THE 7TH EDITION OF THE INTERNATIONAL CONFERENCE
EUROPEAN INTEGRATION
REALITIES AND PERSPECTIVES

Measuring Quality Satisfaction with Servqual Model

Dan Păuna[1]

Abstract: The orientation to customer satisfaction is not a recent phenomenon, many very successful businesspeople from the beginning of the 20th century, such as Sir Henry Royce, a name synonymous with Roll – Royce vehicles, stated the first principle regarding customer satisfaction "Our interest in the Roll-Royce cars does not end at the moment when the owner pays for and takes delivery the car. Our interest in the car never wanes. Our ambition is that every purchaser of the Rolls - Royce car shall continue to be more than satisfied (Rolls-Royce)." The following paper tries to deal with the important qualities of the concept for the measuring of the gap between expected costumer services satisfactions, and perceived services like a routine customer feedback process, by means of a relatively new model, the Servqual model.

Keywords: economizing customer; ethical customer; convenience customer; the gaps; consumer perception; consumer expectation.

JEL Classification: M 10; M 31; L 84

1. Introduction

The starting point for an organization whose strategies are customer-oriented is the needs and expectations of the customer. The companies which can offer their customers both the competence/performance and the reach of a high level of satisfaction generated by high quality are the ones which gain more advantages than the competition. Both the customer and the quality can be interpreted according to typologies in the case of the customer or according to the quality dimension that the organization chooses when presenting the concept of quality.

In the case of the customer motivations are based on the purchase attitude. Gregory P. Stone (Fitzsimmons & Fitzsimmons, 1994) developed a now famous topology in which shopping-goods customers were classified into four groups. The definitions that follow (Fitzsimmons & Fitzsimmons, 1994) have been modified for the service customer.

The economizing customer. This customer wants to maximize the value obtained for expenditures of time, effort, and money. He or she is a demanding and sometimes fickle customer who looks for value that will test the competitive strength of the service firm in the market. Loss of these customers serves as an early warning of potential competitive threats.

The ethical customer. This customer feels a moral obligation to patronize some particular group or firm. Service firms that have developed a reputation for community service can create such a loyal customer base.

The personalizing customer. This customer wants interpersonal gratifications, such as recognition and conversation, from the service experience. Greeting customers on a first-name basis has always been a staple of the neighborhood family restaurant, but computerized customer files can generate a similar personalized experience when used skillfully by front-line personnel in many other businesses.

[1] Senior Lecturer, PhD, Danubius University of Galati, Faculty of Economic Sciences, Romania, Address: 3 Galati Blvd, Galati, Romania, tel: +40372 361 102, fax: +40372 361 290, Corresponding author: paunadan@univ-danubius.ro.

The convenience customer. This customer has no interest in shopping for the service; convenience is the secret to attracting him or her. Convenience customers often are willing to pay extra for personalized or hassle-free service.

As for the dimension of the quality concept that an organization chooses, it has a series of meanings and interpretations which can be connected to performance by a brand. In order to maintain and increase the company success, managers have to pay special attention to products/services expressed by quality or performance. In recent years, both the specialty books and the practice have invoked many evaluations to interpret the concept of quality. Among these (Gerhard, Riad, Vidyaranya, Goddard, 2008) a part is oriented towards the producer and another towards the customer, while concepts like competition are oriented towards illustrating quality. Therefore, there are numerous aspects of quality that an organization must choose from.

The concept of quality orientation of the producer

The concept of quality orientation of the producer integrates in itself the product and quality understanding is connected to the process. In a wider sense connected to product quality, differences are reflected in different attributes characteristic to a certain product. Quality is thus objectively measurable. Connecting quality to the process depends on the evaluation regarding following quality rules imposed by standards, any divergence from these meaning a dilution of quality. (appearance of gap 3.- gap between quality defined by rules and the one put into practice).

The concept of quality orientation of the customer

This process involves an orientation both to the user and an understanding oriented towards quality values. According to the quality evaluation oriented towards the user, quality derives exclusively from the customer's point of view. This is based on the idea that this is the person who demands products/services and who will ultimately make the decision in the case of performance quality (good or bad); the user will evaluate the user guide of the product/service and the performance will be measurable according to this (appearance of gap 2.- gap between the degree of understanding of consumers' requirements by the management and defining the service quality by the rules adopted).

The concept of quality orientation of the competition

Relationships with the competition always play a part when the strategy of the company is to become "quality leader". Therefore, the company compares the performance of its quality with that of other companies, continuously measuring the gaps.(gap 5-gap between the expected and perceived)

2. Theoretical Concept

If someone was forced to choose among the three aspects, the concept of quality orientation of the customer is the one we find the most often. This assumption is based on the fact that, on the market of today's buyer, a customer will orient towards a firm that offers the desired quality of product or service. Consequently, the turnover (sales and profit) suffer. Moreover, an understanding of customer-oriented quality automatically involves an attitude focusing on customer satisfaction.

When it comes to services, defining quality is extremely difficult compared to goods production. In goods production there are exact, measurable, quantifiable parameters to express and evaluate the level of quality; there is the possibility to exclude penalties, quality classes can be established and used, the final quality control can prevent the reach of unsuitable products to final customers. There are no such possibilities in the field of services.

In order to identify the quality characteristics of a service there must be considered the following aspects (Mandru, 2011):

- most times some services are performed in the presence of customers and that creates the oportunity to immediately analyze the quality;

- services must respond to various needs of customers which means the existence of a wide variety of services types in the same category;

- similar services offered on the market help clients to make comparisons so that oftenly the price is not an important factor in choosing the desired service;

- the service must be provide within the limits imposed by standards or other regulations;

- staff should be able to provide quality services at the established level of quality.

From the range of issues mentioned above, in performing the service involved the differences between the benefits hoped and real benefits, called gaps.

2.1. Gaps

The most correct definition of service quality is the gap between customer expectations regarding the service and quality perception after the use of the service. It is the proportion between the real advantages obtained when using the given service and the expected benefits. We can talk about quality when the service is in compliance with customers' expectations or it exceeds them. If the level of the offered quality meets the customer's expectations, that will become a regular customer, otherwise they will search for other suppliers, so, the competition wins.

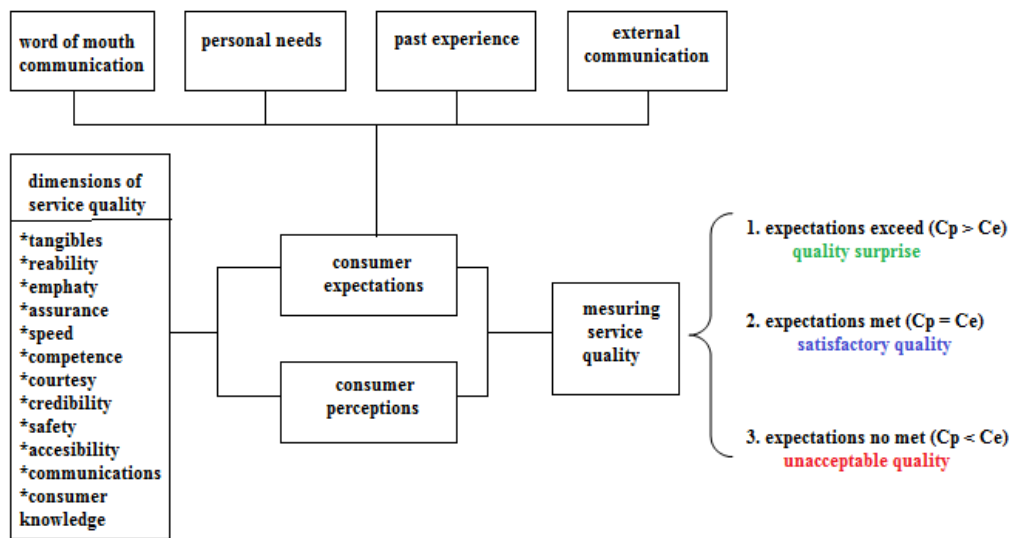In the chart below the gap between expected and perceived service is structured

Figure 1. Perceived service quality

Sources: Adapted from A. Parasuraman, V.A. Zeithalm, L.L.Berry, „A Conceptual Model for Future Research˝, Journal of Marketing, vol.49, Fall 1985, p.48

The model of service quality allows deep analysis, the identification of requirements suppliers must meet in order to offer the expected quality to their customers. The model emphasizes five gaps which can determine customers' dissatisfaction and which can finally cause the failure of the service in question. The utility of the model was largely recognized and appreciated by the ideologists and practitioners. Later a strong emphasis was placed on analyzing the causes that could generate gaps and the ways of removing those.
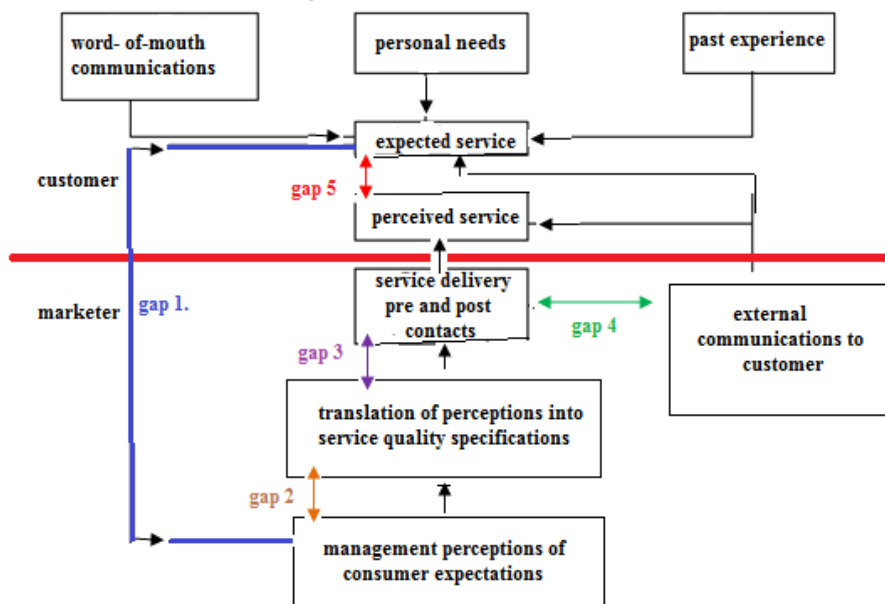
Figure 2. Service quality gap model

Sources: Adapted from A. Parasuraman, V.A. Zeithalm, L.L.Berry,"Communication and Control Processes in the Delivery of Service Quality" Journal of Marketing, vol.52, April 1988, p.36

Gap 1.

The gap between consumers' requirements, expectations and the degree of understanding those by service suppliers. The management of service suppliers can not always understand clearly and precisely the consumers' expectations and requirements: what consumers really want, how they want it, the criteria they use to evaluate service quality.

Gap 2.

The gap appears as a difference between the degree of understanding consumers' expectations by the management and the definition of service quality according to the rules adopted. Understanding customers' expectations is not enough. They must be translated into quality standards and putting them into practice must be constantly pursued.

Gap 3.

The gap between the quality defined by standards and the quality perceived during putting the service into practice.

Gap 4.

This gap aims at the difference between the quality of the service and the quality promised or suggested by the company's communications. Customers' expectations are clearly influenced by the promises made by the company through the marketing campaigns.

Gap 5.

The gap between the perceived and expected service. It appears when at least one among D1 - D4 is present. The more of the first four gaps are present, the deeper they are, the deeper D5 will be, that is D5 is a function of the first four gaps.

$$G5 = f(G1, G2, G3, G4)$$

2.2. Servqual Model

In order to measure customers' satisfaction on different aspects related to service quality, Valarie Zeithaml and his co-workers (Parasuraman, Zeithalm, Berry,1988) have developed a valorization grid called SERVQUAL. This is based on the principle that customers can evaluate the quality of a company's services by comparing their own perceptions and expectations. SERVQUAL is considered to be a generic tool which can be applied to a wide range of business services.

SERVQUAL is widely used to measure service quality. Its original service dimensions have been determined by A. Parasuraman (Parasuraman, Zeithalm, Berry,1988), with subsequent changes and regulations to the service industry.

Despite all this, in order to develop excellent services, there are three fields which can be identified and improved for the SERVQUAL model.

1. First, SERVQUAL implies a linear relationship between customers' satisfaction and the performance of the attribute service. The implication shows that the low results of the customer's satisfaction have as a start point the low performance of the attributes and this should be brought into focus to be improved. This phenomenon can be inferred from the analysis of the published applied studies of SERVQUAL.

2. A second field to be improved pertains to SERVQUAL as a continuous tool of improvement and innovation. Thus, SERVQUAL as it is defined (Parasuraman, Zeithalm, Berry,1988), is a measuring scale with multiple elements with a good reliability in well-defined terms which can be used to better understand service consumers' expectations and perceptions. Its use in the development of service activities is, essentially, a tool for continuous improvement. Despite all this, with the pressure on a growing market, continuous improvement is not enough to maintain a competitive advantage. Many organizations are strategically aiming at innovating in order to increase competitiveness. SERVQUAL was not conceived to tackle the innovation element; the thing which certifies that customers' needs and expectations must be fulfilled and exceeded by product innovation is not the model's feature. (Smith 1995).

3. Although SERVQUAL is largely used by the service companies, there have been doubts about its conceptual basis and its methodological limitations(Lovelock, Wirtz, Lampert, Munos, 2008). In order to assess the stability of these five dimensions when it is applied to a variety of services, there has been done an analysis of data from banks, delivery companies, insurance companies, auto repair and electrical equipment (Mels, Bonshoff, Nel, 1997). The results show that, in fact, SERVQUAL only measures two factors: the intrinsical quality of the service and the extrinsic quality (which Grönroos calls "technical quality ")(Grönroos,1990).

The papers related to service quality usually try to divide into categories the factors which influence the attitudes towards the service at a series of levels. At the highest level this implies a low number of dimensions to the service quality. These can be grouped in a larger set of factors or determinant factors of service quality which are subsequently developed into questions to measure by a structured questionnaire. In the original concept of Servqual tool, ten determinant factors of service quality were described.

Table 1. The determinant initial factors of service quality

No	Determinant factors of service quality	Examples
1.	**Access**	Easy and convenient access at convenient schedules; (non stop phone line; Internet access)
2.	**Communication** Informing customers in a language that they understand, listening to customers	Communication material adapted to the needs of individual groups (ethnical minorities, people with sight problems etc);
3.	**Competence** Holding the necessary abilities and knowledge to supply the service	All the staff must know their responsibilities and must be able to do their job.

4.	**Courtesy** Politeness, respect, staff's civility at all levels.	The staff must behave politely and pleasantly
5.	**Reliability** Trust, credit and image	The staff must generate a feeling of trust in the relationship with their customers
6.	**Credibility** Supplying a consistent, correct and reliable service; supplying the promised service	Defined standards, correct accounting; correct carriage of tasks; keeping promises and obeying deadlines
7.	**Prompt response** Availability and preparation for service supply when necessary	Fast problem solving;
8.	**Security** Physical and financial security, privacy	Supplying safe services
9.	**Physical interface** Physical aspects of service such as equipment, facilities; staff appearance	Modern equipment and facilities; uniforms for the staff
10.	**Understanding the customer** Knowing customers' needs individually	Adjusting services whenever possible in order to satisfy individual needs

After intensive research, these ten factors have been reduced to five; further analyses have shown that some factors were tightly connected. The five determinant factors are:

Table 2. The determinant factors of service quality

Nr.	Dimension	Description
1.	**Material goods**	Physical facilities and available equipment, staff appearance; how easy to understand the communication materials are
2.	**Reliability**	Supplying the promised service safely and correctly
3.	**Prompt response**	Helping customers and supplying a prompt service
4.	**Security**	Transmitting a feeling of trust
5.	**Empathy**	Offering the customer an attentive and individual service

These five dimensions are translated into 22 questions which measure both the perceptions and the expectations.

The instrument has been designed and validated for use in a variety of service encounters. For multisided services, SERVQUAL could be used by management to determine if any unit has poor service quality (indicated by a low score); if so management can direct attention to correcting the source of customers' poor perceptions. SERVQUAL could be used in marketing studies to compare a service with a competitor's service and again identify the dimensions of superior or inadequate service quality.

3. The case study. Analyzing the range of services offered to customers by applying servqual model by S.C. AXEL SECURITY S.R.L.

The range of services offered by S.C. AXEL SECURITY S.R.L. is made known to beneficiaries by a personalized offer and it contains:

- guarding objectives, goods and assets. These can be: company headquarters, financial institutions (banks and non-banking institutions), schools, gas stations, restaurants, video arcades, private residences, production units, warehouses, building yards etc.;
- guarding and convoying assets – with armed staff;
- bodyguard services;
- planning, installing and maintaining alarm systems;
- incorporated safety system with electronic surveillance, control and panic systems against effraction and fire;
- efficient monitoring and intervention with mobile armed crew;
- supplying specialized equipment;
- organizing professional certification courses;

- for all the services, the firm offers specialized advising services.

Each of the beneficiaries will be treated as sole customer; the security system offered is created for each objective and it is adapted to the reality in the field, to the specificity of the objective and the requirements of the beneficiary.

The firm offers services to beneficiaries on the basis of a service contract which can be subsequently modified by addenda.

Against unwanted events which could not be prevented or eliminated by the specialized personnel of S.C. AXEL SECURITY S.R.L. and which occur because of the beneficiary, each objective (no matter which kind) is ensured by an insurance policy that the firm holds at Astra Asigurări and which is worth 500.000 euros.

3.1. Implementing the case study

At present, S.C. AXEL SECURITY S.R.L. holds a customer portfolio both for ensuring the objective security with guarding agents and for monitoring and operative intervention with mobile armed crew, the structure of the portfolio being as follows:

- guarding the objectives, goods and assets with a number of 47 contracts for 62 objectives, all these being legal person;
- monitoring and operative intervention for a number of 278 contracts, among which 52 are natural person (18,7%).

Measuring service quality can be made by methods such as: mystery client, customers' complaints, customers' surveys, focus-groups, customer panels, market research, research on the employees, etc.

The application is an illustration of the way we can carry out the research on service quality using SERVQUAL standard procedure. The research was carried out at S.C. AXEL SECURITY S.R.L. using as tool the questionnaire. It was carried out between the 20th of May 2011 and the 29th of May 2011, with 50 questionnaires, all of them being filled out

The research started from these hypotheses: the beneficiaries' preferences are influenced by service quality, there are differences between the beneficiaries' perceptions and expectations regarding service quality, the quality of the service offered depends on these differences. Applying hypotheses, the objectives of the research have targeted: the identification of the values of the beneficiaries' expectations and perceptions, the identification of the importance given by the beneficiaries to the five dimensions of the SERVQUAL model in order to verify whether the firm offers quality services.

The questions of the questionnaire aimed at the identification of both the customers' expectations and their perceptions, using a scale of semantic differentiation with 5 steps (from 1= "strong disagreement" to 5 = "strong agreement"). The calculation of the scores of customers' perceptions and expectations was made individually on each dimension of SERVQUAL model, and the average numbers are presented together.

The interpretation of the results is a complex process which can be done by applying a large number of quantitative and qualitative methods. These must be chosen carefully according to the objectives of the research so that they can exploit the most of the existing informational basis of the firm and to reduce to a minimum the errors which can lead to the corruption of the results.

Basically, this phase aims to find an answer for each hypothesis, that is the first one regarding the beneficiaries' preferences being influenced by service quality and the second which targets the difference between their expectations and perceptions.

The research aims to identify the profile of the beneficiaries taking into account the answers they gave to a questionnaire which follows the next items:

1. the beneficiaries' preference on the type of service and chosen security system;

2. the legal nature of the people requesting security services;

3. beneficiaries' option for security services;

4. the beneficiary's perception on the quality-price proportion.

Regarding the beneficiaries' preference on the type of service and security system they have chosen, it varies, so, among the 50 people questioned:

- **80 %** prefer the monitoring and operative intervention system;

- **14 %** prefer the guard system (human);

- **6 %** prefer the combined security system.

The chart bellows emphasizes these preferences focusing on the preference for the operative systems.
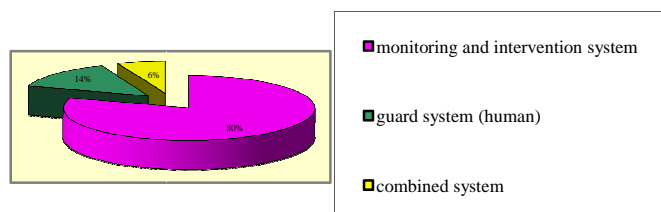

Chart 1. The structure of the beneficiaries' preference on the type of service and security system chosen

It is important to know if the demand for this kind of services comes from organizations or private individuals, the share emphasizing the trust given to these firms others than the police forces.

The data regarding the legal nature of people demanding security services is shown below:

- **84 %** legal person;

- **16 %** natural person.

Chart 2. The legal nature of people demanding services

Beneficiaries' option for security services is influenced by the personal experience of each individual. The most complex element to make important decisions is when the purchase targets a costly, unknown, or rarely bought item. At this stage the buyer uses more criteria to assess alternatives and options, and they will spend a lot of time looking for information and the decision on the purchase will be made pretty hard.

In general, all people look for information, but its importance depends on the individual nature such as previous experiences, education, motivation, individual sides, the information offered by the market, to which we can add a series of elements pressuring the individual –

financial elements or time constraints. While looking for information in order to make a decision previous experiences are very important.

The answers confirm the hypothesis because of the 50 people:

- **56 %** have chosen security services without coercive factors;
- **26 %** have chosen security services under the influence of unpleasant events, impulsively;
- **18 %** have chosen security services because it was compulsory according to law;
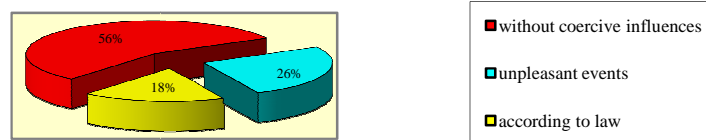
This situation is presented in chart 3.

Chart 3. The balance of the security service selection criteria in customers' preferences

The assignment of the preferences of people asked certifies a theoretical aspect of service marketing, according to which before the purchase the service customers' behavior is strongly influenced by past experience and by personal communication. The management of S.C. AXEL SECURITY S.R.L. will have to focus its managerial and marketing efforts for offering more and more competent services so that the beneficiaries' perception to be as close to the difference between the perceived and expected service as possible.

Customers are attracted by the firm by the multitude of services offered at the best proportion quality-price obtained by the ideal combination between the quality and quantity of the services offered.

Analyzing beneficiaries' opinions regarding this proportion, we notice that from the 50 people:

- **76 %** strongly agree;
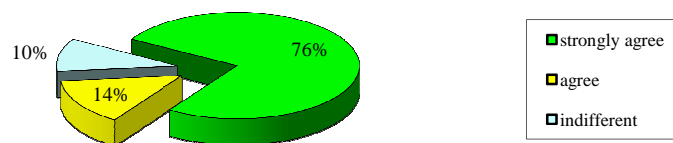- **14 %** agree;
- **10 %** are indifferent.

Chart 4. Beneficiaries' opinions regarding the proportion quality-price

3.1.1. The calculation of customers' perceptions and expectations scores using SERVQUAL model

For the two sets of 22 questions asked, people order the questions in the order of their preferences. Data analysis was carried out for each preference, using the semantic differentiation scale with 5 steps with the following assessment: strong agreement, agreement, indifference, disagreement, strong disagreement.

Chart 3 presents the average number of points obtained by each characteristic for the expected and perceived service, the calculation being done with the help of the weighted arithmetic average, according to the formula:

Equation 1 Formula for calculation the average number of points obtained by each

$$\overline{X} = \frac{\sum_{i=1}^{n} x_i f_i}{\sum_{i=1}^{n} f_i}$$

characteristic for the expected and perceived service

Where:

X – average points obtained

x_i – number of points given by each subject for criterion i

f_i – number of subjects who have given the same number of points

Table 3. Average number of points obtained for the expected service

	Above expectations		Consistent with the expectations		Below expectations
	Enthusiasm	Satisfaction line	Satisfaction	Dissatisfaction line	Dissatisfaction
Expected service / Characteristic	Strong agreement 5	Agreement 4	Indifference 3	Disagreement 2	Strong disagreement 1
Reliability	38	9	3	0	0
Promptitude	47	3	0	0	0
Professionalism – staff's civility	44	6	0	0	0
Available equipment	40	6	4	0	0
Individualized attention to each customer	46	3	1	0	0

Table 4. Average number of points obtained for the expected service

	Above expectations		Consistent with the expectations		Below expectations
	Enthusiasm	Satisfaction line	Satisfaction	Dissatisfaction line	Dissatisfaction
Expected service / Characteristic	Strong agreement 5	Agreement 4	Indifference 3	Disagreement 2	Strong disagreement 1
Reliability	30	15	5	0	0
Promptitude	37	13	0	0	0
Professionalism – staff's civility	36	12	2	0	0
Available equipment	32	10	8	0	0
Individualized attention to each customer	37	7	6	0	0

Table 5 emphasizes the values ranking for the gaps between perceived and received services.

Table 5. Ranking the criteria taken into account when choosing security services and summarizing the scores of beneficiaries' perceptions and expectations for the services offered by S.C. AXEL SECURITY S.R.L.

Dimensions	Average number of points		Difference between perceptions and expectations	Place according to consumers
	The average of customers' expectations (A) Expected service	The average of customers' perceptions (P) Received service		
Reliability	4,70	4,50	0,20	I
Promptitude	4,94	4,74	0,20	I
Professionalism – staff's civility	4,88	4,68	0,20	I
Available equipment	4,72	4,48	0,24	I I
Civility	4,90	4,62	0,28	I I I

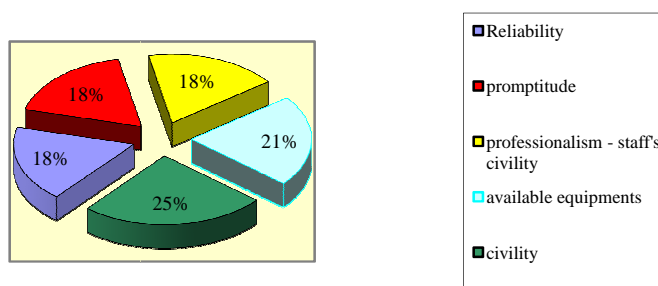The ranking of the attributes is made in chart 6.

Chart 6. The chart of ranking values

From the calculations above we can notice that most of the beneficiaries are attracted by the numerous services offered at the best proportion quality-price, the best combination between the quality and quantity of services offered.

Thus, this is a very good indicator which shows that most of the customers are satisfied with the received services – these being above their expectations. Their periodical increase has the effect of trusting the security services offered by S.C. AXEL SECURITY S.R.L. The combination of reliability, promptitude, professionalism emphasizes the firm's capacity to impose itself on a strongly regulated market, with an important competition.

We must notice that indicators such as "equipment" and "civility" show that the beneficiary is satisfied with the received services, the value of this indicators being 0,24, and 0,28.

In general, a positive score for the five attributes can only emphasize the professionalism of the firm, its management being able to identify the customers' complaints and their evolution, and the research can only monitor the offered services and observe quality through the customers' vision.

Correlated with the asked price, the level of the offered services makes the beneficiaries loyal and there are also lots of new customers.

4. Bibliography

Fitzsimmons, A; James & Fitzsimmons, J. Mona (1994). *Service management for competitive advantage*. McGraw – Hill.

Gerhard Raab, Riad A. Ajami, Vidyaranya B. Gargeya, G. Jason Goddard (2008). *Customer relationship management – a global perspective*, Gower Publishing Company.

Grönroos, C. (1990). *Service management and marketing*. Chapter 2, Lesington, Lesington Books.

Mels G., Bonshoff C., Nel D. (1997). The dimensions of service quality: The original European perspective revisited. *The service industries journal*, p. 173-189.

Mandru Lidia, Pătraşcu L., Cârstea Claudia Georgeta, Popescu A., Bîrsan O. (2011). Paradigms of Total Quality Management. *3rd WSEAS International ISI Conference on Manufacuring Engineering, Quality and Production Systems (MEQAPS '11). Transilvania University of Braşov, Romania, World Scientific and Engineering Academy and Society (WSEAS) Press*, pp. 121 – 126.

Lovelock C., Wirtz J., Lampert D., Munos Annie, (2008). *Marketing des services*. Pearson Education France.

Mels G., Bonshoff C., Nel D. (1997). The dimensions of service quality: The original European perspective revisited. *The service industries journal*, p. 173-189.

Parasuraman A., Zeithalm V.A., Berry L.L., (1985). A Conceptual Model for Future Research. *Journal of Marketing*, Vol. 49, p. 48.

Parasuraman A., Zeithalm V.A., Berry L.L. (1988). Communication and Control Processes in the Delivery of Service Quality. *Journal of Marketing*, vol. 52, p. 36.

Smith, Anne, (1995). Mesuring service quality: Is Servqual now redundat? *Journal of marketing management*, p. 257-276.

State Olimpia, Istudor N. (2009). Service Quality Study. Application of a hotel using the Servqual Model. *Amfiteatru Economic/Economic Amphitheater*. Vol. XI, No. 26, p. 419-428.

Vavra, Terry (1997). *Improving your measurement of costumer satisfaction*. ASQ Quality Press, Milwaukee.

***European Institute of Public Administration (2008). European Primer on Customer Satisfaction Management. *European Institute of Public Administration Network*.

***Paper license (2011). *Pure Services. Measuring Customer Satisfaction using SERVQUAL Model in SC Axel Security Ltd*, Student: Dan Vrabie Coordinator: Dan Pauna, George Baritiu University, Brasov.