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## **Impact of customer's queuing over service quality a case study on mobile phone operators in Macedonia**

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**Abstract.** The worldwide mobile phone market recently is enormously growing associated with a strong demand for smart phones across the entire globe. International Data Corporation (a premier global provider of market intelligence data) argues that the overall mobile phone market is growing faster than previously forecasts, with over than 1.8 billion mobile phones during 2014, and expects to sell over 2.3 billion mobile phones in 2017, in a single year. The world trend in customers' demand has caused a strong competition among mobile phone companies. Given that the customer satisfaction is a fundamental marketing tool, and companies have gained better understanding of the importance of retaining the current customers through marketing efforts. This paper examines the mobile phone industry in Macedonia, with a special focus on customer's queuing and services. All four mobile phone companies operating in Macedonia including T-Mobile, One, VIP and Albaphone are examined from the perspective of their customers. A questionnaire with 270 subscribers of mobile operators in Macedonia was employed identifying thus the main issues tackling the customer satisfaction through service provision including queuing. This paper concludes that customers are very much price oriented, but they do appreciate particularly the clear mobile signal. Queuing impacts directly the overall service quality, and majority of respondents are worrying when a large number of customers are waiting in lines and these lines are inappropriately managed by the mobile operators. Hence, a fair customer handling and service in queuing, is a prerequisite for customer satisfaction and loyalty.

**Key words:** customer service quality, customer satisfaction, queuing,

### **1 Introduction**

One of the important determinants of service quality is ease of access, which includes not only location of service facility and its opening hours but also minimum waiting time to receive service. Generally, delays have a strong negative effect on service quality (i.e., customer perception of the service) and customer satisfaction. For example, it was found in a study (Sridhar, 1985) that procurement delays lead to demotivation of customers in their participation. On the other hand, visible (in presence) waiting line delays have a much stronger and magnifying negative effects on service quality and customer satisfaction. Service operations need to have a clear understanding of the theory and psychology of waiting lines. Waiting lines normally refer to customers personally waiting in queues before one or more service delivery counters for availing service.

Customer participation in service production and delivery process is a crucial element of service management and high customer contact systems have to very carefully look into theory and psychology of waiting lines to take advantage of customer participation and to avoid negative effects of delays and other psychological factors on service quality and customer satisfaction (Sridhar, 1998).

Gerpott et al. (2001) wrote that since 1990s, the telecommunications sector has become an important key in the development of the economy of developed countries. This results from the saturated markets, de-regulation of telecommunications industry (removal of monopoly rights, especially enjoyed by state-owned telecoms networks), increasing number of mobile service providers, enormous technical development and intense market competition.

Objectives, hypothesis and limitations of the study

The **objective** of this research work is to investigate the customer service quality of the mobile operators, mainly through queuing matters.

In order to explore the aforementioned objectives, this study adopts the **following hypotheses**:

- The poor line management of customers waiting to be served decreases the quality of customer service.
- Customers are more interested in service quality than in lower prices.

**The limitations** encountered in this study include:

- Only private subscribers are covered in this study and not the business customers.

## 2 Theory

Szyperski & Loebbecke (1999) wrote that this increasing economic importance and benefits of telecommunications firms motivated many management scholars (especially marketing experts) to devote attention to this sector. Wilfert (1999); Gerpott (1998); and Booz. Allen and Hamilton (1995) pointed out that marketing strategies are very important in telecommunications services because once customers have subscribed to a particular telecommunications service provider, their long-term link with this provider is of greater importance to the success of the company than they are in other industry sectors. Hence, service providers need to form a continuous lasting relationship with their customers to know them better and satisfy their needs adequately. **International Data Corporation** (a premier global provider of market intelligence data) argues that the overall mobile phone market is growing faster than previously forecasts, with over than 1.8 billion mobile phones during 2014, and expects to sell over 2.3 billion mobile phones in 2017, in a single year. The world trend in customers' demand has caused a strong competition among mobile phone companies. Given that the Customer satisfaction is a fundamental marketing tool, and companies have gained better understanding of the importance of retaining the current customers through marketing efforts.

### 2.1 Service quality

"Quality is the totality of features and characteristics of a product or service that bear on its ability to meet stated or implied needs" (Ellis and Norton, 1993). Quality emphasizes a link between the customer and his purpose on one hand and the product or service being received on the other. Quality is considered to be one of the greatest levers for marketing of services. Service quality is intangible, relativistic, indivisible and has a tendency to deteriorate. Service quality is more a function of attitude than technology. It consists of technical quality (hard part) and functional quality (soft part). Some of the difficulties of determining service quality would strongly let customers to make high emotional judgment about the quality of services.

Generally, quality is also about passion and pride. In other words, service quality is a customer-oriented phenomenon. It is defined, judged and deduced by customer based on its experience, service process, physical evidence, environment, first impression, expertise, etc. In a sense the quality of service delivery personnel is inseparable from the quality of service provided. Normally five gaps between aspiration and performance in service delivery process are identified. They are: (i) Not knowing what are the expectations of customers; (ii) Gap between management's perception of customers expectations and service quality specifications; (iii) The service performance gap i.e., the gap between service quality specifications and the actual service delivery; (iv) Promises failing to match delivery i.e., situations where promising more than what can be delivered; and (v) Gap between customer's expectations and their perception of quality of service. The first four gaps are in the arena of service provider where as the last is within the customer. All the above gaps significantly affect determination of service quality and hence the customer satisfaction.

## 2.2 Customer satisfaction

Though measuring is difficult, customer satisfaction can be defined in simple terms as perception minus expectation. Both expectation and perception of customer play crucial role in customer satisfaction. The expectations are often derived from personal experience. Perceived usefulness of service mainly measures the system's impact on individuals effectiveness, but it is not the only measure. It is often said in case of service organizations that the perceived quality of service is realized at the moment of truth i.e., when the service delivery personnel and customer come in contact for delivery and receipt of service and thus emphasizing the importance of customer participation in service delivery process. In other words, customer-service provider interaction plays vital role in determining the level of customer satisfaction.

Satisfaction is primarily an emotional customer-centered personal response/ reaction. As a state experienced inside customer mind, it involves both intellectual and emotional responses. Customer satisfaction (including expectation and perception of customer) depend more on customer and his style (his overall post purchase evaluation) than technology or system. The customer and his style in turn depend on his perception, viewpoint, experience, expertise, prior personal knowledge, recent performance and first impression. A satisfied customer is one who will continue to buy from the company, seldom shop around, refer other customers and in general be a superstar advocate for the product or service.

## 3 Overview of the mobile telephony in Macedonia

According to the Agency for electronic communications of Macedonia<sup>13</sup>, there were Total are 2,230,961 mobile phone subscribers as of March 2014, out of which 505.596 are mobile internet users. In the first quarter of 2014, public mobile communication providers for national and/or international traffic, are t-Mobile, ONE, VIP and Alfabone. The table below shows the main indicators of the mobile phone industry in Macedonia.

Table 1 Indicators on mobile telephony Macedonia

Indicators	Q1-2014	Q4-2013	Change (%)	Q1-2013	Change (%)
Number of active mobile subscribers	<b>2,230,961</b>	<b>2,237,250</b>	<b>-0.28%</b>	<b>2,226,902</b>	<b>0.18%</b>
Residential pre-paid	<b>1,304,332</b>	<b>1,329,512</b>	<b>-1.89%</b>	<b>1,367,986</b>	<b>-4.65%</b>
Residential post-paid	<b>654,884</b>	<b>637,594</b>	<b>2.71%</b>	<b>595,572</b>	<b>9.96%</b>
Number of SMS	<b>80,258,825</b>	<b>91,609,749</b>	<b>-12.39%</b>	<b>116,357,512</b>	<b>-31.02%</b>
Number of MMS	<b>236,288</b>	<b>232,522</b>	<b>1.62%</b>	<b>242,239</b>	<b>-2.46%</b>
Total traffic minutes	<b>1,184,349,619</b>	<b>1,206,434,555</b>	<b>-1.83%</b>	<b>1,096,499,857</b>	<b>8.01%</b>

<sup>13</sup> Agency for electronic communications Republic of Macedonia, Report for electronic communication market development in Republic of Macedonia for Q4 2012 , published on 24<sup>th</sup> of March 2013, [http://www.aek.mk/index.php?option=com\\_content&view=article&id=710:-2012-&catid=54:2011-06-22-08-36-12&Itemid=123&lang=en](http://www.aek.mk/index.php?option=com_content&view=article&id=710:-2012-&catid=54:2011-06-22-08-36-12&Itemid=123&lang=en)

Source: Agency for electronic communications Republic of Macedonia March 2014

As the table 1 shows, the percentage drop by 0.28% of the number of active mobile subscribers in the first quarter of 2014 compared to the Q4 2013. Anyhow, when comparing Q1 2014 with the Q1 2013, there is an increase of 0.18%. The majority of residential subscribers use pre-paid services against the using of post-paid services. The numbers of post-paid subscribers are increasing and residential post-paid subscribers grew by 2.71% from the previous quarter as compared to the same quarter of the previous year increased by 9.96%, the business grew by 0.59 % compared to the previous quarter as compared to the first quarter of 2013 increased by 3.19%.

There is also a decrease in the number of sent SMS messages, which is 12.82% compared to the previous quarter as compared to the first quarter of 2013 also has decreased by 31.02%. In the total number of MMS messages sent in the first quarter of 2014 marked an increase of 1.62% compared to the previous quarter and a decrease of 2.46 % compared with the first quarter of 2013.

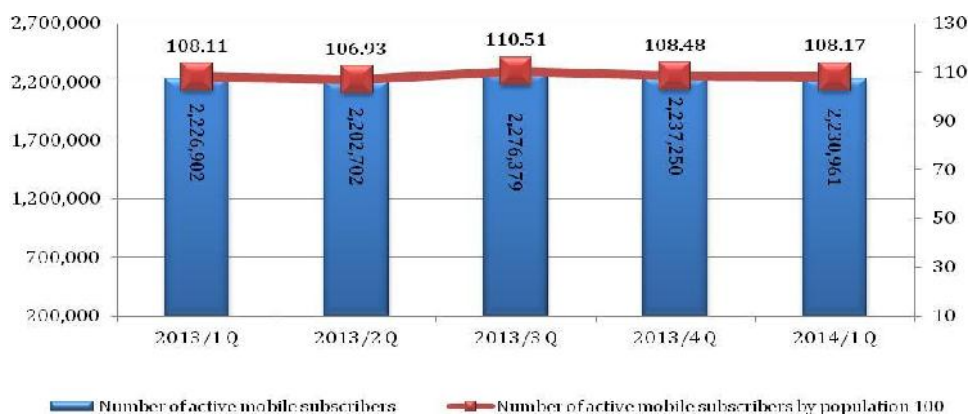


Fig. 1. Number of active mobile subscribers 2013-2014, Macedonia; Source ; AEC

Data on the number of Active subscribers refers to those subscribers in the last three months, caused in some way electronic communication event. Under electronic communication event is considered a call, answer a call, sending/ receiving message, sending data (including GPRS) or perform other services (payment of a monthly subscription payment voucher for pre-paid etc.). On 31.03.2014, the four operators have a total of 2.230.961 active subscribers.

Data from the Fig. 2 below describes the share of the four mobile operators in the mobile market by number of active subscribers (as of 31.03.2014). It shows that T-Mobile accounts for 47.06 %, operator ONE accounts with 23.88%, VIP Operator contributes 27.82% while The Albafone contributes 1,24 % of the total number of active subscribers.



Fig. 2. Market share by number of subscribers; Source ; AEC

The next figure shows the market share of mobile operators by income. From the figure can be noticed the market share of mobile operators separately for 2014 and 2013. It shows that ONE and VIP in the given period, do not have major changes on quarterly bases in terms of market share.



Fig 3 - Market share by incomes ( the first quarter of 2014); Source ; AEC

Hence it can be noted that the change in market share during this period is not more than one percentage point, while T -Mobile shows a decline of 1.7 percentage points.

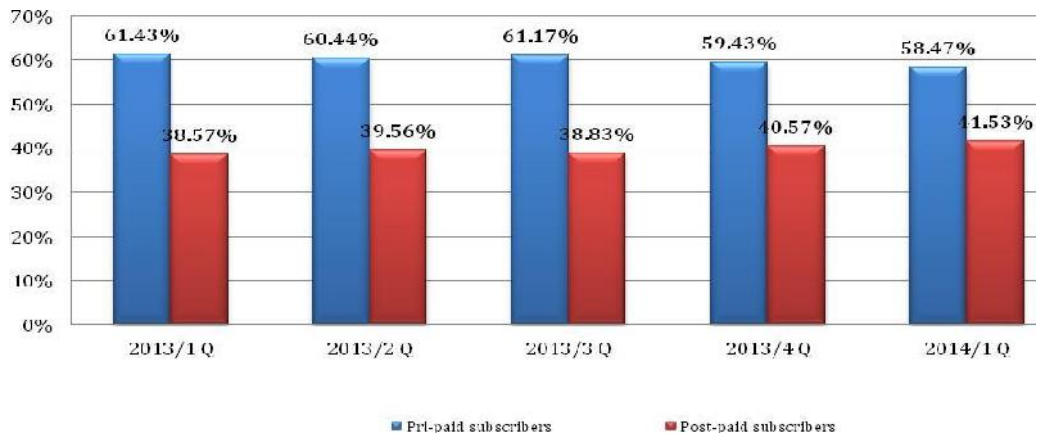


Fig. 4. Ratio of pre-paid versus post-paid subscribers; Source ; AEC

In the figure 4 is presented the ratio of pre-paid and post-paid subscribers for 2013 and 2014. From the chart it can be seen that the time displayed in the share of post-paid subscribers increased by 2.96 percentage points, while the market share of pre-paid subscribers is the decreased.

## 4 Methodology

In order to investigate the interested field of research, the descriptive method was employed. In total 263 people responded to the questionnaire, which was semi-structured. The questionnaire was sent also electronically, so the respondents had the option to answer the questions by clicking to multiple answers or add their comments. In order to have inclusiveness, the questionnaire was distributed to targeted groups belonging to different age categories (from 18 up to 65 years), as well as to different ethnic communities living in Macedonia, having into consideration also coverage of the four mobile phone operators in the country. Youth were more active in responding to the questionnaire, while less interested were the age category belonging to 46-63 years. Although the questionnaire was delivered

to both genders almost equally, the respondent's rate of males was much higher than females. The research took place during August and early September 2014.

## 5 Analysis

The research paper follows with the analysis of the researched questions applied to the respondents of this study. In the beginning, the demographic factors of the respondents included in the study are analyzed, following farther with the specifics regarding customer's queuing and the quality of the customer services.

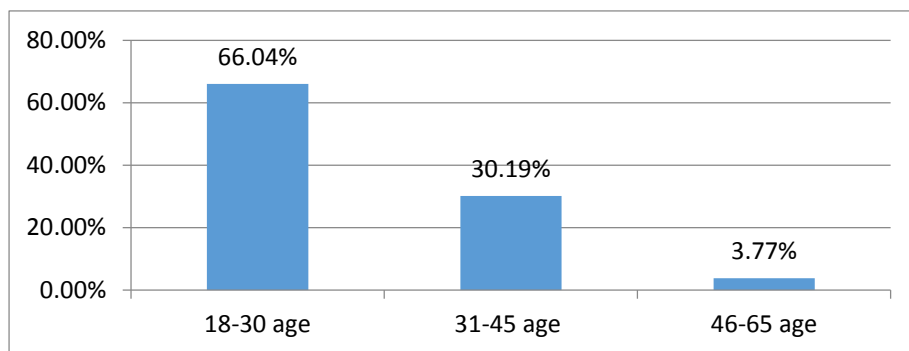


Fig. 5 Age category of respondents

The youth between 18-30 years, dominate the overall respondents age category of this research. Though the research targeted the whole age categories, seemingly the youth are more active users as well as positively responded to the questionnaire, increasing thus their participation in this study. The age group between 46-65 years has showed less interest to be included in this research, but anyhow are a critical target to understand also from their perspective the queuing issues while waiting to be served.

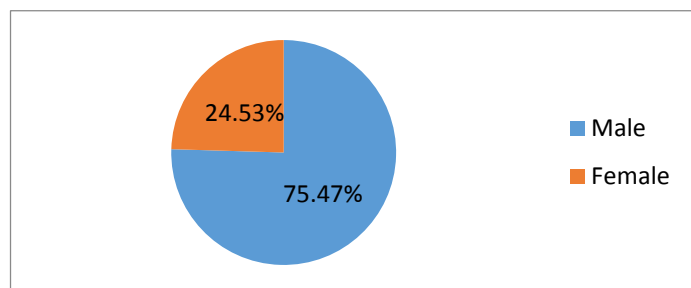


Fig. 6 Respondents by gender

Although the study intended to cover equally both females and males, the final results showed predominance of the males responding to the questionnaire. Discussing this issue occasionally with the female targeted group, they mentioned two reasons why they were not responding in higher levels. The first dealt with the so-called "confidentiality on mobile usage", arguing that they were not sure if the provided data will discover their identity ever, while the second argument is that they were not much involved in the logistics with their mobile operators (paying the bill, waiting in lines, etc.), because this is done mainly from their family relatives.

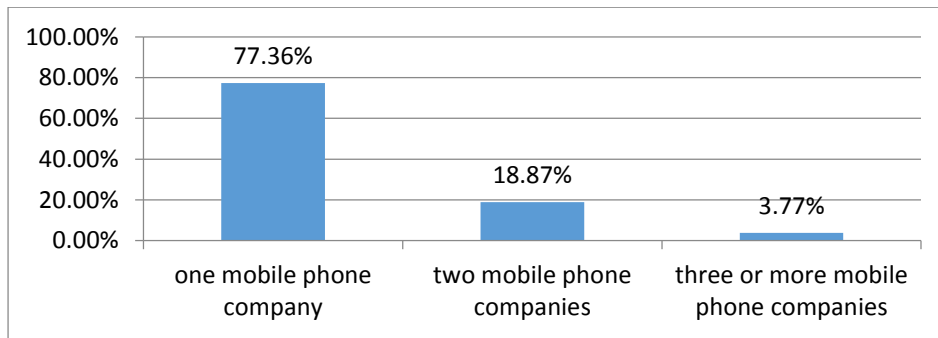


Fig. 7 Respondents subscribing to mobile operators in Macedonia

The research showed that majority of the respondents, above 77 % are subscribed to only one mobile operator in the country, and only almost one in five uses two mobile operators in the same time. Very few of the respondents, 3.77 are subscriber of three or more mobile phone operators in the country.

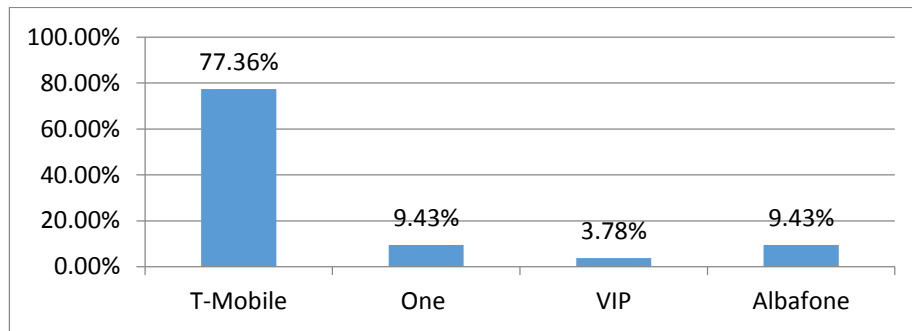


Fig. 8 The primer mobile operator of respondents

Majority of respondents (77.36 %) are using services of T-mobile, the major mobile operator in the country, and the rest belonging to One and Alfabone (less than 10% each) and VIP was represented in this study with only 4 % of respondents being subscriber of this mobile operator. Although the market share of mobile operators is different compared to this division of respondents represented in this study, it is of importance that all four mobile operators are covered and analyzed in this paper.

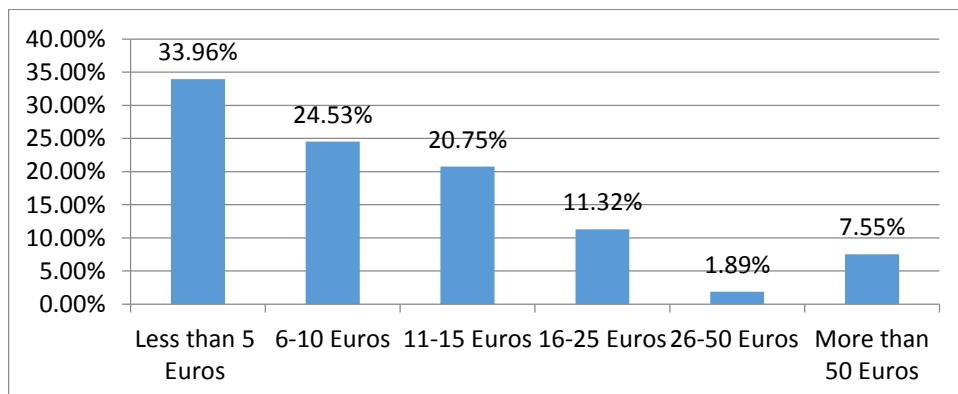


Fig. 9 Monthly expenditures on mobile phone services by respondents



Regarding the question about how much each of the respondents spend on mobile phone services during a month, around 80 % of them responded that they spend up to 15 Euros. A critical percentage of almost 34 % of respondents do spend less than 5 Euros per month, and this can be explained that this category consists mainly by youth involved in this study, who are financially more limited.

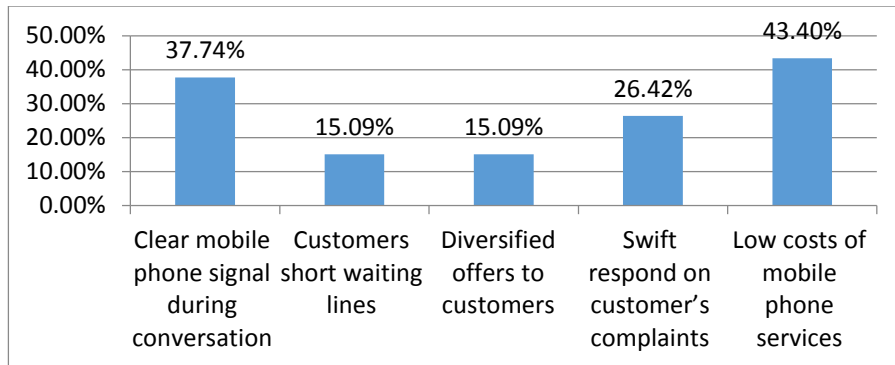


Fig. 10 Quality of customer services- perception of respondents

Majority of the respondents are appreciating the low price of mobile services. Again, this question strengthens the above statement that particularly the youth are low-price oriented and being majority of them value the low cost. Anyhow, the clear mobile signal seems to be of crucial importance of respondents, and this is particularly an issue in the remote areas across the country, where not all operators have a clear signal. One in four of respondents stresses that quality of the customer services is linked with the swift respond on customer's complaints. The high competition among mobile phone operators in the country, and their eagerness to gain new clients and/or retain the existing ones, have increased the expectations of the customers to look for swifter responds when addressing complaints to mobile operators.

Another central question in this research aimed to understand if the customers' queuing inside the offices of the mobile phone operators is impacting the quality of received services. Almost 87% of respondents strongly or partially agree with the statement that queuing impacts the overall quality of services.

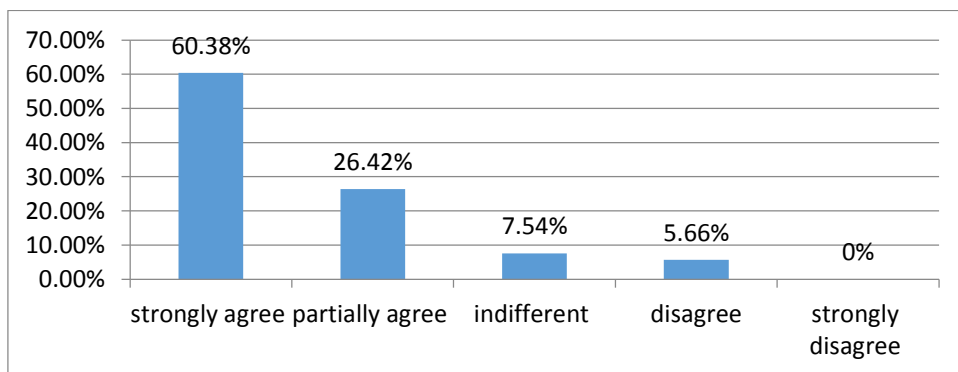


Fig. 11 Queuing impacting the customer service quality

Only a small percentage (5.66 %) have disagreed with the above statement as well as around 7.5% of respondents are indifferent stating neither agree or disagree with the impact of queuing over quality of services.

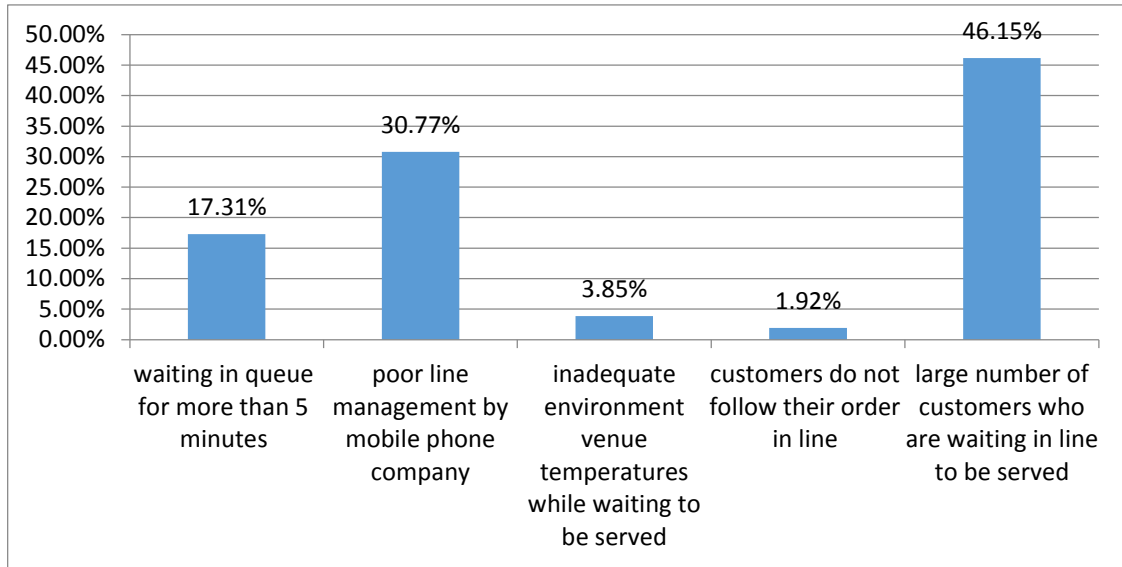


Fig. 12 Respondent’s worries while waiting in queue

The next question dealt with what worries mostly the customers while waiting in line to be served. The majority of the respondents (almost 77%) have answered that they are worrying from the large number of customers waiting in lines or the poor line management by the operator. Another important indicator whether the customers are following their order while waiting in line, only few of respondents (less than 2 %) have declared it as an issue.

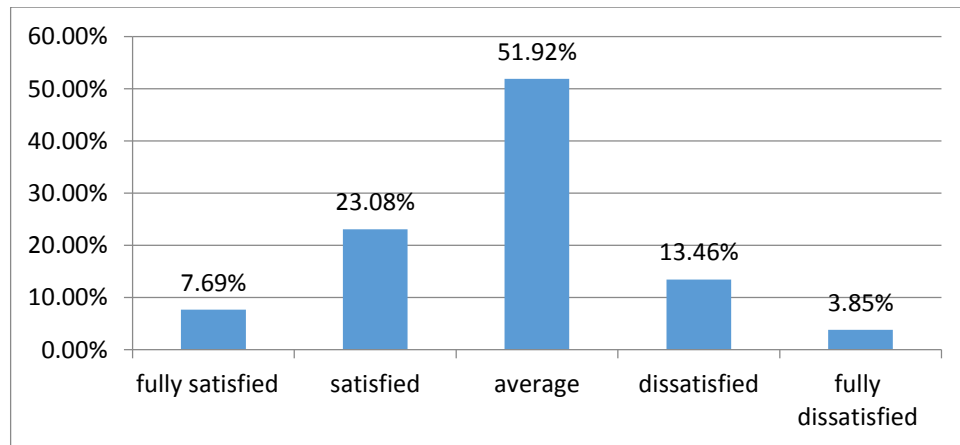


Fig. 13 Satisfaction level on online services provided by mobile operators

The online mobile phone services offered to customers are valued with an average score. Majority of respondents, (Almost 52 %) have responded that they neither are satisfied or dissatisfied with the online services offered by their mobile phone operators. There are above 20% of respondents who are fully or partially satisfied, and in the other side almost 18 % of the respondents are fully or partially dissatisfied with the online mobile phone services.

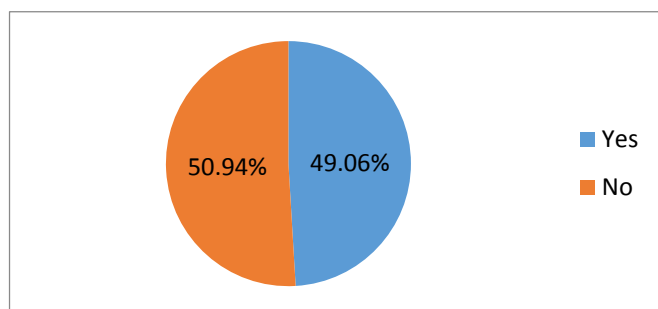


Fig. 14 Changing the mobile operator

The last question dealt with the interest of the respondents to change the current mobile phone operator. More than half of the respondents during the last year have thought to change its mobile phone operator. This high percentage of the customers who are not satisfied with the current mobile operators should be a worrying indicator for the companies offering mobile phone services. Seemingly, the mobile operators in Macedonia are not totally customer driven and this may cause them loss of customer base.

## 6 Conclusions

The telecommunications industry in general and mobile phone sector in particular, has become an important development factor of the country. The research concludes that the competition among mobile operators is quite high, but mobile operators are not very much aware to compete through provision of high service quality to customers. Quality is considered to be one of the greatest levers for marketing in services. Service quality is intangible, relativistic, indivisible and has a tendency to deteriorate. Service quality is more a function of attitude than a technology.

Currently there are four mobile operators in Macedonia, T-Mobile, One, VIP and Albafone. The numbers of post-paid subscribers have a tendency of increase compared to pre-paid subscribers who are dominating.

The youth between 18-30 years, are more active in using mobile phone services, while majority of the subscribers are using services of only one mobile operator in the country. T-mobile is the biggest mobile phone operator in the country, controlling almost half of the market. Anyhow, majority of private customers who were researched in this study, are not heavy users, spending thus only up to 15 Euros per month (80 % of respondents).

The research concludes that customers are very much price oriented, but they do appreciate particularly the clear mobile signal as well as the quality of services received from the mobile operators in the country.

Queuing impacts directly the overall service quality, and majority of respondents are worrying when a large number of customers are waiting in lines and these lines are inappropriately managed by the mobile operators. Online services offered by mobile operators can reduce the queuing issues and can improve to a certain level the quality of customer service, but respondents in this study are not well satisfied with the online services offered.

More than half of the respondents during the last year have thought to change its mobile phone operator. The high percentage of the customers who are interested to change its mobile operators, is worrying matter for the mobile operators, and they should change the overall customer service policy aiming satisfaction of the current customers. Retention of the current customer is even more important than gaining new customers, especially in a dynamic industry such as the mobile phone market in Macedonia.

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