

END-TO-END SERVICE QUALITY. QUALITY CULTURE, FROM RESOURCE MONITORING TO CUSTOMER SATISFACTION

Within a Telecommunication market increasingly geared towards the reduction of management rates and costs, service quality may constitute a distinctive feature and generate ROI, as long as the objectives and the pathway chosen to reach them are defined in an optimum way. Live Reply helps operators in this direction.

THE QUALITY APPROACH

The methodological approach to “quality” was born at the time of the industrial revolution, with natural resources being transformed into products having comparable features. The concept of quality is at the basis of competition: products offering similar features distinguish themselves on the basis of “how well” their features were developed and of how much they are appreciated by the public.

Speaking about the quality of an intangible product or service implies substantial differences, as well as different organization and monitoring methodologies. The concept of quality, somehow intuitive in itself, is actually something strictly connected to the service received and the relating client satisfaction.

In the history of telecommunications, quality evolved at the same rate as services and the different organization methodologies. With service evolution, customer maturity and, above all, market liberalization, the extent of service quality has become a distinctive feature and it became necessary to better define concepts and tools suitable to describe it. Here is the definition that nowadays better expresses the “quality” concept, with regards to the world of telecommunications:

***Quality** is a long-term, extended methodological approach involving all the bodies in charge of delivering a service, with the purpose to attain the highest possible customer satisfaction.*

This definition highlights the central role played by the customer, pushing the company with its processes and systems - which are nonetheless indispensable in order to develop services - into the background. This, not because the company is not crucial for the whole process, but because it is the body that may be controlled and improved in order to gather the highest consensus possible from customers and then retain such consensus. This implies that, on the basis of the customers' feedback - who represent the main asset - the company must devise the most adequate solutions in order to maximize its service use satisfaction, in a word, "changing".

THE VALUE CHAIN

A service is a process made up by different phases involving a series of elements strictly linked and interacting with one-another in order to provide specific functionalities. Each element and each interaction between these elements may cause a gap between the optimum quality level and the real one. Therefore, the quality perceived depends on the quality of each element of the chain.

AN EXAMPLE

When watching a film, the enjoyment comes from the interest in the content, the image quality and price. The image quality depends on recording, broadcasting and reproduction.

Let's assume that the price is adequate to the content. In this case the satisfaction will depend on the *recording – broadcasting – reproduction* chain. When watching a film through Cable TV, an available system offering adequate performance to broadcast the film, a media ensuring sufficient and continuous pass-band, the perfect functioning of the interconnection equipment (the so-called *Set Top Box*) allow to attain the expected results. Assuming that the broadcasting system and the STB are adequate, we may analyze and break down the media component chain in order to assess their behaviour appropriateness. As a matter of fact, from the system which broadcasts the recording to the STB, a series of equipment and connections strictly follow one another: the same film is broadcasted along the server local network to the peripheral sorting nodes, then, along the backbone network at geographical scale on the whole territory, finally to the access centrals and from here, to the users terminations. As one may deduct, each chain link may interactively be broken down into a series of links performing, each one, a simpler and more elementary function.

DELIVERED QUALITY AND PERCEIVED QUALITY

Quality is not necessarily a synonym of excellence but rather, and mostly, a clear and sure perception of the performance level. In case of telecommunication services the challenge is:

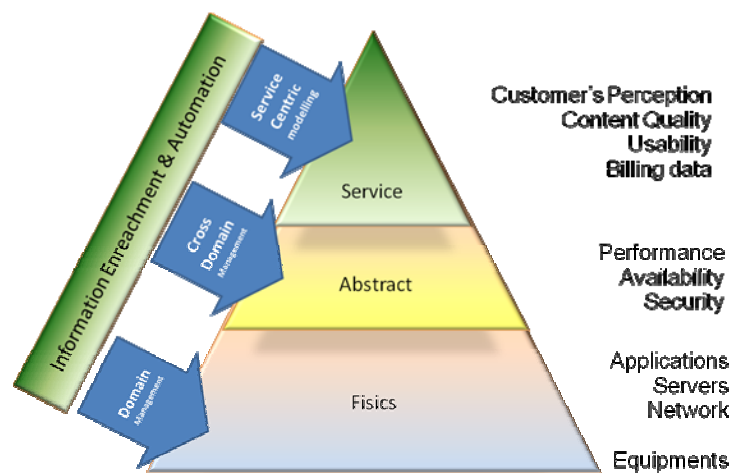
- 1) declaring the level of performance
- 2) doing what was declared
- 3) proving it.

The need to prove that what was promised has been delivered, is a guarantee of control, and allows to turn a sensation into a unit of measurement. The difficulty consists in moulding the service in such a way as to define the metrics necessary to take into account all the effects combination along the value chain. In this way it is relatively simple to say that a specific “system” ensures quality just because it does not break down, it is enough to start the clock at the beginning of the system activity and stop it when a failure occurs, reducing everything to pure statistics. Equally, when one wishes to state that the system offers high performance, it is sufficient to define a significant stress and measure the performance time on that system and the game is done.

For a telecommunication service all this is important but it is not enough. Quality depends on the combination of the effects of the value chain and each link must be “measured” in order to define its features and effects which are important for the service.

MEASURING

Since the beginning of telephony, telecommunication operators monitored the “health status” of physical resources. The latter, generate events and measures which, when opportunely interpreted, indicate the availability status, any possible problem which may arise and the performance delivered.



The lower the sophistication level of the chain element is, the least its ability to monitor its functioning will be. Usually, this is in inverse proportion to the effects that an improper functioning may have on the service, let’s think for example of an interrupted connection. For this reason, it is necessary on the one hand, to turn to duplication mechanisms of the most critical resources and, on the other, to implement supplementary control and monitoring mechanisms.

The sending of signals aiming at assessing the existence and functioning of a system at the opposite end of the link and the relating receipt confirmation, allow to also ascertain the “good health” of an “unaware” link.

When we talk about modern communication, we take all this for granted; as a matter of fact, we are used to think that these issues are solved at the lowest level, by transmission protocols. In reality, mastering and linking all the effects of all the components and the impact that they have on the service by defining a measurable quality level is all but simple.

CORRECT INFORMATION AND CORRECT INTERPRETATION

Having the correct information available, gathering it consistently at all levels and presenting it promptly is not enough. Information must be enriched, integrated and linked, in real time, in order to highlight the level of quality degradation and intervene in order to minimize possible effects.

In order to assess any possible degradation, it is necessary to first define a service level considered as the minimum threshold below which one cannot go. This way, quality is measurable through a simple mathematic calculation: the ratio between the quality offered and the quality perceived; it therefore involves a measure.

In order to ensure the application of the correct approach, it is necessary to establish metrics, measures, collection tools, development, implementation and management engineering processes, basically it is necessary to organize the company so that it is fully committed to Quality.

LIVE REPLY AND QUALITY

The Reply business culture has always been geared towards customer satisfaction, all the staff is very sensitive to this issue and we could dare say that quality is within Reply's DNA.

Reply's involvement in supervision and support system integration projects geared towards QoS allowed, during the years, to implement such principles by dealing with application problems.

Live Reply commitment goes from the integration of "*passing probing*" and "*assurance*" platforms to the deployment of agents dedicated to quality marker generation on terminal devices, from support to the acceptance of content, services and peripherals, up to asset management and organization consultancy.

Technical skills range from the operation management of measurement and monitoring tools, to knowledge and integration of third-party platforms, from the development of its own solutions and architectures up to the knowledge of organization standards for

process optimization and monitoring.

The applications for which Live Reply could implement the above described methodologies are numerous, in various contexts. They range from base telephony to IPTV, from DSL network to VAS on mobile network.

Live Reply deals mainly with the integration of supervision and measuring systems; however, it also deals with quality control at the source, which implies the planning of acceptance tests, both for products and services.

Moreover, the experience acquired in the field of implementation of embedded functions allowed Live Reply to identify punctual needs requiring the development of measures which were not natively supported by the systems in use for the service, with the planning and integration of rules for the correlation of information coming from different data sources. This was made possible only after an in-depth analysis of the Operator organization and the automation of complex management processes.



Live Reply is the Reply group company dedicated to advanced services and digital contents for Mobile, Web and TV. Live Reply satisfies the requirements of Telecommunication and Media Company Operators to create a new generation of services able to leverage the conversion between media, the potentialities of the new consumer electronics and the ever-growing possibilities of customizing the “user experience” offered by the network.

In particular, Live Reply is specialized in the planning, development and distribution of services and contents on Mobile and TV, in defining Community and Entertainment services for Web, Mobile and TV, and in developing advanced applications for Mobile Devices and Set-Top-Box.

Live Reply
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