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## MEASURING CUSTOMER SATISFACTION IN THE E-SERVICE MARKET

**Martyna Kostrzewska\***

*University of Szczecin,  
Poland*

[martyna.diana.kostrzewska@gmail.com](mailto:martyna.diana.kostrzewska@gmail.com)

**Daria Wrukowska**

*University of Szczecin,  
Poland*

[dariawrukowska@gmail.com](mailto:dariawrukowska@gmail.com)

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### Abstract

The purpose of this paper is to evaluate the level of satisfaction of e-service customers through identification of gaps between customer expectations and the degree to which such expectations are met by providers of online services. Towards this end the e-servqual method was employed, which enabled the measurement of customer expectations as to the quality of key aspects of online services relative to the actual degree to which customer expectations were met. This survey shows how respondents perceive the quality of online services and their preferences in this respect. Based on the seven dimensions of the e-servqual scale, i.e., contact, efficiency, reliability, fulfilment, privacy, responsiveness, compensation (Parasuraman, 2013), the present author proposed her own measures of e-services quality.

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### Key Words

E-servqual; customer satisfaction measurement; quality of e-services.

## INTRODUCTION

Today's business world is focused on customer satisfaction and understanding how to satisfy customers in the long run. The identification of customer satisfaction determinants is becoming a strong need among managers and represents the main topic of interest in scientific literature on marketing. Adequate recognition of attributes of e-services quality, analysis of e-customers' expectations as well as their effective management contribute to the building of a positive corporate image (Vu Minh Ngo, 2015). Over the past three decades attempts have been made to recognise the best practices in the area of qualitative measurement of e-services (Asher, 1988; Dotchin & Oakland, 1994; Xie et al., 1998; Wisniewski, 2001; Candido & Morris, 2001). In 2001 Zeithaml and other researchers, building on the service quality investigation method (Servqual) that they proposed earlier, developed e-service quality measures that serve to evaluate the functionality of Internet services. They created their model in a three-stage process comprising an exploration groups phase as well as an empirical data collection phase and a data analysis phase. A smooth and efficient system for customer satisfaction measurement affects planning and implementation of corporate strategy and plays a key role in the management process. It is believed that in theory and in practice, the recognition of the importance of measuring customer satisfaction came with Garlin's popular maxim: "what cannot be measured, cannot be managed" (Garvin, 1993). If a company wants to develop and achieve their expected market position, it should undertake actions based on cause and effect relationships with regard to customers and their satisfaction, and then it should plan adequate methods for the measurement of such actions in order to enable detailed analysis of their results (Niemiec et al., 2016). Such actions should base on a detailed definition of the company's best customers as well as their requirements and behaviours. The identification of elements that affect customer satisfaction will enable the transformation of a company into an ally and mentor who takes care of its customers' interests. In this way, the company will satisfy the material and emotional needs of all its customers to a higher degree (Rudawska, 2005).

The purpose of this paper is to evaluate the level of customer satisfaction with e-services through identification of gaps between customer expectations and the degree to which such expectations are met by online service providers. In order to carry out this task the e-servqual method was employed.

### **Logistic Aspect of Electronic Commerce**

At the end of the 1990's the sale of goods over the Internet in Poland was perceived as an innovation. The dominant reason for uncertainty linked with online shopping was the lack of customers' trust in e-services and difficult access to the Internet. Satisfaction was not fully attained because the majority of customers did not know their needs and were not aware what could be expected from a virtual service provider (Gajewska, 2009). Now, however, statistics show a significant change in this respect. Poland belongs

to those countries where online shopping is becoming increasingly common and its popularity is growing virtually by the hour (GUS [Polish Central Office of Statistics], 2018). The growth of online shopping is also bolstered by logistics which plays the main role in building a high standard of e-services and consumer satisfaction. J.T. Mentzer, D.J. Flint and G.T.M. Hult (2001) draw special attention to the principle of "7R" which takes into account important elements of logistic services and is based on the provision to a specific buyer of the right product in the right time, at the right place, of the right quality, in the right quantity and at the right cost (Mentzer et al., 2001). In order to be able to apply this principle, first of all one needs a database of customer preferences and requirements. Companies that do not measure the quality of their e-services will not be able to deliver the right elements that contribute to customer satisfaction. As years go by, more and more logistic operators provide services that so far belonged to the courier sector. The most popular options include: placement of transport orders by customers using an application or a browser (web booking), monitoring of order fulfilment (web tracking), electronic confirmation of parcel delivery and transmission of the attached documentation by email, creating KPI reports, i.e. reports on corporate goal realisation measurement. These multiple purpose tools, when rightly introduced and tailored to a company's requirements, enable the remote management of parcels from any place in the world (Spychalski, 2012) and thus ensure the right quality of e-services.

Data collected by GUS indicate that over 14 million people in the age bracket 16-74 (48% of total population) shopped online (within the past 12 months) in Poland in 2018. In the years 2013-2018 the percentage of people ordering or buying goods or services over the Internet was growing cyclically. In this period this number increased by 14 percentage points. Compared to 2017 the highest increase in the number of Internet shoppers was recorded in the 16-24 age group (by nearly 7 percentage points). In the years 2013-2018 men shopped online more often than women. It was recorded that in 2017 holders of higher education qualifications bought online more than other shoppers (76%). In 2018 the highest percentage of EU citizens shopped online (60%). Unfortunately Poland is 12 percentage points behind the EU in this respect (GUS, 2018).

## **CUSTOMER SATISFACTION WITH E-SERVICES**

The natural environment of a business are its stakeholders, among whom customers play the most important role. It is for them that enterprises exist and the market position of organisations depends on their satisfaction. If a company wants to stay ahead of its competitors, it must maximise its customer satisfaction. In online commerce customer-satisfaction may be even more important than in traditional commerce because the retention of loyal customers in the e-services market is more difficult than in traditional commerce (Hazlina et al., 2011). In order to convert a prospect into a loyal customer dedicated to a company operating in virtual reality, it is necessary to ensure regular measurement of expectations to gain information about

customer preferences and needs which should be properly satisfied to generate customer satisfaction, which is the most important value for any company. Customer satisfaction contributes to building emotional links that translate into loyalty which is vital for business longevity (Ward et al., 2007). Loyalty is understood as a frequency of selecting by the customer of a specific brand over other brand she/he used in a certain area as well as recommending that brand to other potential users (Verhoef, 2003).

## **MEASURING E-SERVICE QUALITY WITH THE E-SERVQUAL METHOD**

L. Berry and A. Parasuraman, who focused on the psychological aspects of service quality measurement, developed the Servqual Method, which is believed to be one of the main milestones on the way to measure customer satisfaction precisely (Allen, 2004). The crux of this method is the representation of the difference between quality expected by the customer and the actual level of service quality offered by the company (Baki et al., 2009).

In the years 2000-2002 V. Zeithaml, A. Parasuraman and A. Malhotra developed the e-servqual (e-SQ) scale which was an upgraded version of the servqual scale for electronic services. The e-servqual scale consists of seven dimensions (Parasuraman, 2013):

- efficiency: refers to easy entry into the seller's website, finding information with the least effort on the part of the customer,
- reliability: refers to operating mechanisms of the Internet domain, especially its accessibility and functioning in a convenient way for the customer,
- fulfilment: refers to keeping promises presented on the website, consistency of real products with their descriptions and delivery of products in accordance with delivery guidelines,
- privacy: refers to the security of personal data of customers and the availability of known and proven payment methods,
- responsiveness: means ability to adjust to customer's needs and provide knowledgeable answer to each question,
- compensation: refers to a compensation in case of problems, e.g. order cancelation by the server,
- contact: various variants of direct encounters with employees.

The first four dimensions determine the core of the service and the next three dimensions refer to customer recovery. They are of great importance where customers have questions or experience problems as a result of service faults, e.g. payment error on a shop's website (Parasuraman, 2013).

In the e-servqual method, analysis of e-services quality, is based on the discrepancy between customer expectations regarding e-service quality and their perceptions of actual e-service. The e-SQ model enables assessment to what degree an Internet service allows the customer to:

- shop efficiently,
- receive products and services in the right time,

- make a payment and respond to potential problems by applying satisfactory solutions created by the service provider.

Considering functionality of the seven dimensions according to which customers assess e-service quality, one may obtain the following results (Draپیńska, 2011):

1. Delivery < expectations  $\implies$  lack of satisfaction, discomfort (-)
2. Delivery = expectations  $\implies$  satisfaction, neutral (0)
3. Delivery > expectations  $\implies$  delight, emotional satisfaction (+)

Service quality is measured by calculating the difference between actual service perception and an ideal (desired, expected) level of service quality. This also enables us to define the gap between expectations and service perception.

## METHODOLOGY EMPLOYED IN AUTHOR'S RESEARCH

The purpose of investigating the quality of online shopping experience was to analyse quality gaps between e-customers' perception of e-services and their expectations in this respect. For the purpose of this study a questionnaire was prepared with 35 statements grouped according to seven dimensions (Table 1). The measuring scale was based on Parasuraman's paper entitled "Finding Service Gaps in the Age of e-Commerce." (Parasuraman, 2013).

The investigation of e-services quality in the city of Szczecin was carried out by means of a survey of 400 respondents using the e-servqual questionnaire. Women dominated among the respondents of whom 40% were male and 60% were female. Almost half of the respondents had a higher education (47%). Of the remaining respondents 32% had secondary education, whereas only 8% and 3% had basic vocational education and primary education, respectively. The largest age group were people at the age of 31-45 (44%). Respondents also included younger people in the 18-30 age bracket (26%), older people ranging from 46 to 60 years (19%) as well as senior citizens above the age of 60 (9%).

Since the respondents came from Poland, where five-point scale is usually used, it was decided that Likert's scale (Voutilainen et al., 2016) would be applied for the convenience of respondents and for ease of completing the survey. Therefore, the respondents were asked to give answers using a scale from 1 to 5, where 1 stands for very bad, 2 – bad, 3 – average, 4 – good, 5 – very good.

**Table 1:** Measuring scales used to measure the satisfaction of e-services customers

Rating		1	2	3	4	5
<b>Efficiency</b>						
1	Short website loading time					
2	Clear descriptions of various elements (e.g. buttons, fields) facilitating use of the website					
3	Ease of navigation					

4	Smooth order placement						
5	Visibility of results of consecutive operations, e.g. order fulfillment stage, delivery waiting time, refund of payment into bank account						
<b>Reliability</b>							
6	Company stability (positive opinions on the Internet)						
7	Prices lower than in traditional shops						
8	Various payment methods						
9	Delivery speed						
10	Technical advice						
<b>Fulfillment</b>							
11	Products delivered match descriptions on seller's website						
12	Precise delivery time						
13	Timely refund of payment into bank account						
14	Free delivery (no hidden costs)						
15	Free return (no hidden costs)						
<b>Privacy</b>							
16	Personal data protection						
17	Payment return only to owner's account						
18	Secure logging to user account						
19	Order confidentiality guarantee						
20	Proven and known payment methods						
<b>Responsiveness</b>							
21	24/7 response to enquiries						
22	Customisation						
23	Employees' knowledge about offered services						
24	Employees' response to customers' suggestions						
25	Aligning lowest prices of products and services						
<b>Compensation</b>							
26	Compensation for failure to deliver on time						
27	Discount coupons sent to compensate for technical problems						
28	Approval of complaints						
29	Option to return damaged products for up to 24 months						
30	Ability to regain a discount coupon in case of order return						
<b>Contact</b>							
31	Clear and accurate answers						
32	Problem-free telephone connection with the customer service department						
33	Speed of service and problem solving						
34	Sufficiently long conversation with the customer service department						
35	Various communication options: chat, Wechat, e-mail, telephone,						

Source: Own survey.

## ANALYSIS OF SURVEY RESULTS

An analysis of the obtained results enabled the identification of quality gaps in e-services and showed that customer expectations were not fully met in all areas subject to analysis. Diagram 1 shows the assessment of customer expectations and their perceptions of analysed dimensions.

The first dimension presented in Diagram 1 (efficiency) shows high expectations of customers (4.76) and perception-wise received the highest score (4.14) out of all dimensions. The gap of (-62) (Diagram 2) between expectations and the assessment of e-services quality indicates that customers had minor reservations regarding the quality of e-services, i.e. time taken by the website to download, easy to understand descriptions of website's elements (e.g. buttons, fields facilitating navigation and use of the website), efficient order placement, ability to view current activities of the service provider (e.g. order processing stage, delivery waiting time, refund of payments into customer's account, delivery information), stability of e-company, accepted payment methods, prices lower than in traditional shops or technical support.

The second dimension presented in Diagram 1 is responsiveness. This dimension refers to the ability to respond to customer's individual needs, provide an efficient service and a minimum response time to customer's question and adjust offerings to quickly changing customer preferences. Customer expectations were high in this area and scored 4.51 points as compared to 3.33 points (Diagram 1) given for perceived quality. The gap between expected and perceived quality is (-1.18) (Diagram 2), which indicates that customer expectations were fulfilled to a small degree. One reason for such a big gap may be the fact that customers received formulaic emails without complete answers to their enquiries. It should be underlined that improvement in this area depends both on the soft skills of employees and the management of the e-company who should implement an efficient information system focused on areas where customers receive tailored responses. The management should also consider additional training for employees in written and oral communication. This should help employees respond to customers' queries in a manner closer to their expectations. The research described in this paper leads to the conclusion that employees of e-businesses lack thorough knowledge about the services they offer. This may result from the fact that the management responsible for the corporate website tend to fulfil quickly changing consumer needs and modify promotions and the accompanying information on e-shops' websites without communicating such updates to their customer service department. The lack of established communication procedures leads to chaos in information circulation.

The third dimension of e-service quality presented in Diagram 1 is reliability. Analysis of collected data indicates that customer expectations are high in this area (4.66) whereas assessment of actual service quality appears to be low (3.30). This may be caused by additional fees for express delivery. Free delivery is usually offered for a standard delivery time of up to 5 working days. Long waiting times for a delivery may adversely impact the

perception of the service by customers. It is often the case that an extra charge of up to 50 PLN needs to be paid for a delivery within up to two days which for a customer may be too expensive relative to the price of the item ordered. Our survey shows that the gap between expectations and perception is quite significant (-1.36) (Diagram 2).

The next dimension of e-service quality assessment is privacy (Diagram 1). Customer expectations in this respect are high (4.54). Low assessment of perceived e-service quality (3.15) indicates that customers have doubts whether their personal data is really protected from processing by third parties. Unfortunately, it still happens that credit card numbers are stolen to perform illegal financial transactions. In order to reduce the gap between perceptions and expectations (-1.39) (Diagram 2) in this area companies need to develop specialist security software and simultaneously make e-customers more aware about the functionality of such security mechanisms.

“Contact” is the next dimension of quality presented in Diagram 1. This item refers to various possible forms of communication between customer and e-companies as well as precise answers to customer enquiries. Customer expectations (4.59), among others, refer to problem-free telephone connections, problem solving speed and telephone conversations that should be as long as the customer needs and not shortened by customer’s interlocutor. The low assessment of the perceived quality of this dimension (3.19) may result from the tendency of employees to shorten their telephone conversations with customers. This is caused by time limits imposed on employees by their employers. Such guidelines aim at cost reduction. Employees are forced to keep conversations with customers as factual and concrete as possible. This situation often leads to greater dissatisfaction of the customer and a feeling of not being understood. Hence the gap between expectations and perceptions of (-1.40) (Diagram 2). The results of the survey allow us to conclude that these are all important elements during the first contact with the customer. With regard to this dimension sufficient time devoted to conversation is the crucial element that shapes customer’s perception of service quality. The management trying to reduce the perception/expectation gap in this area should pay attention to the quality, and not the sheer number of conversations conducted with customers.

In Diagram 1 the dimension “contact” is followed by “compensation”, which was of great importance for the respondents. Customer expectations regarding compensation were rated at almost 5 points (4.71) (Diagram 1). This result was caused, among other things, by the high expectations of customers with regard to compensation for problems arising during the shopping process. Customers rated their perception of quality of this aspect of service as low as (2.67) which may be connected with the lack of company actions to remedy problems. While using e-services customers may experience a number of inconveniences such as errors in payment transactions; a double block of funds on their credit cards; disconnection from the website during payment; the product being sold out and the lack of possibility of ordering again; delivery of damaged/used products; delivery of a product that does not comply with the photograph presented on the website; delivery to a wrong address; personal data theft; late refund of

payment; incorrect information on the website, e.g. expired promotions. There are many inconveniences related to e-services. Therefore, it is very important to undertake remedial actions to reduce the expectation/perception gap of (2.04) (Diagram 2). Companies that admit their faults and send discount coupons or customised offers to make up for their mistakes have the chance to rebuild relationships with customers and transform their negative experience into long term cooperation.

The last dimension in Diagram 1 is “fulfilment”. This aspect of service is most important for respondents and was rated at (4.90). Such a high score may have been caused, among other things, by high customer expectations regarding keeping promises made by companies on their websites. High customer expectations combined with a low score for customer perception of actual service quality (2.42) (Diagram 1) result in the biggest expectations/perceptions gap (-2.48) (Diagram 2). In order to reduce this gap companies should focus their strategy on free, speedy and precise delivery. By keeping promises presented on their websites and other communication channels, companies will fulfil the main needs of e-consumers and thus will increase their chances of winning loyal customers who are the highest value in any organisation.

Based on conducted empirical research we can determine the main factors that affect e-customer satisfaction. Each factor submitted to analysis in this survey within the framework of 7 key aspects of e-services was rated by 400 respondents. Attributes having the greatest influence on customer satisfaction are presented graphically in Diagram 3. Considering e-customer expectations it can be said that quality criteria rank as follows (in the order from least to most important):

- 90% respondents found free return to be most important for them,
- 92% respondents found punctual refund of payment into the bank account to be most important for them,
- 95% respondents found free delivery to be most important for them,
- 97% respondents found compliance of products delivered with their description on the website to be most important for them,
- 98% respondents found a precise delivery time to be most important for them.

The decisive majority of factors that have major influence on e-customer satisfaction (Diagram 3) belong to the “fulfilment” dimension. They refer to punctual refund of payments into the bank account, lower prices than in traditional shops, free delivery and return (no hidden costs), compliance of products delivered with their descriptions on seller’s website and precise delivery time. Companies should pay particular attention to fulfilment of their promises regarding punctual delivery. Failure to comply with information placed on a seller’s website puts the company in a bad light and may lead to loss of clients who use e-services. Quality assurance systems that require measurement of e-customer satisfaction are an important element that helps companies in such efforts.

## SUMMARY

The interest in e-services is growing year by year which means that expectations of e-customers will also be growing (Gus, 2018). Therefore, companies should make use of instruments which enable the measurement of customer satisfaction and which will be the basis for developing an effective corporate strategy. Due to the dynamic development of e-service market the expectations customers had a few years ago are now out of date. Therefore, it is important that customer satisfaction measurements are conducted regularly, taking into account fast changing expectations of e-customers. Only the rightly selected instruments for satisfaction measurement will help determine on what companies should focus. Many tools designed for services quality measurement are not adjusted to the unique dimensions of online e-services quality. Investigating the satisfaction of e-services customers is a huge challenge in terms of the employed methods due to the virtual environment in which such services are provided.

Summing up the results of the research, it can be said that for e-customers the most important determinants are those that refer to the logistic process, and particularly to precise delivery time. Collected data indicates that the biggest perception/expectation gap found referred to delivery time. Unfulfilled expectations of customers may result from the fact that at the time of order placement customers receive too imprecise information about delivery time which may range from 2 to 5 working days. This is a wide time bracket and after order placement customers cannot plan an exact delivery date. Sometimes e-companies offload their responsibilities regarding order tracking onto the shoulders of logistic operators which are their partners. Companies should focus on the improvement of logistic services, which are strongly linked with customer satisfaction in the e-services market.

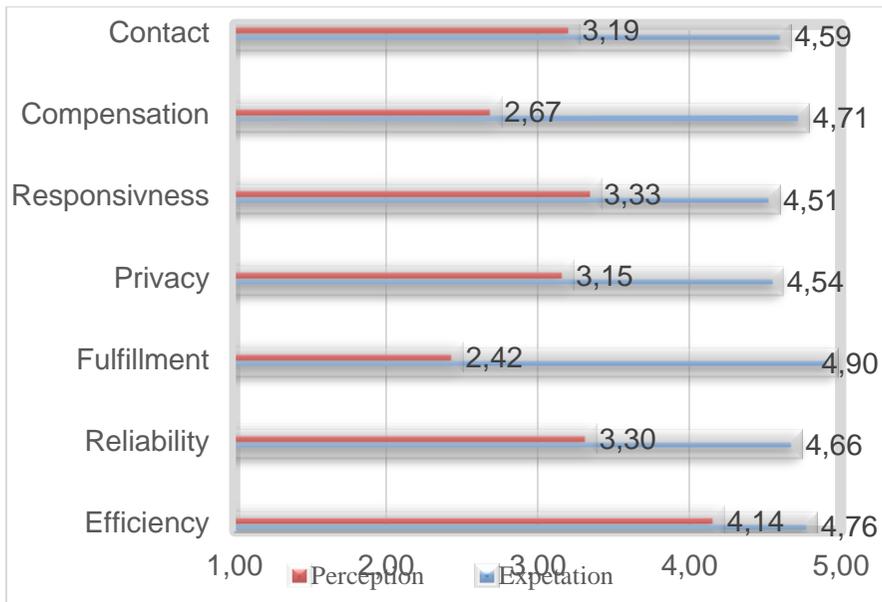
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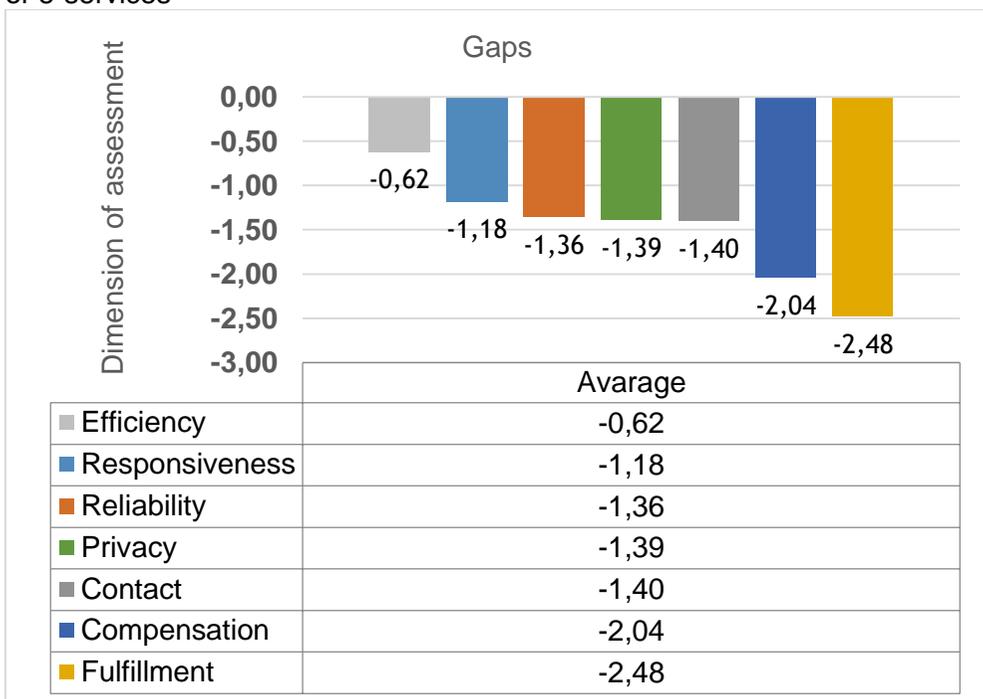
## APPENDIX

**Diagram 1:** Assessment of expectations and perception of e-services



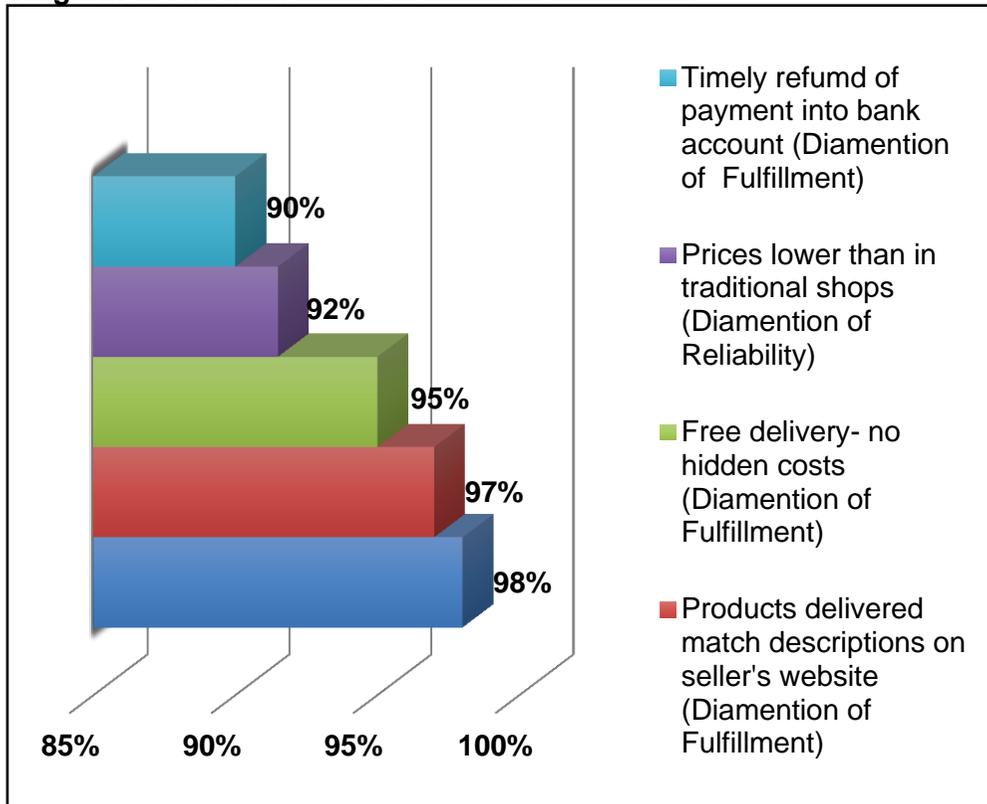
Source: Own survey.

**Diagram 2:** Evaluation of the gap between expectations and the perception of e-services



Source: Own survey.

**Diagram 3:** The main factors of customer satisfaction



Source: Own survey.