Evaluating Quality Perception in IT Services: A Brazilian Exploratory Study

Eduardo Margara da Silva

Rua Sete de Abril, 309 - 10º, Andar, 01043-000-São Paulo, SP, Brazil, emargara@telefonica.com.br

Gin Kwan Yue

Rua Rio Grande, 547, apto. 141, 04018-001-São Paulo, SP, Brazil, ginyue@uol.com.br

Roberto Gilioli Rotondaro and Fernando José Barbin Laurindo

Production Engineering Dept of Polytechnic Engineering School, University of São Paulo, Av. Prof. Almeida Prado, 128 Tr.2 Biênio 2º, roberto.rotondaro@poli.usp.br, fjblau@usp.br

INTRODUCTION

The IT areas assumed, sometimes even involuntarily, an outstanding position, since the competition level attributed to business now depends on IT capabilities in order to provide the company competence to innovate, to interact with customers, to operate productively, to be connected in business networks or to control operations and resources applications (Laurindo et al., 2003; Porter, 2001; Tapscott, 2001;Henderson & Venkatraman, 1993; McFarlan, 1984).

The objective of this article is to understand the movements and changes that are taking place in the application of IT in business, mainly in companies where IT function is strategic and fundamental, as in the sectors of telecommunications, banking, insurance, credit cards and IT services. Especially in Brazil, a developing country with a strong and growing economy, where the majority of large multinationals companies are present, business managers are still facing the lack of modern concepts and techniques for operations management.

The basis for this discussing was carried out through an exploratory research in companies in those sectors. The main results were obtained from an exploratory survey, which measures the dimensions of evaluation of IT customers service satisfaction. Besides, this paper tried to explore concepts, techniques and management methods, related to service quality, which can be adopted to confront the problem approached.

IT SERVICES AND THEIR ROLE IN THE ORGANIZATIONS

The competitive and turbulent market, characterized by new and innovative ways to do business, have forced business managers to demand more from IT organizations, requesting better solutions, with quality guarantees, deadlines and with compatible costs, considering the end user's needs and the necessity to confront competition.

This is more difficult in areas where IT environments play a key role, related directly to the general strategy of the company, like proposed on McFarlan's Strategic Grid (1984), as illustrated in Figure 1. The grid defines four IT positioning possibilities for the companies and consequently, the best managerial approach for IT area: support, factory, transition and strategic – regarding the correlation of current and future impacts of information systems in the continuation of the company's business:

a) *support:* IT has little influence in the company's current and future strategies, for example – manufacturing companies;

b) *factory:* existing IT applications contribute decisively to the success of the company, but there are no previsions of new applications that would have a strategic impact. Example - airline companies;

c) *transition:* The IT area is getting more strategic importance for the company, like in - *e commerce*;

d) *strategic:* IT has great influence in the company's global strategy, in the present situation and in future business. Banking, insurance companies and telecommunication operators can be classified in this group.

In order to consider the strategic impact, McFarlan (1984) suggests to analyze if the IT applications alter (or will alter) at least one of the five competitive forces: rivalry among existing competitors, the possibility of new entrants and introduction of substitute products, supplier's and buyer's bargaining power (Porter, 1979).

In general, business managers believe that a lot is invested in IT but without effective benefits being achieved (Carr, 2003), projects seem endless, deadlines are hardly ever met, there are no clear prioritization criteria regarding the demand and constant system quality problems are faced.
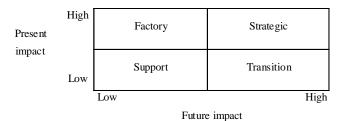
This belief was confirmed during the last IT Business Forum organized in Brazil by IT Mídia S.A., which took place on October 23rd 2003. When asked about what, in their opinion, would be the biggest lack in IT teams, 80% of the 54 Brazilian executives who decide on IT investments, indicated the lack of integration with other areas, business knowledge and lack of planning as the main needs found in IT organizations, as indicated in Table 1.

In order to cope with these expectations, it is necessary to adopt effective management models in IT organizations and understand what are the quality dimensions that business managers consider important and work on them in order to boost the quality perception.

QUALITY AND SATISFACTION MEASUREMENT

During many years, the quality concept used was the conformity of the product or service to certain specifications, an approach focused on the product or on its production. Garvin (1987) proposed the separation of quality concept in eight categories, in order to have a better comprehension: performance, features, reliability, conformance, durability, serviceability, aesthetics and perceived quality. This group of dimensions is clearly much more appropriate for companies that produce tangible goods than for companies who provide services.

Table 1. Research Business Forum 2003

Present impact High	Factory	Strategic
Low	Support	Transition

Low — Future impact — High

Source: Adapted from Laurindo et al. (2003)

Figure 1. Strategic Grid

Which is the main lack you feel in your IT team ?	Answers (%)
Lack of integration with other areas	35 %
Business knowledge regarding the company	26 %
Lack of planning	19 %
Technical knowledge	13 %
Others	07 %

Source : IT Midia S.A.

Several authors have discussed the typical characteristics that services present, distinct from manufactured goods, as follows: intangibility, heterogeneity and the inseparability between the production and consumption of services, resulting in a more difficult evaluation of their quality (Parasuraman et al., 1985, Fitzsimmons & Fitzsimmons, 2000, Grönroos, 2000).

The discussion about quality evaluation should take into consideration the participation of the customer, who, after all, is the one who evaluates the received product or service (Zeithaml et al., 1990, Grönroos, 2000, Garvin, 1987).

An important contribution was made by Parasuraman et al. (1985), by proposing a conceptual model to evaluate services quality, concluding that, regardless of the type of service, the criteria for quality evaluation would always be the same, and listed ten categories that were called the *dimensions for service quality*:

1) tangibles: physical evidence of the service: installation, equipment and material;
2) reliability: the company's ability to comply with the combined terms within the deadline;
3) responsiveness: employees good will and readiness to execute the job promptly;
4) credibility: integrity, honesty and the company's name and reputation;
5) customer knowledge: the effort to comprehend the customer's necessities;
6) access: facility to contact the service provider (means, times and places);
8) courtesy: politeness, respect, consideration and friendly treatment on personal contact;
9) communication: availability to inform and listen the customer using a comprehensive language;
10) security: without danger, risks or doubts, from physical security to privacy.

The researchers concluded that the perceived quality service results from the consumer's comparison of expected service with perceived service. In a similar way, Grönroos (2000) defines perceived quality as a difference between expected quality and the obtained quality.

This article tries to amplify the discussion about the dimensions to evaluate quality within IT services, in several important sectors of the economy, starting at its customers, in charge of business management and permits to explore additional questions such as: are the dimensions listed by Parasuraman et al.(1985) valid in this particular evaluation process? Are there other more appropriated dimensions for the specific case?

The importance of reaching customer satisfaction is a convergent point among several authors (Oliver, 1997; Cronin Jr. & Taylor, 1992; Mownen & Minor, 1997). The correct measurement of the customer satisfaction level requires a precise characterization of the necessities of this customer, which means, according to Hayes (1992), the dimensions of the service quality.

RESEARCH REGARDING THE DIMENSIONS OF THE IT QUALITY SERVICE

The methology adopted for this paper was exploratory research, which was developed at companies where IT plays a strategic role, in which the dimensions of the evaluation of IT customer satisfaction were investigated. Besides, concepts, techniques and management methods related to quality in services, applicable in the case of IT areas were explored.

The survey was based on the technique of critical incidents presented by Hayes (1992) and created by Flanagan (1984) to determine the dimensions of the service quality. This method has the advantage of dealing with customers to get a definition of their own necessities. The term "critical incident" represents a performance aspect of the organization that customers have contacted, describing positive and negative performances.

In order to determine the dimensions of IT service quality, sectors in which IT can be considered strategic for business development and competition in the market were chosen according to McFarlan's vision in strategic grid (1984): telecommunications, banks, insurance companies, credit cards and IT services. Given the characteristic of the exploratory study, the survey was carried with a non-probabilistic, intentional sample, also called a convenient sample. For Selltiz et al. (1975) good judgement and an adequate strategy permit the choice of participants of cases that must be included in the intentional sample, satisfying the needs of the research.

There were chosen 35 executives – directors, superintendents and managers - from those sectors, all of them business managers, in the Commercial/Marketing and Sales area, Attendance/Billing, Quality/Performance Assurance and Credit Management.

The participants were requested to describe five positive and five negative aspects related to IT services. An amount of 17 questionnaires were returned, corresponding to 49% of the total sent. From the received questionnaires, three were eliminated as they contained answers that don't comply with the objective of this research, resulting in 14 professionals, from companies belonging to the following sectors: three telecommunications operators, three large banks, one IT service provider and one insurance company, and a final list of 140 critical incidents. Due to the small number of questionnaires returned, it must be understood that all conclusions may not be generalized to any situation or company but may offer more insights for further deeper and extensive researches.

The 140 critical incidents were divided into groups by similarities and then classified according keywords, leading to eight phrases representing satisfaction items.

For a detailed analysis purpose, IT activities can simply be grouped in five services: development and system maintenance; microcomputer services; production; technology/infra-structure and planning and management.

Making an analogy of these services with the proposal presented by Hill (1993), of a competitive analysis describing performance objectives as *order-winning* and *qualifying*, it could be stated that the development and system maintenance services and microcomputer services retain the great potential of producing positive effects (order-winning objective) in the IT customer's quality perception. All the other services are

essential, however the good performance of these services only qualify for the IT to continue to exercise its corporate function and practically influence the perception of quality in nothing at all.

The result of the research corroborates with that proposition: a great number of the critical incidents included comments that point up to microcomputer services and the development and system maintenance, denoting the importance of these services in the quality perception of IT services and guiding the following analysis.

The microcomputers services – help desk, equipment repairs, software installation upgrades, configurations, remote access – are analogous to a relation between business deals and it is end customer – a process called B2C *(business to customer)* where attendance aspects prevail. However, development and system maintenance – business analysis, systems solutions, application implementation, change management, user training – are analogous to a relationship between two companies that can be defined as B2B *(business to business)* where aspects of knowledge and relationship prevail.

The objective for the classification of services is to permit business managers to have a better characterization of their service and the way of interaction with the customer, providing a better comprehension of the service, which is essential for the management. Using a typology presented by Silvestro (1999) that considers volume and contact/customization of the service, microcomputers service can be positioned on one extreme and the development and system maintenance on the other. Microcomputers service can be identified as a mass service, with a high volume of attendance in large companies and gives priority to an attendance, which is little personalized, with the necessity of standards and rules of operation. On the other hand, the development and system maintenance can be classified as a professional service, as it deals with a small volume of customers, has the premise to offer a totally personalized service and demands a high level of contact between the involved parties.

This analysis enforces the tendency of structuring and administrating IT organizations, ever more based on concepts, techniques and behaviors oriented to strategic management of services and quality, always aligned with the business directions and less based on technology management.

FINAL CONSIDERATIONS

The adequate knowledge of the specific IT quality service dimensions is fundamental to improve the customers' quality perception and to increase IT contribution in business and company management. The comparison of the eight phrases synthesizing the content of the critical incidents and containing the dimensions or customer's necessities with the classic quality dimensions presented by several researchers, shows many discrepancies, as following:

a) *IT performance propitiates the participation of business areas in the decisions regarding prioritizing technologies, investments and IT projects:* different from the ACCESS, COMMUNICATION and COURTESY dimensions, which are commonly mentioned in respect to the relation between customer and service provider, business managers want to PARTICIPATE in order to give their opinion on decisions regarding IT, making sure that the technology can be adapted to the business necessities and not otherwise;

b) *IT acts as a specialized consulting company in the development of solutions according to business necessities:* in service quality the necessity to know the customer has always been approached, in IT services, notably in system development, there is a bigger demand as it is necessary to know the business and the systems to which it is applied to. Once again, the IT customer doesn't need ACCESS but PRESENCE and the PROXIMITY of business analysts with EMPATHY to comprehend the necessities and to give orientation to the business managers, from an IT point of view, when taking decisions and defining solutions;

c) *IT shows objectivity during discussions of problems and definition of solutions:* CREDIBILITY that involves integrity, honesty and the reputation of the service provider is not enough to satisfy business managers in obtaining IT solutions. There must be a lot of OBJECTIVITY in order to get straight to what is important and solve it, helping the business areas to be better prepared to face the competition and attend the end customers in a satisfactory way. In other words, business managers are not interested in technical matters but in how their problems can be solved in a fast and simple way;

d) *IT primes for planning, control and quality of delivery of orders and projects:* meeting deadlines and attending consensual scopes are fundamental points associated to the RELIABILITY of the service provider. However, the business managers, besides receiving the services, also wish to accompany and participate in the development cycle of the projects. Once again, instead of ACCESS and COMMUNICATION, the business managers want more VISIBILITY of the process and conditions to follow up projects development;

e) *IT offers technical solutions that facilitate and simplify operational routines of the areas and administrative routine of the business managers:* the offer of solutions is associated to COMPETENCE, however it is not a generic competence in matters of knowledge and technology domain to provide service. The competition is much more important for the application of the technology and that demands INICIATIVE and pro-activity to propose the necessary solutions, suggesting a reaction from the moment in which the service is demanded. The business managers face innumerous daily problems and are mostly not aware of what IT can do to facilitate and simplify routines;

f) *IT actuates with norms and procedures that permits a certain flexibility to contemplate different necessities:* given the popularization of the use of IT, users are demanding a certain AUTONOMY and INDEPENDENCE, that could characterize a self-service, to act in specific situations according to their necessities, even within the rules that regulate the company's service in general. There is another parallel with the dimension usually called COURTESY, but in these cases the point is not how friendly the personal contact is, but the given consideration by IT to the users, since they are more specialized;

g) *IT has enough adequate technical support to attend the users:* in the cases of providing technical support to IT users, all quality service dimensions that are largely diffused by the available researches, are equally applicable in IT services, whereas in a similar way referred to personal attendance, which happens in a sporadic and punctual form, and, therefore, the access, receptivity, courtesy and competence dimensions, among others, must be taken care of;

h) *IT makes an adequate infra-structure available – net means, equipment and accessories – in order to do the work required by the company:* the term infra-structure in IT refers to an ample gamma of elements associated to a network of computers, servers, data processing centers and telecommunication resources. Once again, all service quality dimensions commonly treated are equally presented and require attention from IT managers.

In order to enable IT service quality to contribute to business strategy, a set of reflections can be listed, based on the results of the survey about critical incidents in confront with existing literature about quality service dimensions:

1) *Align IT with business:* it is necessary to analyze the best role and position for the IT functions. This facilitates the correct IT adjustment in the company, offering a better strategic and operational integration of IT with the business;

2) *Transform IT management in service management:* it is fundamental that IT managers prepare their organizations to provide services and not to concentrate only on matters linked to technology. The IT area works with several services, demanding a high level of contact with their customers and that should be the managerial focus;

3) *Prioritize IT service aspects that can be considered order-winning to the customers:* services that make the difference are those with

a higher interaction with the customer – development and system maintenance and microcomputers – and, therefore, those are the services which in fact influence the perceived quality of the IT services positively or negatively;

4) *Know and take care of satisfaction items of the IT service customers:* an important step to improve IT service quality is to know which dimensions compose the satisfaction items of IT customers. Based on this knowledge, evaluation mechanisms can be created and monitored permanently to permit the satisfaction constant improvement.

Finally, it is important to mention the exploratory nature of this study. The considerations and reflections, however, can stimulate future research in this area, which has been the focus of preoccupation for managers and investigations for academic researchers.

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