards the customers			
Consideration for the consumers' property			
Clean and neat appearance of public contact personnel			
Other Courtesy items ( <i>state if any</i> )			
<b>Communication</b> means keeping customers informed in language they can understand, and listening to them. It may mean that the company has to adjust its language for different customers			
Explaining the service itself and how much the service will cost			
Explaining the trade-offs between service and cost			
Assuring the consumer that a problem will be handled			
Other Communication items ( <i>state if any</i> )			
<b>Credibility</b> involves trustworthiness, believability, honesty, it involves having the customer's best interests at heart			
Company name and reputation			
Personal characteristics of the contact personnel			
The degree of hard sell involved in interactions with the customer.			
Other Credibility items ( <i>state if any</i> )			
<b>Security</b> is the freedom from danger, risk, or doubt			
Physical safety			
Financial security and confidentiality			
Other Security items ( <i>state if any</i> )			
<b>Understanding/knowing the customer</b> involves making the effort to understand the customer's needs			
Learning the customer's specific requirements			
Providing individualised attention			
Other Understanding/knowing the Customer items ( <i>state if any</i> )			

## APPENDIX II

### THE PILOT RESEARCH SURVEY QUESTIONNAIRE

USER'S NAME : .....  
ADDRESS : .....  
TEL. : .....

#### MOBILE TELEPHONY OPERATOR :

Cosmote  Telestet (total)   
Prepaid (Cosmocarta)  Prepaid (B-Free)   
Panafon (total)   
Panafon ala Carte)

TYPE OF USAGE : Business  Personal  Both

#### PAYMENT OF THE MONTHLY BILL :

By the user  By others

#### DEMOGRAPHIC CHARACTERISTICS

1. AGE : 18-24  25-34  35-44  45-54  55-64

2. GENDER : Male  Female

#### 3. REGIONAL LOCATION :

Athens  Larisa   
Thessaloniki  Patra

#### 4. EDUCATION :

University  Primary   
Post-secondary schools  No education   
Secondary

#### 5. OCCUPATION :

Businessmen  Labourers   
Managers/Top executives  Farmers   
Top executives  Not working   
Administrative employees  Students

#### 6. FAMILY STATUS

Married  Not married   
Cohabiting  Widowhood   
Divorced



## 7. CHILDREN AT HOME

Under 18 years old  No children   
Over 18 years old

### A. EXPECTATIONS

DIRECTIONS: This part of the survey deals with your expectations concerning mobile telephony service. Based on your experiences as a customer of a mobile telephony service, please think about what the ideal mobile telephony company should deliver. Think about the mobile telephony company with which you would be pleased. Please show the extent to which you think such a mobile telephony company must possess the attributes described below. You can do this by using the scale presented below. If you believe an attribute is not at all important for the ideal mobile telephony company you have in mind, circle the number '1'. If you believe an attribute is very important circle the number '5'. If your beliefs are less strong, circle one of the numbers in the middle. There are no right or wrong answers, all we are interested in is a number that truly reflects your beliefs regarding the mobile telephony company that would deliver excellent quality of service, a number that shows your expectations from companies offering mobile telephony services.

1 --- 2 --- 3 --- 4 --- 5  
STRONGLY DISAGREE STRONGLY AGREE

### B. PERCEPTIONS SECTION

DIRECTIONS: This part of the survey deals with your perceptions concerning the 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' means that you strongly disagree that mobile telephony companies have that attribute, and if you circle a '5' 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

### C. IMPORTANCE

DIRECTIONS: This part of the survey deals with the importance of each one of the attributes described in your decision to purchase mobile telephony service. A '5' means you consider the attribute very important in your decision to purchase mobile telephony service, a '1' means it is not at all important. There are no right or wrong answers, all we are interested in is the importance of each one of the attributes in your decision to purchase mobile telephony service.

1 --- 2 --- 3 --- 4 --- 5  
VERY UNIMPORTANT VERY IMPORTANT

## A. EXPECTATIONS

No	EXPECTATIONS	GRADE
1	Excellent Mobile Telephony (MT) companies must have visually appealing physical facilities	1 --- 2 --- 3 --- 4 --- 5
2	The employees must have professional and neat appearance	1 --- 2 --- 3 --- 4 --- 5
3	Materials associated with the service (manuals, pamphlets, statements) must be visually appealing and easy to understand	1 --- 2 --- 3 --- 4 --- 5
4	Mobile handsets must be visually appealing, of high quality and user friendly	1 --- 2 --- 3 --- 4 --- 5
5	Excellent MT companies must provide services at the promised time	1 --- 2 --- 3 --- 4 --- 5
6	Excellent MT companies must show a sincere interest to solve them when customers have problems.	1 --- 2 --- 3 --- 4 --- 5
7	Must provide excellent coverage	1 --- 2 --- 3 --- 4 --- 5
8	Must provide value added services such as e-mail, Internet, e-commerce, voice mail, information (about weather, sports, stock exchange etc.)	1 --- 2 --- 3 --- 4 --- 5
9	Must provide customers accurate and error free records	1 --- 2 --- 3 --- 4 --- 5
10	Employees of excellent MT companies must tell customers exactly when services will be performed	1 --- 2 --- 3 --- 4 --- 5
11	They must give prompt service to customers	1 --- 2 --- 3 --- 4 --- 5
12	They must always be willing to help customers	1 --- 2 --- 3 --- 4 --- 5
13	They must never be too busy to respond to customers requests	1 --- 2 --- 3 --- 4 --- 5
14	Excellent MT companies must have employees with behaviour that instils confidence in customers	1 --- 2 --- 3 --- 4 --- 5
15	Customers must feel safe in their transactions	1 --- 2 --- 3 --- 4 --- 5
16	Employees of excellent MT companies must be must be consistently courteous to customers	1 --- 2 --- 3 --- 4 --- 5
17	They must have the knowledge and skills to serve customers	1 --- 2 --- 3 --- 4 --- 5
18	Excellent MT companies must give customers individual attention	1 --- 2 --- 3 --- 4 --- 5
19	Must operate 24 hours per day, 7 days a week	1 --- 2 --- 3 --- 4 --- 5
20	Must have employees who give customers personal attention	1 --- 2 --- 3 --- 4 --- 5
21	Excellent MT companies must have their customers' best interests at heart	1 --- 2 --- 3 --- 4 --- 5
22	Their employees must understand customers' specific needs	1 --- 2 --- 3 --- 4 --- 5

## B. PERCEPTIONS

No	PERCEPTIONS	GRADE
1	The Mobile telephony (MT) company has visually appealing physical facilities	1 --- 2 --- 3 --- 4 --- 5
2	The employees have professional and neat appearance	1 --- 2 --- 3 --- 4 --- 5
3	Materials associated with the service (manuals, pamphlets, statements) are visually appealing and easy to understand	1 --- 2 --- 3 --- 4 --- 5
4	Mobile handsets are visually appealing, of high quality and user friendly	1 --- 2 --- 3 --- 4 --- 5
5	MT company is providing services at the promised time	1 --- 2 --- 3 --- 4 --- 5
6	When customers have problems, the employees of the MT company show a sincere interest in solving them	1 --- 2 --- 3 --- 4 --- 5
7	MT company provides excellent coverage	1 --- 2 --- 3 --- 4 --- 5
8	Provides value added services such as e-mail, Internet, e-commerce, voice mail, information (about weather, sports, stock exchange etc.)	1 --- 2 --- 3 --- 4 --- 5
9	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	They give prompt service to customers	1 --- 2 --- 3 --- 4 --- 5
12	They are always willing to help customers	1 --- 2 --- 3 --- 4 --- 5
13	They are never too busy to respond to customers requests	1 --- 2 --- 3 --- 4 --- 5
14	Employees behaviour instils confidence in customers	1 --- 2 --- 3 --- 4 --- 5
15	Customers feel safe in their transactions	1 --- 2 --- 3 --- 4 --- 5
16	Employees are consistently courteous to customers	1 --- 2 --- 3 --- 4 --- 5
17	They have the knowledge and skills to serve customers	1 --- 2 --- 3 --- 4 --- 5
18	The Mobile Telephony company gives customers individual attention	1 --- 2 --- 3 --- 4 --- 5
19	The MT company operates 24 hours per day, 7 days a week	1 --- 2 --- 3 --- 4 --- 5
20	The MT company has employees who give customers personal attention	1 --- 2 --- 3 --- 4 --- 5
21	The MT company has its customers' best interests at heart	1 --- 2 --- 3 --- 4 --- 5
22	The employees understand customers' specific needs	1 --- 2 --- 3 --- 4 --- 5

### C. IMPORTANCE

No	ATTRIBUTES	IMPORTANCE
1	Visually appealing physical facilities of Mobile Telephony (MT) company and the shops representing it in keeping with the type of services provided.	1 --- 2 --- 3 --- 4 --- 5
2	Employees with professional appearance and well dressed	1 --- 2 --- 3 --- 4 --- 5
3	Materials associated with the service (manuals, pamphlets, statements) visually appealing and easy to understand	1 --- 2 --- 3 --- 4 --- 5
4	Mobile handsets visually appealing, of high quality and user friendly	1 --- 2 --- 3 --- 4 --- 5
5	Provision of services at the promised time	1 --- 2 --- 3 --- 4 --- 5
6	When customers have problems show a sincere interest in solving them.	1 --- 2 --- 3 --- 4 --- 5
7	Provision of excellent coverage	1 --- 2 --- 3 --- 4 --- 5
8	Provision of value added services such as e-mail, Internet, e-commerce, voice mail, information (about weather, sports, stock exchange etc.)	1 --- 2 --- 3 --- 4 --- 5
9	Provision of accurate and error free records	1 --- 2 --- 3 --- 4 --- 5
10	Employees of MT companies telling 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	Are always willing to help customers	1 --- 2 --- 3 --- 4 --- 5
13	Never too busy to respond to customer requests	1 --- 2 --- 3 --- 4 --- 5
14	Employees with behaviour that instils confidence in customers	1 --- 2 --- 3 --- 4 --- 5
15	Customers fee safe in their transactions	1 --- 2 --- 3 --- 4 --- 5
16	Employees consistently courteous to customers	1 --- 2 --- 3 --- 4 --- 5
17	Have the knowledge and skills to serve customers	1 --- 2 --- 3 --- 4 --- 5
18	Mobile telephony companies giving customers individual attention	1 --- 2 --- 3 --- 4 --- 5
19	Operating 24 hours per day, 7 days a week	1 --- 2 --- 3 --- 4 --- 5
20	Have employees who give customers personal attention	1 --- 2 --- 3 --- 4 --- 5
21	Mobile Telephony companies have their customers' best interest at heart.	1 --- 2 --- 3 --- 4 --- 5
22	The employees of MT companies understand customers' specific needs	1 --- 2 --- 3 --- 4 --- 5

### D. OVERALL QUALITY

Your evaluation concerning the overall quality of the mobile telephony services:  
 VERY POOR 1 --- 2 --- 3 --- 4 --- 5 EXCELLENT

### E. VALUE

The price charged for the mobile telephony service is :  
 VERY LOW 1 --- 2 --- 3 --- 4 --- 5 VERY HIGH

The personal/physical risk associated with using this service is :

VERY LOW 1 --- 2 --- 3 --- 4 --- 5 VERY HIGH

The overall value (quality minus price) received from this service is :

VERY LOW 1 --- 2 --- 3 --- 4 --- 5 VERY HIGH

#### **F. SATISFACTION**

Overall, with mobile telephony service you are :

VERY UNSATISFIED 1 --- 2 --- 3 --- 4 --- 5 VERY SATISFIED

#### **G. FUTURE PURCHASE BEHAVIOUR / PURCHASE INTENTIONS**

How likely is it to repurchase the service from the same mobile telephony operator?

VERY UNLIKELY 1 --- 2 --- 3 --- 4 --- 5 VERY LIKELY

## **APPENDIX III**

### **THE ADAPTED SERVQUAL**

#### **Tangibles**

1. Mobile Telephony companies with visually appealing physical facilities
2. Employees with professional and neat appearance
3. Materials associated with the service (manuals, pamphlets, statements) visually appealing and easy to understand.
4. Mobile handsets visually appealing, of high quality and user friendly.

#### **Reliability**

5. Mobile telephony companies providing services at the promised time
6. When customers have problems showing a sincere interest in solving them.
7. Providing excellent coverage
8. Providing value added services such as e-mail, Internet, e-commerce, voice mail, various types of information (weather, sports, stock exchange etc.)
9. Providing their customers accurate and error free records

#### **Responsiveness**

10. Employees of mobile telephony companies telling customers exactly when services will be performed.
11. Giving prompt service to customers
12. Always be willing to help customers
13. Never be too busy to respond to customer requests

#### **Assurance**

14. Employees with behaviour that instils confidence in customers
15. Customers feeling safe in their transactions
16. Employees consistently courteous with customers
17. Employees having the knowledge and skills to serve customers

#### **Empathy**

18. Mobile Telephony companies giving customers individual attention
19. Operating 24 hours per day, 7 days a week
20. Having employees who give customers personal attention
21. Mobile Telephony companies having their customers' best interests at heart
22. Their employees understanding customers' specific needs

## APPENDIX IV

### THE FINAL RESEARCH SURVEY QUESTIONNAIRE

USER'S NAME : .....  
ADDRESS : .....  
TEL. : .....

#### MOBILE TELEPHONY OPERATOR :

Cosmote  Telestet (total)   
Prepaid (Cosmocarta)  Prepaid (B-Free)   
Panafon (total)   
Panafon ala Carte)

TYPE OF USAGE : Business  Personal  Both

#### PAYMENT OF THE MONTHLY BILL :

By the user  By others

#### DEMOGRAPHIC CHARACTERISTICS

1. AGE : 18-24  25-34  35-44  45-54  55-64

2. GENDER : Male  Female

#### 3. REGIONAL LOCATION :

Athens  Larisa   
Thessaloniki  Patra

#### 4. EDUCATION :

University  Primary   
Post-secondary schools  No education   
Secondary

#### 5. OCCUPATION :

Businessmen  Workers   
Managers  Farmers   
Top executives  Homemakers/retired/   
Employees  Unemployed   
Students

#### 6. FAMILY STATUS

Married  Not married   
Cohabiting  Widowhood

Divorced

## 7. CHILDREN AT HOME

Under 18 years old

No children

Over 18 years old

### A. EXPECTATIONS

DIRECTIONS: This part of the survey deals with your expectations concerning mobile telephony service. Based on your experiences as a customer of a mobile telephony service, please think about what the ideal mobile telephony company should deliver. Think about the mobile telephony company with which you would be pleased. Please show the extent to which you think such a mobile telephony company must possess the attributes described below. You will do this by using the scale presented below. If you believe an attribute is not at all important for the ideal mobile telephony company you have in mind, circle the number '1'. If you believe an attribute is very important circle the number '5'. If your beliefs are less strong, circle one of the numbers in the middle. There are no right or wrong answers, all we are interested in is a number that truly reflects your beliefs regarding the mobile telephony company that would deliver excellent quality of service, a number that shows your expectations from companies offering mobile telephony services.

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

STRONGLY DISAGREE

STRONGLY AGREE

### B. PERCEPTIONS SECTION

DIRECTIONS: This part of the survey deals with your 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' means that you strongly disagree that mobile telephony companies have that attribute, and if you circle a '5' 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

### C. IMPORTANCE

DIRECTIONS: This part of the survey deals with the importance of each one of the attributes described in your decision to purchase a mobile telephony service. A '5' means you consider the attribute very important in your decision to purchase mobile telephony service, a '1' means it is not at all important. There are no right or wrong answers, all we are interested in is the importance of each one of the attributes in your decision to purchase mobile telephony service.

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

VERY UNIMPORTANT

VERY IMPORTANT

### A. EXPECTATIONS



No	EXPECTATIONS	GRADE
1	Excellent Mobile Telephony (MT) companies must have visually appealing physical facilities	1 --- 2 --- 3 --- 4 --- 5
2	Its employees must have professional and neat appearance	1 --- 2 --- 3 --- 4 --- 5
3	Materials associated with the service (manuals, pamphlets, statements) must be visually appealing and easy to understand	1 --- 2 --- 3 --- 4 --- 5
4	Mobile handsets must be visually appealing, of high quality and user friendly	1 --- 2 --- 3 --- 4 --- 5
5	Excellent MT companies must provide services at the promised time	1 --- 2 --- 3 --- 4 --- 5
6	Excellent MT companies when customers have problems must show a sincere interest to solve them.	1 --- 2 --- 3 --- 4 --- 5
7	Must provide excellent coverage	1 --- 2 --- 3 --- 4 --- 5
8	Must provide value added services such as e-mail, Internet, e-commerce, voice mail, information (about weather, sports, stock exchange etc.)	1 --- 2 --- 3 --- 4 --- 5
9	Must provide customers accurate and error free records	1 --- 2 --- 3 --- 4 --- 5
10	Employees of excellent MT companies must tell customers exactly when services will be performed	1 --- 2 --- 3 --- 4 --- 5
11	They must give prompt service to customers	1 --- 2 --- 3 --- 4 --- 5
12	They must always be willing to help customers	1 --- 2 --- 3 --- 4 --- 5
13	They must never be too busy to respond to customers requests	1 --- 2 --- 3 --- 4 --- 5
14	Excellent MT companies must have employees with behaviour that instils confidence in customers	1 --- 2 --- 3 --- 4 --- 5
15	Customers must feel safe in their transactions	1 --- 2 --- 3 --- 4 --- 5
16	Employees of excellent MT companies must be consistently courteous with customers	1 --- 2 --- 3 --- 4 --- 5
17	They must have the knowledge and skills to serve customers	1 --- 2 --- 3 --- 4 --- 5
18	Excellent MT companies must give customers individual attention	1 --- 2 --- 3 --- 4 --- 5
19	Must operate 24 hours per day, 7 days a week	1 --- 2 --- 3 --- 4 --- 5
20	Must have employees who give customers personal attention	1 --- 2 --- 3 --- 4 --- 5
21	Excellent MT companies must have their customers' best interests at heart	1 --- 2 --- 3 --- 4 --- 5
22	Their employees must understand customers' specific needs	1 --- 2 --- 3 --- 4 --- 5

## B. PERCEPTIONS

No	PERCEPTIONS	GRADE
1	The Mobile telephony (MT) company has visually appealing physical facilities	1 --- 2 --- 3 --- 4 --- 5
2	The employees have professional and neat appearance	1 --- 2 --- 3 --- 4 --- 5
3	Materials associated with the service (manuals, pamphlets, statements) are visually appealing and easy to understand	1 --- 2 --- 3 --- 4 --- 5
4	Mobile handsets are visually appealing, of high quality and user friendly	1 --- 2 --- 3 --- 4 --- 5
5	MT company is providing 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	MT company provides excellent coverage	1 --- 2 --- 3 --- 4 --- 5
8	Provides value added services such as e-mail, Internet, e-commerce, voice mail, information (about weather, sports, stock exchange etc.)	1 --- 2 --- 3 --- 4 --- 5
9	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	They give prompt service to customers	1 --- 2 --- 3 --- 4 --- 5
12	They are always willing to help customers	1 --- 2 --- 3 --- 4 --- 5
13	They are never too busy to respond to customers requests	1 --- 2 --- 3 --- 4 --- 5
14	Employees behaviour instils confidence in customers	1 --- 2 --- 3 --- 4 --- 5
15	Customers feel safe in their transactions	1 --- 2 --- 3 --- 4 --- 5
16	Employees are consistently courteous with customers	1 --- 2 --- 3 --- 4 --- 5
17	They have the knowledge and skills to serve customers	1 --- 2 --- 3 --- 4 --- 5
18	The Mobile Telephony company is giving customers individual attention	1 --- 2 --- 3 --- 4 --- 5
19	The MT company is operating 24 hours per day, 7 days a week	1 --- 2 --- 3 --- 4 --- 5
20	The MT company has employees who are giving customers personal attention	1 --- 2 --- 3 --- 4 --- 5
21	The MT company has its customers' best interests at heart	1 --- 2 --- 3 --- 4 --- 5
22	The employees understand customers' specific needs	1 --- 2 --- 3 --- 4 --- 5

### C. IMPORTANCE

No	ATTRIBUTES	IMPORTANCE
1	Visually appealing physical facilities of Mobile Telephony (MT) company and the shops representing it in keeping with the type of services provided.	1 --- 2 --- 3 --- 4 --- 5
2	Employees with professional appearance and well dressed	1 --- 2 --- 3 --- 4 --- 5
3	Materials associated with the service (manuals, pamphlets, statements) visually appealing and easy to understand	1 --- 2 --- 3 --- 4 --- 5
4	Mobile handsets visually appealing, of high quality and user friendly	1 --- 2 --- 3 --- 4 --- 5
5	Provision of services at the promised time	1 --- 2 --- 3 --- 4 --- 5
6	When customers have problems showing a sincere interest to solve them.	1 --- 2 --- 3 --- 4 --- 5
7	Provision of excellent coverage	1 --- 2 --- 3 --- 4 --- 5
8	Provision of value added services such as e-mail, Internet, e-commerce, voice mail, information (about weather, sports, stock exchange etc.)	1 --- 2 --- 3 --- 4 --- 5
9	Provision of accurate and error free records	1 --- 2 --- 3 --- 4 --- 5
10	Employees of MT companies telling customers exactly when services will be performed	1 --- 2 --- 3 --- 4 --- 5
11	Employees giving prompt service to customers	1 --- 2 --- 3 --- 4 --- 5
12	Always be willing to help customers	1 --- 2 --- 3 --- 4 --- 5
13	Never be too busy to respond to customers requests	1 --- 2 --- 3 --- 4 --- 5
14	Employees with behaviour that instils confidence in customers	1 --- 2 --- 3 --- 4 --- 5
15	Customers feeling safe in their transactions	1 --- 2 --- 3 --- 4 --- 5
16	Employees consistently courteous with customers	1 --- 2 --- 3 --- 4 --- 5
17	Having the knowledge and skills to serve customers	1 --- 2 --- 3 --- 4 --- 5
18	Mobile telephony companies giving customers individual attention	1 --- 2 --- 3 --- 4 --- 5
19	Operating 24 hours per day, 7 days a week	1 --- 2 --- 3 --- 4 --- 5
20	Having employees who give customers personal attention	1 --- 2 --- 3 --- 4 --- 5
21	Mobile Telephony companies having their customers' best interest at heart.	1 --- 2 --- 3 --- 4 --- 5
22	The employees of MT companies understanding customers' specific needs	1 --- 2 --- 3 --- 4 --- 5

### D. OVERALL QUALITY

Your evaluation concerning the overall quality of the mobile telephony services:  
 VERY POOR 1 --- 2 --- 3 --- 4 --- 5 EXCELLENT

### E. VALUE

The price charged for the mobile telephony service is :

VERY LOW 1 --- 2 --- 3 --- 4 --- 5 VERY HIGH

The personal/physical risk associated with using this service is :

VERY LOW 1 --- 2 --- 3 --- 4 --- 5 VERY HIGH

The overall value (quality minus price) received from this service is :

VERY LOW 1 --- 2 --- 3 --- 4 --- 5 VERY HIGH

**F. SATISFACTION**

Overall, with mobile telephony service you are :

VERY UNSATISFIED 1 --- 2 --- 3 --- 4 --- 5 VERY SATISFIED

**G. FUTURE PURCHASE BEHAVIOUR / PURCHASE INTENTIONS**

How likely is it to repurchase the service from the same mobile telephony operator?

VERY UNLIKELY 1 --- 2 --- 3 --- 4 --- 5 VERY LIKELY

How likely would it be to recommend your mobile operator to someone you know?

VERY UNLIKELY 1 --- 2 --- 3 --- 4 --- 5 VERY LIKELY