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CUSTOMER SATISFACTION INDEX - AN IMPORTANT TOOL IN QUALITY ASSURANCE

BY

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Abstract. Customer satisfaction is an extremely important element in assessing the quality of an organization, both public and private. The external customer will not only evaluate product quality, but availability, price, reliability, lifecycle, how it interacts with the sales service, the entire experience of buying the product. The internal client will assess suppliers and process beneficiaries within the organization, colleagues and superiors. The organization will evaluate its various suppliers by making their hierarchy according to their performance. Different methods are used to measure customer satisfaction, each with a certain degree of subjectivity. This information needs to be synthesized in the form of a global, complex index with the highest degree of objectivity. This index should be dynamic, highlight trends and developments to be a reliable indicator of quality monitoring by the organization. To calculate the customer satisfaction index, an inquiry questionnaire, specific to the purchased product, must be devised.

Keywords: customers; quality; organization; sales; evaluation.

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1. Methods of Customer Satisfaction Assessment

The goal of each organization is to stay on the market for as long as possible and, as far as possible, to develop, penetrate new markets and conquer new customers. To achieve this goal, it is necessary to continually monitor the level of customer satisfaction. Only a satisfied customer, whose expectations and desires have been fulfilled, can ensure the success and efficiency of the organization in the long run.

Derek (2004) considers that customer satisfaction plays more roles in the organization, as seen in Fig. 1. In this respect it is considered that customer satisfaction can mainly play the role of regulating loops in the system. The importance of customer satisfaction derives from the fact that it creates connections between customers and the organization, highlighting, among others, the concern of the organization to meet the demands and needs of consumers.

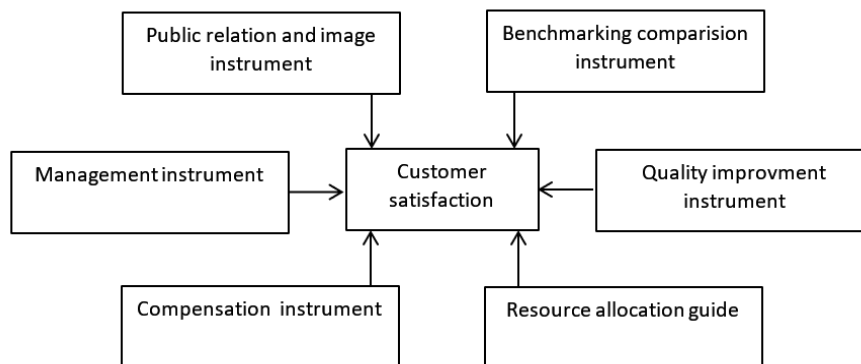


Fig. 1 – Customer satisfaction roles in organization.

Allen and Rao (2000) offers several criteria that the organization can use to monitor customer satisfaction:

- complaints and objections - the organization provides clients with simple means of formulating possible complaints: telephone lines, forms, email addresses;
- features for customer satisfaction assessment - the organization performs regular surveys on customer groups, and the survey questionnaire used should highlight the level of satisfaction, the reasons for any lack of satisfaction, the expectations and wishes of the clients;
- fictional clients - the organization hires people with training in the field to play the role of potential customers and to evaluate the products in detail, thus discovering their strengths and weaknesses compared to competing products;

– analysis of lost customers - representatives of the organization must contact the former customers and discover why they have given up buying them.

For the organization's progress, customer satisfaction must become not only a target but also a marketing tool. A high level of customer satisfaction will ensure the success and development of the organization.

In the economic environment there are concerns about quantifying the level of customer satisfaction by introducing more types of indexes or quality scores. Every organization that wants to monitor customer satisfaction will have to consider the following:

- each client has their own way of expressing their satisfaction,
- in order to measure customer satisfaction, it is critical to know the trends and developments,
- the results of the customer satisfaction assessment must be known by the entire staff of the organization, not only by senior management,
- information on customer satisfaction is an important criterion for assessing the quality system in the organization.

2. Customer Satisfaction Index

In many countries there have been attempts to measure or assess customer satisfaction.

Since 1998, Canada has developed the Citizens First project, a citizen-centered service network dedicated to improving the quality of government services for Canadians (<https://iccs-isac.org/>). Citizens across the country have been asked what they think about the provision of public services, what expectations they have and what they think should be improved.

In the UK and New Zealand, the People's Panel system is being used. For example, Auckland's local council calls for citizens to think about issues of common interest through short emails (<https://www.aucklandcouncil.govt.nz/>). Approximately one survey per month is organized, a questionnaire can be completed in ten minutes, and each survey is conducted with prizes to boost citizens' participation. The results are made public.

In the United States, the American Customer Satisfaction Index (ACSI) is used (<http://www.theacsi.org/>).

This is a strategic economic indicator that relies on customers' assessment of the quality of goods and services purchased in the United States by local and foreign firms with significant market shares. ACSI assesses the quality of economic output as a complement of traditional economic indicators focused on quantitative measures of economic output.

This indicator has been developed since 1994 by researchers at the University of Michigan in collaboration with the American Quality Society of Milwaukee, Wisconsin.

ACSI data are published several times a year, which allows interested parties to track the continuing evolution of different segments of the economy.

If initially ACSI only addressed the private sector, since 1999 it has expanded to federal agencies. The model used for federal agencies assesses customer satisfaction and expectations, their perceptions of the quality and value of the services received, and information on whether they will call on such services.

The elaborated theoretical model is presented in Fig. 2.

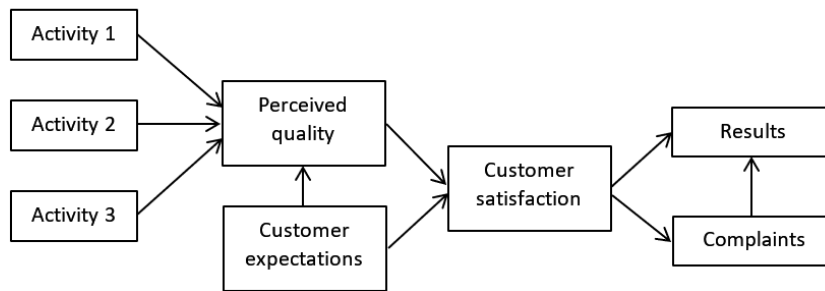


Fig. 2 – Theoretical model of ACSI.

In order to assess the level of customer satisfaction, a complex index can be used, which will take into account both the level of satisfaction of the services and the products (Benkova *et al.*, 2005). The expression of this index is given by Eq. (1):

$$I_{cs} = \frac{I_{ss} + kI_{ps}}{k+1} \quad (1)$$

In Eq. (1) I_{ss} represents partial customer service satisfaction index, I_{ps} – partial customer satisfaction index related to products, k – coefficient of importance of the product in question. Thus, if $k = 0$, the product does not exist (or does not matter), and the customer satisfaction index will only be influenced by the quality of the services. If $k = 1$, the products and services have the same importance. For $k < 1$, the service is more important than the product, and for $k > 1$, the product is more important than the service.

The partial index of customer satisfaction with services has the expression given by Eq. (2):

$$I_{SS} = \sum_{i=1}^N w_{is} S_i \quad (2)$$

In Eq. (2) N represents the number of services to be evaluated, w_{is} – the share of the service in the partial index I_{SS} , S_i – the measure of customer satisfaction with service i . Weights w_{is} must satisfy Eq. (3) and the size S_i will be determined by Eq. (4).

$$\sum_{i=1}^N w_{is} = 1 \quad (3)$$

$$S_i = \frac{\sum_{x=1}^n S_{ix}}{n} \quad (4)$$

In the Eq. (4) S_{ix} represents the assessment made by the client x for service i , and n – the total number of clients.

Similarly, the partial index of customer satisfaction with products will be determined with the Eq. (5):

$$I_{ps} = \sum_{j=1}^M w_{jv} V_j \quad (5)$$

In Eq. (5) M represents the total number of products to be evaluated, w_{jv} – the weight of the product j in the partial index I_{ps} , V_j – the measure of customer satisfaction with the product j . The weights w_{jv} must satisfy Eq. (6), and the size V_j is determined by Eq. (7):

$$\sum_{j=1}^M w_{jv} = 1 \quad (6)$$

$$V_j = \frac{\sum_{x=1}^n V_{jx}}{n} \quad (7)$$

In Eq. (7) V_{jx} represents the assessment made by the client x for product j , and n – the total number of clients.

Depending on the size of the satisfaction index, customers can be divided into three categories: very satisfied customers, satisfied customers and unsatisfied customers.

Determining customer satisfaction is particularly important for the organization. This opens the way to improving quality, expanding into new markets, and conquering new customers.

3. Customer Satisfaction Assessment

The process of determining customer satisfaction is repetitive, both because customer satisfaction is constantly changing, but also because measurement procedures can and should be improved (Giese and Cote, 2000).

Depending on the objectives pursued, there are several measurement possibilities. The easiest way to investigate customer satisfaction is through the opinion poll. In the ACSI case started by identifying the main activities of each investigated agency for each activity building measurable attributes.

The process of determining customer satisfaction can be represented as in Fig. 3.

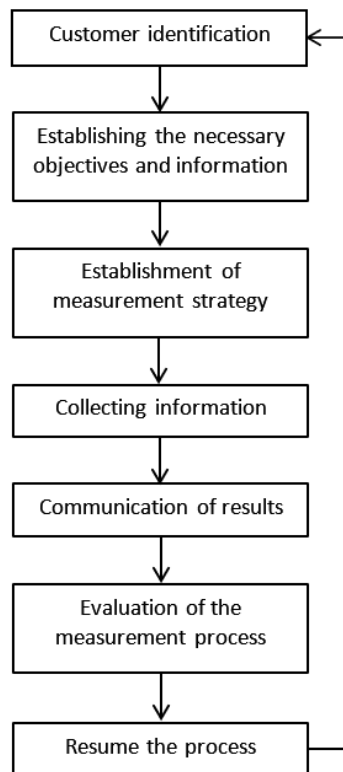


Fig. 3 – The process of determining customer satisfaction.

A customer satisfaction assessment of a company will be based on an inquiry questionnaire. An example is shown in Fig. 4. There were used 24 criteria grouped into 4 categories. Each customer gave grades for each criterion from 1 to 5, 1 - very satisfied, 2 - satisfied, 3 - partially satisfied, 4 - unsatisfied, 5 - very unsatisfied.

The results serve to determine the customer satisfaction index. In the survey questionnaire there are criteria related to products and service-related criteria. The k -ratio will be determined as the ratio of the product-related criteria to the service-related criteria.

The customer satisfaction index will refer to the scale of 1 - very satisfied, 2 - satisfied, etc.

Cr. Nr.	Criterion name	Criterion rate
1	Product features	
1.1	Technical performances	
1.2	Product reliability	
1.3	Ease of use	
1.4	Possibilities of accidents in use	
1.5	Size supply	
1.6	Value of products	
1.7	Product price	
2	Order the product	
2.1	The way the order can be done	
2.2	Order confirmation speed	
3	Delivery	
3.1	Cost of delivery	
3.2	Setting deadlines for delivery	
3.3	Compliance with delivery times	
3.4	The packaging of products	
3.5	The size of the package and the means of transport	
3.6	The rate of reaction in the case of complaints	
3.7	How to deal with complaint	
4	Sales Service Performance	
4.1	Attitude towards the client	
4.2	Available information on possible services	
4.3	Technical and commercial abilities of sales manager	
4.4	Level of contract details, possibilities for termination or modification	
4.5	Operational and Affordability of the Sales Manager	
4.6	The power of the sales manager	
4.7	Other additional services	
4.8	The general impression of the experience of buying the product	

Fig. 4 – The inquiry questionnaire.

4. Conclusions

The customer satisfaction index is a signal of concern for problems in the organization. It is important that this assessment criterion is used continuously, in the long run, to prevent unwanted developments in some compartments. It is important to understand that the customer satisfaction index is an indicator of the organization's competitiveness in the business environment as it shows whether the customer is satisfied with the company. Possible negative developments in this index signal the possible emergence of serious economic problems and should be the signal of initiating actions to improve quality.

REFERENCES

- Allen D.R., Rao T.R., *Analysis of Customer Satisfaction Data*, Milwaukee, Wisconsin, ASQ Press, 2000, 367-371.
- Benkova M., Florencova L., Sochovicova G., Carnogurska M., *Customer Satisfaction Index and his Importance for Enterprise Competitives*, Proc. of ICCS 2005, Miskolc, 109-114.
- Derek R., *Customer Satisfaction Research Management*, Milwaukee, Wisconsin, ASQ Press, 2004, 21-24.
- Giese J.L., Cote J.A., *Defining Consumer Satisfaction*, Academy of Marketing Science Review, **1**, 2000, 15-19.
- * <https://iccs-isac.org/>
- * <https://www.aucklandcouncil.govt.nz>
- * <http://www.theacsi.org/>

INDICELE SATISFAȚIEI CLIENTULUI – INSTRUMENT IMPORTANT ÎN ASIGURAREA CALITĂȚII

(Rezumat)

Satisfacția clientului reprezintă un element extrem de important în evaluarea calității unei organizații, atât publică cât și privată. Clientul extern nu va evalua numai calitatea produselor, ci și disponibilitatea, prețul, fiabilitatea, durata ciclului de viață, modul în care interacționează cu serviciul de vânzări, întreaga experiență a cumpărării produsului. Clientul intern își va evalua furnizorii și beneficiarii proceselor din interiorul organizației, colegii și superiorii. Organizația în ansamblu își va evalua diferiții furnizori, realizând o ierarhizare a acestora după performanțele lor. Se utilizează diferite metode pentru măsurarea satisfacției clientului, fiecare cu un anumit grad de subiectivism. Este necesar ca aceste informații să fie sintetizate sub forma unui indice global, complex, cu un grad de obiectivitate cât mai mare. Acest indice trebuie să fie dinamic, să evidențieze tendințe și evoluții, pentru a putea fi un indicator fiabil al monitorizării calității realizate de organizație. Pentru a putea calcula indicele satisfacției clientului trebuie conceput un chestionar de anchetă, specific produsului achiziționat.