

ASSESSING THE QUALITY OF PUBLIC SERVICES: A CONCEPTUAL MODEL

CLÁUDIA CARVALHO¹
CARLOS BRITO²
JOSÉ SANSFIELD CABRAL²

¹ UNIVERSIDADE PORTUCALENSE

² FACULDADE DE ECONOMIA, UNIVERSIDADE DO PORTO

³ FACULDADE DE ENGENHARIA, UNIVERSIDADE DO PORTO

U. PORTO

FEP FACULDADE DE ECONOMIA
UNIVERSIDADE DO PORTO

ASSESSING THE QUALITY OF PUBLIC SERVICES: A CONCEPTUAL MODEL

Cláudia Carvalho
Assistant Professor
University Portucalense
Rua Dr. António Bernardino
de Almeida, 541-619
4200-072 Porto
Portugal
claudiap@upt.pt

Carlos Brito
Associate Professor
University of Porto
Faculty of Economics
Rua Roberto Frias
4200-464 Porto
Portugal
cbrito@fep.up.pt

José Sarsfield Cabral
Full Professor
University of Porto
Faculty of Engineering
Rua Roberto Frias
4200-465 Porto
Portugal
jacabral@fe.up.pt

Abstract

One of the major challenges faced by Public Administration is how to create more value for both citizens and firms, mainly because of the increasing budgetary constraints and challenging demands from society. In fact, over the past two decades there has been a general movement of public reform in most developed countries, and for this reason it is essential to understand how users assess the quality of public services. The aim of this paper is to clarify the determinants of public service quality. Due to the nature of the research problem, we have adopted a case-study methodology. The research involved extensive qualitative and quantitative data collection with managers, citizens and front and back-office public servants by means of interviews, questionnaires and focus groups. The paper presents the case of Public Service Citizens' Shops (Loja do Cidadão) in Portugal, a recent and innovative channel for the delivery of public services. Firstly, it explores the kind of relationships that develop during the public service encounter between the citizen, the public organization and society. Secondly, citizen satisfaction and dissatisfaction with public services are both investigated. The basic premise is that these two concepts are not opposite but have different determinants. Furthermore, the paper also explores the nature of tolerance and emphasizes the importance of managing emotions in the public service encounter. Finally, it also considers how the quality assessment of public services should also take into account implications regarding value to society.

Keywords: public services; quality determinants; satisfaction; dissatisfaction; zone of tolerance; emotions; Citizens' Shops

JEL classification: M19

1. INTRODUCTION

In most western economies, the public sector has control over a significant share of economic resources. Modern public organizations have been in the centre of the political and academic debate, aiming at finding suitable new management alternatives (cf. Osborne and Gaebler, 1992; Pollitt, 1993, 1995; Moe, 1994). More specifically, modern societies demand more efficiency and effectiveness from public agencies, with a clear respect for the rights of citizens, especially when it comes to equity and management of conflicting interests (cf. Frederickson, 1994; Moe, 1994; Arnold, 1995; Schachter, 1995; Mintzberg, 1996; Denhardt and Vinzant, 2000; Fountain, 2001). The first two challenges are clearly aligned with the principles of New Public Management (NPM). Although some differences can be found from country to country, Pollitt (1995) points out eight essential elements of NPM: cost cutting, disaggregating traditional bureaucratic organizations into separate agencies, decentralization of management authority within each public agency, separating the functions of public service provision from purchasing, introducing market and quasi market-type mechanisms, requiring staff to work to performance targets, indicators and output objectives, establishing greater flexibility in public employment and, finally, increasing emphasis on service quality and customer responsiveness. In short, NPM aims at meeting the needs of the citizen rather than the bureaucracy.

More recently, detractors of the most liberal public management trends have raised new concerns, namely those related to ethics (cf. Moe, 1992; Goodsell, 1993; Cohn, 1997; Johnston and Callender, 1997; Dixon, Kouzman and Korac-Kakabades, 1998; Konig, 1999; Pollitt and Bouckaert, 2000; Haque, 2001), giving priority to other topics, such as citizenship, trust, transparency and democratic dialogue (Frederickson, 1994; Moe, 1994; Arnold, 1995; Schachter, 1995; Mintzberg, 1996; Denhardt and Vinzant, 2000; Fountain, 2001; Bovaird and Löffler, 2002). Although there is some heterogeneity among reforms throughout the industrialized world (cf. Hesse and Benz, 1990; Wright, 1994; Benz, 1995; Hood, 1996; Peters, 1996), the research is clearly dominated by the concerns and issues that come from English-speaking countries: decentralization, focus on performance and quality,

priority to the citizen, delivery and responsiveness improvement, stronger accountability, deregulation and privatization.

In this context, it became urgent to rethink the delivery of public services in order to increase their quality (Roy and Seguin 2000; Ling 2002), thereby satisfying the public's needs and, as far as possible, trying to please people and companies, favouring good governance and national economic competitiveness. In practice, several measures have been implemented in order to put into practice a new philosophy of public management based on the principles of New Public Management. More specifically, modern states have assumed significant responsibilities, in which more and more actors take part – private and semi-private entities – resulting in a growing fragmentation of a huge public sector which, generally speaking, does not correspond to the user's perspective. However, it is understood that citizens have a clear preference for resolving their official obligations having the least contact with the Administration as possible (cf. Martinson 1999; Hagen and Kubicek 2000; Keast and Brown 2002; Ling 2002; Moran 2005). In this context, coordination between public organizations became a central issue (cf. Hagen and Kubicek, 2000; Bovaird, 2001; Pollitt, 2003), and there has been a trend toward concentration of public services on the basis of one-stop shopping, made possible by the significant advances in information and communications technology (Toonen and Raadschelders, 1997).

As a result, it has become necessary to evaluate the impact of these modern alternatives, which is not a simple mission (Entwistle and Martin, 2005). The practical impact of coordination, in its various dimensions, has to be assessed with citizens (cf. Wirtz and Tomlin, 2000; Vigoda, 2000; Osborne and Gaebler 1992), civil servants (cf. Montes, Fuentes and Fernandez, 2003; Schneider and Bowen, 1985) and other stakeholders – politicians, consultants, managers, professionals (Pollitt, 2003) – because there may be conflicting interests that must be taken into consideration (cf. Freeman, 1984; Freeman and Evan, 1990).

Furthermore, there are also a number of relevant conceptual and methodological considerations. Firstly, as we are dealing with services, public service quality can be considered from the services marketing perspective. In fact, it was in the 80's that service quality became a central topic of research (cf. Parasuraman, Zeithaml and Berry, 1985), namely because of growing competition among organizations in an increasingly competitive world. On the other hand, although the importance of quality management in the public arena is widely recognized (cf. Pollitt and Bouckaert, 2000; Doherty and Horne, 2002; Talbot, 2005), there is a debate on the meaning of public service quality (cf. Mintzberg, 1986; Walsh, 1991; Swiss, 1992; Radin and Coffee, 1993; Hazzlett and Hill, 2000). In fact, the concept and measurement of service quality have been among the most controversial issues in the services marketing debate (Brady and Cronin, 2001). Assessing the quality of services is much more complex than when we are dealing with products, because services are “deeds, acts or performances” (Berry, 1980), and have specific characteristics – intangibility, inseparability between production and consumption, perishability and heterogeneity (cf. Berkowitz *et al.*, 1986) which make them unique (cf. Grönroos, 1990; Kotler and Andreasen, 1995).

In the literature there has been strong debate about the transfer of quality concepts from the private to the public sector. While those that advocate Total Quality Management argue that large private companies and public organizations tend to face the same bureaucratic issues, the more critical views contend that they operate under very distinct frameworks (cf. Halachmi, 1995). In fact, as in most western economies the dichotomy between those two sectors tends to fade with a growing cooperation between public, private and volunteer sectors, the use of those concepts and guidelines has not been a simple issue (Swiss, 1992). In practice, most of the models for quality assessment are not suited to public services, especially if they do not operate under market conditions. Public agencies that are strongly oriented by political objectives experience great difficulty in thinking and acting in a TQM perspective (Loffler, 2001).

Nevertheless, although the adoption of models and instruments designed for private initiative is not free from criticism or caution (cf. Swiss, 1992; Rago, 1994; Halachmi,

1995), others claim that as the frontiers between the two sectors are fading, it is feasible to use those constructs in public service research (Cohen and Eimike, 1994; Rago, 1994; Gaster, 1995). Additionally, although it is believed that quality is what we can measure and control, unfortunately not every service quality item can be measured. There are many subjective aspects that are difficult, or even impossible, to measure within a quantitative framework – a smile, courtesy, a word of support or kindness. So, only a multidimensional construct, measured with both quantitative and qualitative indicators, can capture their global effects.

In this context, this paper has a twofold objective. Firstly, to contribute to an understanding of satisfaction and dissatisfaction with public services. Secondly, to present a model that aims at evaluating the quality of the public service, considering three main components: the interaction process involved in the public service, the citizen's perceptions of quality, and the value created for society. More specifically, this research explores the case of the Portuguese Citizens' Shops. The paper is divided into six sections. After this introduction, Section 2 reviews the literature on the main elements of public service quality assessment. Then we address the research questions as well as the conceptual model in Section 3. The section which follows presents the methodological approach adopted in the investigation, and then we discuss the case-study in Section 5. Finally, conclusions are drawn in Section 6.

2. THEORETICAL BACKGROUND

2.1 Interaction in Public Services

In this research, public services are viewed as a pseudo-relationship – i.e., a "repeated contact between a customer and a provider-organization" (Gutek, 2000, p. 372). A pseudo-relationship means that the customer identifies the service but not a particular person as its supplier, not anticipating any future interaction with a particular provider but, instead, with

the organization. Therefore, in the marketing literature the term "pseudo-relationship" does not have any pejorative meaning, and is merely descriptive.

A pseudo-relationship can be seen as a series of episodes - encounters/moments of truth - or as, successive individual interactions between the customer and the supplier of the service. Each episode can be defined as an interaction event that has a clear beginning and an end. According to Gutek (2000), these successive contacts involve different service employees, and it is assumed that each one is functionally equivalent to the others. Thus, although most of the models and instruments of quality are essentially static, it is important to look at this type of relationship as being a dynamic process. Traditionally, only the quality of a specific episode was considered, and the fact that the customer perception about service quality evolves as he/she continues to use the service was not taken into account. But services are processes, customers' perceptions evolve, and so the approach must be dynamic. The implications of this perspective are enormous, because an unsatisfactory episode may not put an end to the relationship if previous episodes have been satisfactory. Therefore, satisfaction and dissatisfaction of the customer/user of public services must be analyzed as cumulative variables.

In this work, contact with a public service is viewed as an experience, which can vary between a mere series of episodes - encounters/moments of truth – and, at the other extreme, a relationship. In fact, the aim is not to evolve from the former to the latter, because the citizen may not really be looking for a true relationship with the service he is using. Instead, the focus has to be on increasing his degree of satisfaction with the experience. Furthermore, public services also involve true internal relationships, between the public agency and its own civil servants. We may then consider that the public service results from the relationship between three parts: the citizen, the public agency and society (including here all other stakeholders).

Consequently, it is absolutely essential to clarify who the users of public services are – citizens, customers, beneficiaries or others? Some authors contend that the adoption of a private-sector-style customer focus is inappropriate in the public sector, arguing that it

devalues citizenship. Alford (2002) presents a very interesting typology based on the idea that most interactions between the public sector and the client differ from the private sector transaction. As he points out, “citizenry constitutes an authoritative judgement that legitimizes the values realized or delivered by government organizations. However, it is very different from the customer function in a number of important respects” (op. cit., p. 339). Citizenship confers rights and responsibilities on every citizen. For the author, in the public sector, both the citizenry and the clients consume value produced by government, but each receives a different type of value. “The citizenry receives *public* value, whereas clients receive *private* value” (Alford, 2002, p. 339). Citizen relates to the public services collectively, whereas those who have a more direct interaction are more like customers – the paying customer (when buying a subway ticket), the beneficiary (who receives the service or benefit without paying directly in return) or the obligatee (who receives the service against his/her will, such as a prisoner, for example). But in every transaction with public service organisations, each member of the public is simultaneously a citizen and a customer (fitting at least into one of the three roles). In this paper, we use the term citizen in order to avoid excessive terminology.

2.2 Service Quality

There are two main paradigms in research into service quality: the expectation-disconfirmation paradigm and the performance paradigm. For the former, perceived service quality results from the comparison between performance and expectations (Oliver, 1980). Although it is agreed that there are multiple quality dimensions, there is no consensus as to their number and nature: two (cf. Grönroos, 1982; Lethinen and Lethinen, 1982; Mels, Boshoff and Nel, 1997), three (Rust and Oliver, 1994), five (Parasuraman, Zeithaml and Berry, 1988) and ten (Parasuraman, Zeithaml and Berry, 1985, in the original version of SERVQUAL). On the other side, the performance paradigm argues that expectations are irrelevant and only performance should be considered.

These two perspectives gave rise to two alternative frameworks: SERVQUAL (Parasuraman, Zeithaml and Berry, 1985; Zeithaml, Berry and Parasuraman, 1988) and SERVPERF (Cronin and Taylor, 1992). Even though they are widely used in quality assessment of services, some authors claim that they are not generic and, consequently, a number of adaptations should be made for each specific context (cf. Carman, 1990; Finn and Lamb, 1991; Dabholkar *et al.*, 2002; Zhao *et al.*, 2002). There are other developments in the literature, such as modified versions of SERVQUAL and the importance-performance paradigm proposed by Martilla and James (1977). In our view, it is possible to adapt the frameworks designed for private services to assess public service quality. Thus, our model considers both citizens' expectations and perceptions.

Although it is consensual that customer satisfaction is essential for organization success (cf. Vavra, 1997; Dabholkar, Shepherd and Thorpe, 2000; Rust, Moorman and Dickson, 2002; Keiningham, Munn and Evans, 2003; Fornell *et al.*, 2006; Stradling, Anable and Carreno, 2007), there is no agreement on the relation between quality and satisfaction. Luo and Homburg (2007) present a clear and complete systematization of customer satisfaction outcomes and the respective academic articles. Similarly, there is no universal definition of satisfaction (cf. Yi, 1990; Peterson and Wilson, 1992). Indeed, for some authors satisfaction is an evaluation process (cf. Hunt, 1977; Oliver, 1980; Fornell, 1992), but for others it is the answer to that evaluation process (cf. Howard and Sheth, 1969; Oliver, 1980, 1997; Westbrook and Reilly, 1983; Tse and Wilton, 1988). It can also be viewed as a cognitive answer (cf. Howard and Sheth, 1969; Tse and Wilton, 1988; Bolton and Drew, 1991) or an affective response (Westbrook and Reilly, 1983; Cadotte, Woodruff and Jenkins, 1987). Besides, some authors argue that satisfaction precedes quality (Parasuraman, Zeithaml and Berry, 1988; Bitner, 1990; Bolton and Drew, 1991), while others support the opposite (Oliver, 1993; Parasuraman, Zeithaml and Berry, 1994; Cronin and Taylor, 1994; Liljander and Strandvik, 1995; Fornell, 1996; Grönroos, 2000; Brady *et al.*, 2002).

Most expectations and satisfaction research focused on services from the private sector and the relation between the disconfirmation of expectations and satisfaction with public services is still barely explored (Roch and Poister, 2006), although there has been some

research in this area, concluding that disconfirmation is positively related to satisfaction with public services (cf. Beck, Rainey and Traut, 1990; DeHoog, Lowery and Lyons, 1990; Van Ryzin, 2004). However, it is not possible to generalize, and more investigation needs to be done.

2.3 Satisfaction and Dissatisfaction

There is still no consensus on the relation between satisfaction and dissatisfaction. Although some literature has stressed the importance of satisfaction maximisation and dissatisfaction minimization, this approach has been neglected in most empirical work on services (Dawes and Rowley, 1999; Liljander, 1999). Service quality literature looks to identify the dimensions or attributes that generate positive evaluations of quality by customers. In effect, there is a preference here for understanding and defining positive concepts such as quality and satisfaction, instead of the negative ones that result in dissatisfaction.

However, satisfaction and dissatisfaction with services cannot be considered opposites (Bleuel, 1990; Johnston, 1995), because controlling dissatisfaction may not necessarily lead to satisfaction. As Findlay (1967) explains, the aversion system has greater influence on behaviour than the pleasure system, as dissatisfaction is stronger and more lasting than satisfaction. In fact, it seems there is not a univocal correspondence between these two concepts. Some empirical works conclude that the elements of satisfaction are not the same as those of dissatisfaction and, subsequently, one is not the mere opposite of the other.

Similarly, researchers from other fields of knowledge have also pointed out the importance of dissatisfaction analysis, without considering it merely the opposite of satisfaction. This is the case of Scitovsky (1976) in neurophysiology and Herzberg (1968) in psychology (stressing the difference between motivational and hygiene factors). Kano and his colleagues (1984) also addressed this perspective in their quality investigation distinguishing between the basic needs (in this case, customers become dissatisfied when

performance is low, but satisfaction does not rise above neutral with high performance), the one-dimensional needs (when satisfaction is a linear function of performance) and the attractive or excitement needs (when satisfaction increases super-linearly with performance, but will not decrease below neutral if there is a decrease in performance - usually unexpected features, that fulfil latent or unknown needs).

In fact, when we consider the concerns of customers with information accuracy, waiting time, attendance duration, bad attendance, and so forth (negative incidents) satisfaction becomes to some extent a secondary concern (Johnston, 1995; Dawes and Rowley, 1999). But as long as minimum quality criteria are respected dissatisfaction tends to decrease. In short, without a strategy that includes both dissatisfaction removal and increase of satisfaction, employees and customers might become sceptical about the attempts to improve service quality in the organization. Therefore it is important to identify the authentic sources of dissatisfaction. These results can be used to establish a priority for corrective measures, namely in terms of back-office rearrangements.

Accordingly, satisfaction and dissatisfaction are core aspects of our model. They are not considered to be opposites. The basic idea is to understand how public services may progress from the stage of mere appeasement to user satisfaction, aiming to delight the citizen. In practice, the information gathered can be used to establish priorities for the corrective measures, as a means of increasing loyalty towards public services, which is especially important for some areas facing competition. In fact, when we are dealing with monopolized services, if the source of the monopoly disappears as a result of deregulation, for instance, dissatisfied customers will most certainly defect. “Even in markets with relatively little competition, providing customers with outstanding value may be the only reliable way to achieve sustained customer satisfaction and loyalty” (Jones and Sasser, 1995, p. 89). Merely satisfying customers will not keep them loyal. Furthermore, now citizens expect more accountability from governments, as Milakovich (2003, p. 75) makes clear: “...they want accountable, efficient, fair and effective value for their scarce resources”. To sum up, it is crucial to identify the causes. Therefore, our model considers

both the determinants that tend to be sources of satisfaction and those which cause dissatisfaction.

2.4 Zone of Tolerance and Emotions

The concept of “zone of tolerance” – accepted service performance level somewhere between the adequate and desired level of expectations – was introduced by Berry and Parasuraman (1991) but barely applied to public service quality research. In fact, customers usually recognize that it is not always possible to attain their expectations, and accept an inferior service level without feeling dissatisfied. Indeed, satisfied customers can have a series of negative experiences that reduce their level of satisfaction but that do not make them unsatisfied. Situational factors, previous experiences and word-of-mouth may help to redefine their expectations. Similarly, the Liljander and Strandvik model (1995) recognizes the importance of the zones of tolerance - admitted variations of the levels of performance of service inside certain limits, where any increase of performance in this area will have only small effects on the perceptions. It is still thought that the zone of tolerance can be extended to the level of relationship, capturing the accumulated variance of performance.

The existence of a zone of tolerance is inherent to the condition of “service” – customers tend to accept its heterogeneity that leads to variation in performance (Zeithaml *et al.*, 1996). Above this level they feel delighted and below they feel dissatisfied. In this sense, our model considers that citizens may admit that their expectations may not always be met, and therefore accept a service performance level somewhere between the adequate and desired level of expectations and still not feel dissatisfied.

Emotions exert a great influence on tolerance and, consequently, on satisfaction, because individuals may already have a predisposition to see incidents as positive or negative. Thus, Johnston (1995) contends that the evaluation of a particular episode may not result from incidents, since satisfaction can be essentially related to the customer’s mood when he or she receives the service. So, the role of emotions should be carefully analyzed. In fact, the

positive and negative emotions that customers associate with the service have growing importance in literature in the creation of satisfaction. Customers experience positive and negative emotions related to the service and these emotions influence their degree of satisfaction. However, there is still a lack of research on the linkage between emotions and post-consumption variables, such as satisfaction (Liljander and Bergenwall, 1999), and on the role of service recovery, which may change negative emotions into positive ones, in customer emotions management. In fact, with few exceptions (cf. Folkes *et al.*, 1987; Bitner, 1992; Tsiros and Mittal, 2000; Proença and Castro, 2002; Bonifield and Cole, 2007) most service models have not considered emotions.

Several definitions of emotions have appeared in the psychology literature but there is no consensus and it may be harmful to use too narrow a notion. Oliver (1997, p. 294) considers that "emotion includes arousal, various forms of affect, and cognitive interpretations of affect that may be given a single description". Therefore, in distinct segments, customers may react with different emotions to the same service. This means that, due to the variability of services, the same customer may have different levels of perceived quality of the service or distinct emotions from one episode to another. For the manager it is a challenge to understand these emotions, as well as to analyze their intensity and frequency (Friman, *et al.*, 2001) and manage them to promote positive emotions and reduce the negative ones.

In fact, it has been shown that customers experience both positive and negative emotions related to the service and that these emotions influence their satisfaction. The negative emotions have the biggest impact on the customer's reaction and the positive emotions have been associated with satisfaction increase. On the other hand, satisfaction is also seen as having an affective dimension, without which the customers' behaviour cannot be fully explained. It is thought that the affective processes are partially out of the conscious control of customers.

Besides, the type and force of emotions that result from one or more negative incidents in a relationship can better explain the termination than the source of the incident itself, even in

cases where service quality is low. This has not been fully studied, and neither has the role of service recovery in customer emotions management. These considerations also find echo in the context of public services. Vigoda-Gadot (2000) recognizes the lack of research in this field, but explains that it is extremely important to understand citizens' feelings and reactions when they contact public services. Accordingly, the model proposed in this paper considers the influence of emotions on the quality of the service provided by public agencies.

2.5 Value for Society

Besides the relationship between the citizen and the public agency, public services also involve society in general. In fact, modern management perspectives have changed focus from the shareholders to a broader viewpoint that includes an increasing set of stakeholders that in some way relate to the organization. In the literature, the relevance of these stakeholders has been stressed by academics (cf. Freeman, 1984; Evan and Freeman, 1988; Preston and Sapienza, 1990; Hoyle, 1994; Foley and Barton, 1997; Foster and Jonker, 2003). In this sense, quality management should not only focus on internal operations, but should also consider all those groups that in some way relate to the organization. Thus, business quality is seen as the capability of serving society as a whole (Holey, 1994).

In this context, the stakeholders' theory has been developed, based on the idea that the objectives of any organization should take into consideration the stakes of the various groups that in some way relate to that organization, namely managers, employees, shareholders and suppliers (Freeman and Reed, 1983). Furthermore, it argues that its success depends on the relationships between the organization and those stakeholders. In the same way, social responsibility has also been receiving growing attention (Foley, 1999; Foster and Jonker, 2003).

This perspective has some similarities with Taguchi's concept of quality: quality is viewed as the loss that a product causes to society "after being shipped, other than any losses

caused by its intrinsic functions"(Stocker, 1990, p. 35). This means that all the product characteristics that deviate from the intended value cause losses to society. Thus, it is a different approach to the traditional one, according to which the final objective is the maximization of individual profit. Taguchi's perspective aims at the minimization of the loss to society. For Ribière (1999, p. 2) this perspective "though initially used in manufacturing can easily be applied to the service industry ". For some services, such as health services, the monetary loss is not the most important thing, and it is therefore essential to capture and to analyze the causes of customers' dissatisfaction.

In particular, public agencies also relate to a wide set of social groups that sometimes have conflicting interests: citizens, clients, beneficiaries, central and local government, associations, private companies, among others. For this reason, a lot of research on public service quality takes these stakes into consideration (cf. Doyle, 1994; Atkinson *et al.*, 1997; Provan and Milward, 2001; Neely *et al.*, 2002; Bourne *et al.*, 2003; Ferlie *et al.*, 2004) and understands the impact of public service delivery in terms of losses to society, considered here as all other stakeholders besides the public agency itself.

3. RESEARCH QUESTIONS AND MODEL

The aim of this research is to contribute to a better understanding of public service quality. In this sense, the central problem of the research is:

- What are the determinants of public service quality?

A recent channel of public service delivery – the Portuguese Citizens' Shops – frames the research context, where service quality and delivery are central and interwoven issues. Its relevance can be understood at different levels. Firstly, because it is a delivery channel with growing importance in the daily lives of urban populations, but as yet only little studied, in spite of the diversity and interest of the available material. Secondly, because it follows the trend to concentrate public services in one-stop shopping models. Thirdly, because it is an

innovative approach involving traditional and electronic Public Administration. Finally, for the diversity of the services delivered and the organizational complexity.

Hence, given the central problem of the research, this study focuses on three key research questions in the context of the Citizens' Shops:

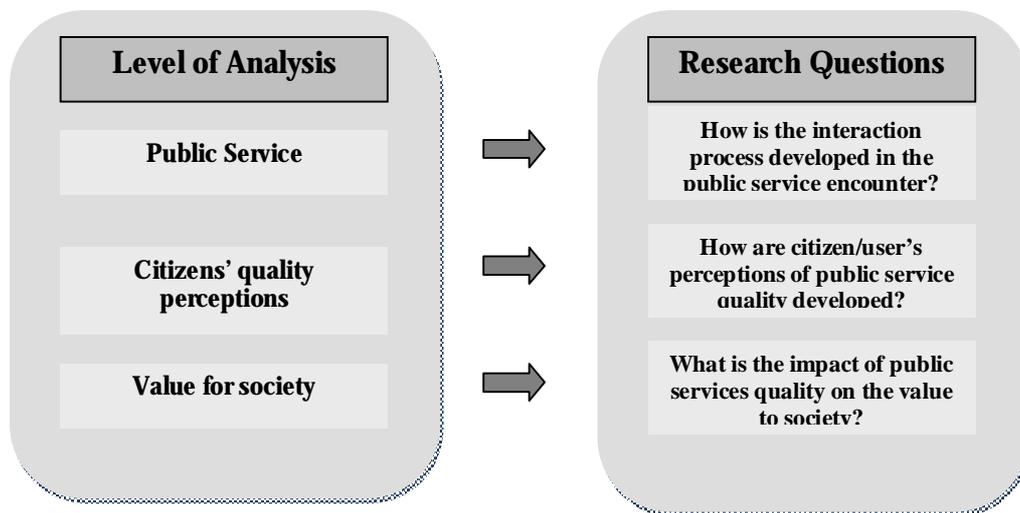
1. How is the interaction process developed in the public service encounter?
2. How are citizens'/user's perceptions of public service quality formed?
3. What is the impact of public service quality on the value to society?

Since the research is centred on the case of the Citizens' Shops, these questions also imply exploring the following issues: (i) knowing the organizational processes which focus on the citizen in the Citizens' Shops; (ii) assessing the positive and negative aspects of delivering public services through the Citizens' Shops; (iii) understanding how citizens' needs and demands can be more effectively met (namely through back-office reorganization); and finally (iv) understanding the value of physically delivered public services, both to citizens and society.

Our model is divided into three main parts, which allows a clear association between each of the three research questions and the levels of analysis (Figure 1). In the first part, the relationships that are developed during the public service encounter between the citizen, the public agency and society (all stakeholders involved), are explored, considering the public service encounter as a succession of episodes – a pseudo-relationship – involving all those stakeholders. In fact, in most cases public services involve repeated contact and the citizen does not anticipate any future interaction with a particular person, but instead with the organization in general. In the second part of the model, citizens' perceived quality is determined by comparing perceptions and expectations, which can result from previous experiences, word-of-mouth, suggested positioning and personal needs. Additionally, customers' and employees' emotions are considered to exert a significant influence on citizens' perceptions, because this encounter seems to be strongly relational and emotions are considered to have an important influence on the evaluation of each episode. In this context, the model admits certain variations in the level of performance, influenced by

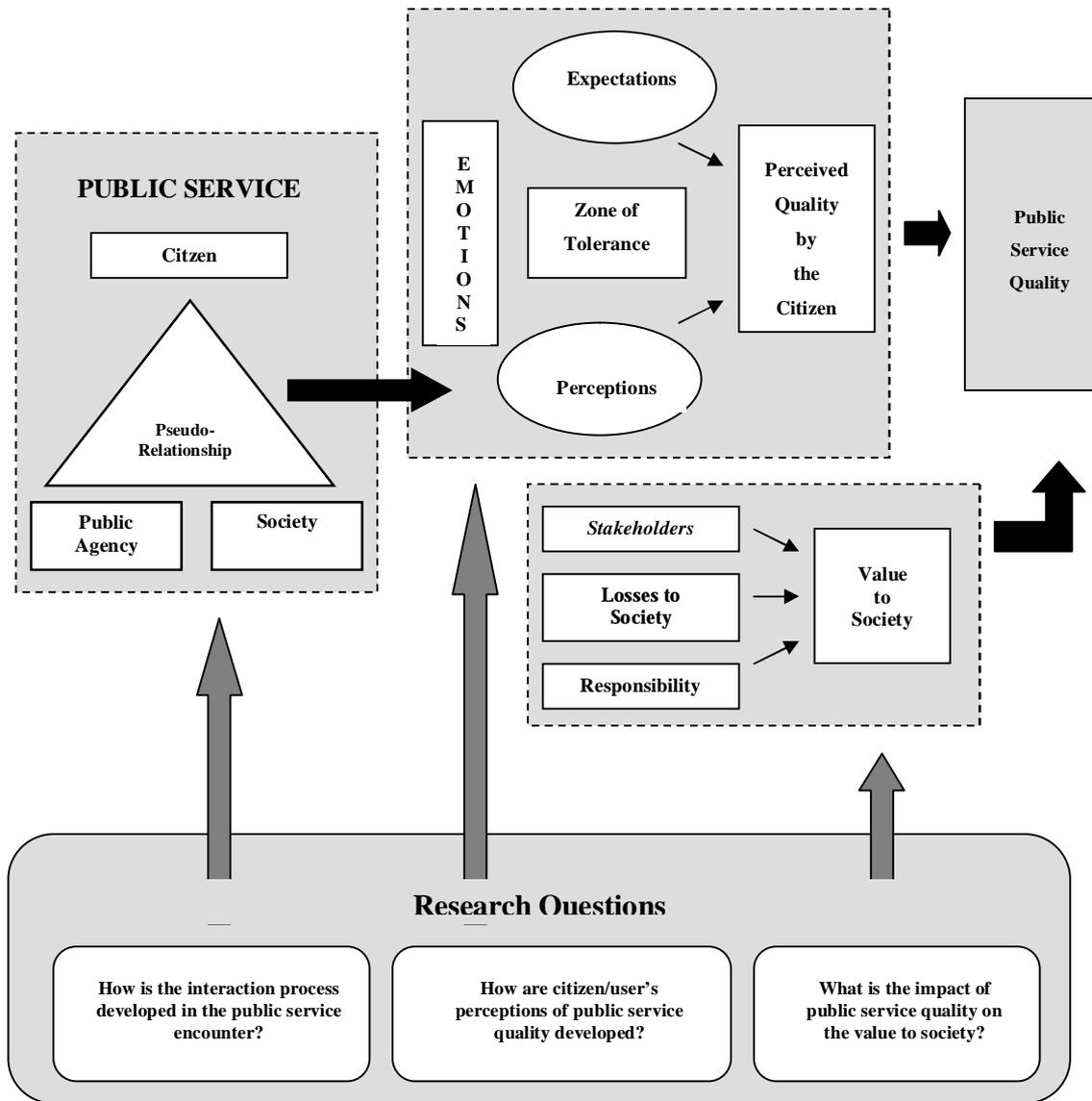
emotions and other factors external to the organization. A segmented analysis of customers/users is proposed, given the importance of the diversity of their characteristics in the evaluation of the service quality.

Figure 1 – Levels of analysis and research questions



Moreover, the model considers a zone of tolerance, in the sense that citizens may admit that their expectations may not always be met, and therefore accept a service performance level somewhere between the adequate and desired level of expectations and still not feel dissatisfied. In the third part, the model considers that public service quality results from both citizens' assessments and value to society, viewed as the relation between benefits and losses to all other stakeholders. Finally, the model considers that the quality of public services results from both citizens' assessments and value to society. In fact, if on the one hand the conception and delivery of public services aims to serve the citizens, making assessment of their perceptions crucial, Public Administrations involve a broad set of agents, and therefore it is also important to understand the impact on society in general. The model is represented in Figure 2.

Figure 2 – Framework for analysis



4. METHODOLOGICAL APPROACH

This section aims to present and justify the methodological options that were at the basis of the empirical research. From the literature of services marketing there are basically two ways of evaluating the quality of a given service (Schröder *et al.*, 1998): attribute and

incident based measurements. The first provide a general evaluation of the service quality - the customers evaluate more than only the result of the service, they also evaluate the process of service delivery and its dimensions/attributes. The incident based measurements emphasise the analysis of critical incident, defined as "specific interactions between customers and service firm employees that are especially satisfying or especially dissatisfying" (Bitner, Booms and Tetreault, 1990, p. 73) - for the definition of the determinants of satisfaction/dissatisfaction. In the academic field, researchers have presented some valuable investigation on the effects of these advances on the level of citizens' satisfaction, based mainly on the attribute-based models used for assessing service quality in the private arena. Nevertheless, public services have specific features that justify a specially designed framework for their evaluation.

Since citizens' perceptions of public services are still scarcely known, qualitative studies would seem to make a valuable contribution. Indeed, according to Yin (1994), exploratory research is the most suitable when the research questions are of the type "how?" and when the main purpose is to understand a subject that is still almost unknown. Therefore, a predominantly explanatory qualitative methodology was followed and the case-study approach was chosen, using multiple sources of empirical evidence. Indeed, case-studies are considered a suitable methodology for exploratory and explanatory research (Yin, 1994). The Citizens' Shop case-study was chosen and the choice was based on four main reasons. First, because despite its growing importance in the daily lives of populations, there is still scarce research about delivery of this public service. Secondly, because it follows the one-stop shopping trend adopted by most western countries. On the other hand, because it is an innovative approach, involving both traditional Public Administration and e-Government. Finally, for its organizational diversity and complexity.

Special emphasis was given to verbal reports (Ericsson and Simon, 1980) and an adaptation of the Critical Incident Technique - CIT (Flanagan, 1954) was used. This technique was introduced into the marketing literature by Swan and Rao (1975) and in the services marketing arena by Bitner, Booms and Tetreault (1990). Since then, many studies have been based on CIT adaptations (cf. Edvardsson, 1988, 1992; Bitner, 1990; Stauss and

Hentschell, 1992; Stauss, 1993; Standvik and Liljander, 1994; Keaveney, 1995; Stauss and Weinlich, 1995; Bostschen *et al.*, 1996; Olsen, 1996; Roos and Strandvik, 1996; Roos, 1996, 1999; Decker and Meissner, 1997). The incidents were collected with the citizens using a questionnaire and categorized according to the five dimensions proposed in SERVQUAL (Zeithaml, Berry and Parasuraman, 1988). Besides this, all other qualitative data was obtained by means of personal semi-structured interviews (with managers and front and back-office public servants) and focus groups (with citizens and public servants). In fact, focus groups have been extensively used in services marketing research, and more recently their use has been explored in public service analysis (Krueger, 1994).

Together with the main methodological option, an importance/performance analysis was also undertaken based on data obtained with the questionnaire (Martilla and James, 1977). This procedure does not conflict with the case-study methodology, which allows the use of qualitative and quantitative methods (Amaratunga and Baldry, 2001; Jensen and Rodgers, 2001). Data diversity may be considered one of the main contributions of this research, since triangulation strengthens constructs and hypotheses (Eisenhardt, 1989). The analysis followed the principles of the grounded-theory approach aiming at the emergence of new theoretical constructs on the basis of the data analyzed (Strauss and Corbin, 1990).

In practice, the data was collected from November 2004 to May 2007. The evidence was collected in six Citizens' Shops, located in the largest Portuguese cities. The aim of this option was to ensure robustness of analysis (Eisenhardt, 1991) and saturation (Smith, 1990). 59 interviews were carried out, in a total of 28.5 hours of tape recording. Four focus groups were also formed in a total of 5 hours of tape recording. All participants were previously informed about the purpose of the investigation and were asked permission for tape recording, as well as guaranteed absolute anonymity. 340 questionnaires were also carried out with the citizens/users in the Shops. These were used to collect the incidents as well as the data used in the importance/performance analysis (the participants were asked to rate on a five point Lickert scale 29 items that resulted from the qualitative data analysis). The qualitative data gathered from the interviews and focus groups were coded in

categories intimately related with the conceptual framework and research questions. QSR NVivo 2.0 was used.

5. THE CASE OF CITIZENS' SHOP

The first Portuguese Citizens' Shop was founded in Lisbon in 1999. The idea came from the Citizen Attendance Service in Bahia, a huge Brazilian state, where citizens have to travel long distances to have access to some public services. Since then, thirteen more have been created, spread among the main Portuguese cities. Citizens' Shops were designed to implement the administrative modernization started in the 1980s inspired by the main principles of New Public Management. This aimed at breaking with the traditional slow and bureaucratic delivery, following a principle of concentration, accessibility, simplification and speed of response. Citizens Shops aim to be to be citizen-focused, in order to deliver better service quality and improve the relationship between Administration and the citizen. In practice, they are like a shopping centre where the citizen can find a broad variety of public and private services (about 60% / 40%) that have a great importance for their daily lives and, consequently, are in great demand: Water, Electricity, Gas and Telephones; Banks; Certificates and Registrations; Post-office; Personal Documents; Tax; Labour Relations and Professional Training; Social Security; Health Services; Services for Public Servants; Communications and Transport, among others. Conditions, procedures and staff are agreed upon between the respective central public agency and the Citizen Shop management unit.

The physical infrastructures are planned with great care. The building for each Citizen Shop has ease of access for all, including disabled people, good working conditions and a modern layout. Some support services are also available such as coffee shops, cash machines, photocopy services and photo booths, waiting areas and designated places for disabled people to be attended. The opening hours are longer than those of conventional offices, and there is special emphasis on recruitment based on skills and competence, which is supposed

to be constantly improved by training courses and motivation techniques. There is also extensive use of information technology facilities and databases.

The main findings are related to each of the three research questions. The first question is “How is the interaction process developed in the public service encounter?” Some interesting results were found. To begin with, the relationship between the citizens and the Shop tends to develop as a sequence of independent episodes. In addition, there is a great diversity of profiles and behaviours among the users, who have shown themselves to be increasingly demanding and, sometimes, causing conflicts in the interaction. This depends, however, on the type of Shop. It was also found that the main motivation for going to a Citizen Shop is not related to quality of attendance, but rather with the concentration of services in one place and the extended working hours. A kind of “shop culture” was identified, encouraged by the management units, primarily oriented towards serving the citizen. Besides, the management units also promote a partnership among all entities present at the Shop, focusing on using an effective leadership to support high quality service to the citizen. Finally, relationships in the Shop seem to be intimately related to economic and sociological aspects of the population served, mainly due to the nature of the services provided.

The second research question, “How are citizen/user’s perceptions of public service quality formed?” also led to some interesting results. Citizens’ expectations seem to be extremely dynamic, tending to become gradually more demanding. Moreover, no homogeneous pattern of perceptions was found in the six Shops where the empirical research was undertaken. Both physical and tangible human items, confidence, assurance and empathy are globally considered positive by the citizens, and the latter is a source of delight. On the other hand, responsiveness is the most negatively assessed point, mainly due to waiting time, dependence on central services and number of services available. Yet, this included two points considered fundamental by citizens: physical concentration of services and extended working hours. Globally, the interviewees tend to show a positive opinion, but this is still limited by the poor image they have of Public Administration as a whole. Citizens tend to demonstrate a reasonable degree of tolerance in relation to the limitations

they find, mainly motivated by the aspects they view as positive and as they get used to the Shop. Situational items, word-of-mouth, previous experiences and the compulsory nature of the service all shape the adequate level of expectation. Lastly, emotions appear to have a predominantly negative influence on the interaction process between the citizen and the civil servant. The front-office employee has a crucial role in moderating emotions.

The third research question, “What is the impact of public service quality on the value to society?”, also gave rise to a few interesting results. First of all, it was clear from the data that physical distribution has an extremely important role in public service delivery. Moreover, the fact that the services are concentrated in one building seems to support administrative modernization itself. This is mainly due to the promotion of transparency, efficiency, focus on the citizen, innovation in technology and working methods as well as the adoption of new models of leadership. Additionally, some direct and indirect benefits were found both to companies’ efficiency and to the image of the country. Concerning the limitations, the most important have to do with the lack of responsiveness due to high dependence on central services together with the restrictions on coordination between all entities present. Nevertheless, information technologies may accelerate coordination and increased autonomy. Shortage of material and human resources also limit their effectiveness. In short, Citizens’ Shops present a very valuable contribution to society in general, but urgently need to evolve to a truly integrated model. Finally, although they exhibit a set of standard characteristics, it would be useful to adapt them to the populations and places they serve, namely regarding physical structures, type of attendance and communication policy.

6. CONCLUSIONS

In a time of increasing budgetary constraints and demands from society – citizens and organizations – in relation to Public Administration, one of its major challenges is the creation of more value. This implies satisfying citizens’ needs with greater effectiveness,

minimizing costs on the basis of an increased efficiency, and creating more value to society.

From a managerial point of view, it has become crucial to understand the determinants of public service quality. More specifically, this involved understanding the service encounter, citizens' perceptions and the impacts on society. This analysis may help managers to prevent the occurrence of negative incidents and develop abilities to deal with them in a professional way, even with those that, despite every effort, always happen. On the other hand, positive incidents must be regarded as learning experiences for the organization. Constructs and frameworks designed to assess the quality of private services seem to be useful to the public context, but they need to be adapted to the specificities of the public service arena. Thus, the central purpose of this research was to understand the determinants of public service quality. The focus on citizens' perspective within a highly relational framework, complemented by the analysis of the value to society, was found to give new insights into public service assessment.

The paper has three main contributions: theoretical, methodological and practical. Firstly, the research confirms that public services are a peculiar type of relationship – they present characteristics of pseudo-relationships involving three agents: the citizen, the public agency and society itself. Secondly, public service quality was considered from the citizen viewpoint, regarding their expectations and perceptions. Additionally, the attributes were classified as a source of satisfaction or dissatisfaction, or neutral. The investigation confirmed the existence of a certain degree of tolerance in citizens' public services assessments. Another contribution came from the importance given to emotions during the interaction period. However, their impact on citizens' satisfaction was not evident, which suggests that relationships that occur in the Citizens' Shops are less emotional than those that develop in the traditional public agencies, in the same way that new forms of delivery of goods and services tend to become less emotional. Another contribution is the selected case-study of the delivery of public services in one physical space. It is a trend in the most developed countries but in spite of its growing importance there is still a lack of investigation. Lastly, considering the special features of public services, the conceptual

framework complements citizen quality assessment with evaluation from society. This allows understanding of the benefits and losses to society, as well as opportunities for improvement.

Secondly, the combination of attribute based measures and incident analysis is the most significant methodological contribution, and was very useful to understand how citizens' perceptions are created. Besides, a dyadic approach was used, considering both users' and civil servants' viewpoints. A great variety of data was collected which was used in multiple ways, qualitatively and quantitatively, in order to get as much information as possible. This made it possible to answer the research questions in spite of barely knowing the subject at the outset. Lastly, there are also a number of contributions to management: the importance of managing citizens' expectations, knowing the sources of dissatisfaction, developing an organizational culture, coordinating the services delivered and managing the front-office.

There are also a number of limitations. The first one derives from it not being possible to generalize the conclusions of a single case-study. Secondly, confidentiality prevented the use of certain controversial subjects that could enrich the investigation. Some difficulties in collecting, classifying and interpreting incidents were also found. Besides, due to time restrictions, it was not possible to use a question on expectations confirmation/disconfirmation in the questionnaire. Finally, it was not feasible to obtain any internal quantitative performance indicators that would enhance the conclusions.

REFERENCES

Alford, J. (2002), "Defining the Client in the Public Sector: a Social-Exchange Perspective", *Public Administration Review*, May 7, June, vol. 62, n° 3, pp. 337-346.

- Amaratunga, D. and Baldry, D. (2001), "Case Study Methodology as a Means of Theory Building: Performance Measurement in Facilities Management Organizations", *Work Study*, vol. 5, n° 3, pp. 95-101.
- Atkinson, A. A., Waterhouse, J. H. and Wells, R. B. (1997), "A Stakeholder Approach to Strategic Performance Measurement", *Sloan Management Review*, Spring, 25-37.
- Beck, P. A., Raney, H. G. and Traut, C (1990), "Disadvantage, Disaffection and Race as Divergent Bases for Citizen Fiscal Policy Preferences", *Journal of Politics*, 52 (1), 1-93.
- Benz, A. (1995), "Institutional Change in Intergovernmental Relations: The Dynamics of Multi-Level Structures", in Hesse, J. J. and Toonen, T. A. J. (Eds.), *European Yearbook of Comparative Government and Public Administration*, 551-576, Baden-Baden Nomos Verlagsgesellschaft/Boulder, Western Press.
- Berkowitz, E. N., Kerin, R. A. and Rodelius, W., (1986), "Marketing", *Times Mirror*, Mosby College Publishing, St. Louis.
- Berry, L.L. (1980), "Services Marketing is Different", *Business*, May-June, 24-29.
- Berry, L. L. and Parasuraman, A. (1991), *Marketing Services: Competing Through Quality*, The Free Press.
- Bitner, M. (1990), "Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses", *Journal of Marketing*, vol. 54, April, 69-82.
- Bitner, M. (1992), "Servicescapes: The Impact of Physical Surroundings on Customer and Employees", *Journal of Marketing*, Vol. 56, n° 2, April.
- Bitner, M., Booms, B. and Tetreault, M. (1990), "The Service Encounter: Diagnosing Favorable and Unfavorable Incidents", *Journal of Marketing*, vol. 54, January, 71-84.
- Bleuel, B. (1990), "Commentary: Customer Dissatisfaction and The Zone of Uncertainty", *The Journal of Services Marketing*, Winter, 4-1, 49-52.
- Bolton, R. N. and Drew, J. H. (1991), "A Multistage Model of Customers' Assessment of Service Quality and Value", *Journal of Consumer Research*, vol. 17, March, pp. 375-384.

- Bostschen, G., Bstieler, L. and Woodside, A. (1996), "Sequence-Oriented Problem Identification Within Service Encounters", *Journal of Euromarketing*, vol. 5, n° 2, 19-52.
- Bourne, M., Neely, A., Mills, J. and Platts, K. (2003), "Implementing Performance Measurement Systems: a Literature Review", *International Journal of Business Performance Measurement*, vol. 5, n° 1, 1-24.
- Bovaird, T. (2001), "Excellent Organisations, Effective Service Systems and Successful Communities: Towards the Evaluation of Governance Mechanisms", *BBS Teaching and Research Review*, issue 5, Winter, 1-10.
- Bovaird, T. and Loffler, E. (2002), "Emerging Trends in Public Management and Governance", *BBS Teaching and Research Review*, issue 5, Winter.
- Brady, M. and Cronin, J. (2001), "Some New Thoughts on Conceptualizing Perceived Service Quality: A Hierarchical Approach", *Journal of Marketing*, vol. 65, July, 34-49.
- Brady M. K., Cronin, J. J. and Brand, R. R. (2002), "Performance-only Measurement of Service Quality: A Replication and Extension", *Journal of Business Research*, vol. 55, n° 1, 17-31.
- Cadotte, E. R., Woodruff, R. B. and Jenkins, R. L. (1987), "Expectations and Norms in Models of Consumer Satisfaction", *Journal of Marketing Research*, vol. 24, 305-314.
- Carman, J. M. (1990), "Consumer Perceptions of Service Quality: An Assessment of the Servqual Dimensions", *Journal of Retailing*, vol. 66, n° 1, 33-55.
- Cohen, S. and Eimicke, W. (1994), "Project-focused Total Quality Management in New York City Department of Parks and Recreation", *Public Administration Review*, Sept/Oct, vol. 54, n° 5, 450-456.
- Cohn, D. (1997), "Creating Crises and Avoiding Blame: The Politics of Public Service Reform and the New Public Management in Great Britain and the United States", *Administration & Society*, vol. 29, n° 5, November, 584-616.
- Cronin, J. and Taylor, S. (1992), "Measuring Service Quality: A reexamination and extension", *Journal of Marketing*, vol. 56 (3), 55-68.

- Cronin, J. and Taylor, S. (1994), "SERVPERF versus SERVQUAL: Reconciling Performance-based and Perceptions-minus-expectations Measurement of Service Quality", *Journal of Marketing*, vol. 58, 125-131.
- Dabholkar, P. A., Shepherd, C. D. and Thorpe, D. I. (2000), "A Comprehensive Framework for Service Quality: An investigation of critical conceptual and measurement issues", *Journal of Retailing*, vol. 76, n° 2, 139-173.
- Decker, A. and Meissner, H. (1997), "The Sequential Incident Technique for Innovations (SITI) – An Instrument for Generating Improvements and Ideas in Services Processes, *Diskussionsbeiträge der Wirtschaftswissenschaftlichen Fakultät Ingolstadt*, n° 87, Catholic University of Eichstaett.
- DeHoog, R., Lowery, D. and Lions, W. E. (1990), "Citizen Satisfaction With Local Governance: A Test of Individual, Jurisdictional and City-Specific Explanations", *The Journal of Politics*, 52 (3), 807-837.
- Dixon, J. Kouzmin, A. and Korac-Kakabadse, N. (1998), "Managerialism – Something Old, Something Borrowed, Little New, Economic Prescription versus Effective Organizational Change in Public Agencies", *International Journal of Public Sector Management*, 11 (2/3), 164-187.
- Doherty, T. L. and Horne, T. (2002), *Managing Public Services – Implementing Changes: A Thoughtful Approach*, Routledge, London.
- Dowes, J. and Rowley, J. (1999), "Negative Evaluations of Service Quality – a Framework for Identification and Response", *Journal of Marketing Practice: Applied Marketing Science*, vol. 5, n° 2, 46-55.
- Doyle, P. (1994), "Setting Business Objectives and Measuring Performance", *Journal of General Measurement*, Winter, vol. 20, n° 2, 1-19.
- Edvardsson, B. (1988), "Service Quality in Customer relationships: A Study of Critical Incidents in Mechanical Engineering Companies", *The Service Industries Journal*, 8, July, 427-445.
- Edvardsson, B. (1992), "Service Breakdowns – A Study of Critical Incidents in an Airline", *International Journal of Service Industry Management*, vol. 3, n° 4, 17-29.
- Eisenhardt, K. M. (1989), "Building Theories from Case-study Research", *Academy of Management Review*, vol. 14, n° 5, 532-550.

- Entwistle, T. and Martin, S. (2005), "From Competition to Collaboration in Public Service Delivery: a new agenda for research", *Public Administration*, vol. 83, n° 1, 233-242.
- Ericsson, K. A. and Simon, H. A. (1980), "Verbal Reports as Data", *Psychological Review*, vol. 87, n. 3, 215-251.
- Evan, W. M. and Freeman, R. E. (1988), "A Stakeholder Theory of the Modern Corporation: Kantian Capitalism" in T. and Bowie, N. (Eds.), *Ethical Theory and Business*, Beauchamp, 75-93, Englewood Cliffs, NJ: Prentice-Hall.
- Ferlie, E., Hartley, J. and Martin, S. (2004), "Changing Public Service Organizations: Current Perspectives and Future Prospects", *British Journal of Management*, vol. 14, issue s1, 1-14.
- Findlay, J. N. (1967), *Values and Intentions: a Study in Value Theory and Philosophy*, New York Humanities Press
- Finn, D. W. and Lamb, C. W. (1991), "An Evaluation of the Servqual Scale in a Retailing Setting", in Holman; R. and Solomon, M. R. (Eds.), *Advances in Consumer Research*, vol. 18, 480-493, Provo, UT: Association for Consumer Research.
- Flanagan, J. (1954), "The Critical Incident Technique", *Psychological Bulletin*, vol. 51, n° 4, pp. 327-358.
- Foley, K (1999), *What is Quality Management?*, Centre for Quality Management Research, RMIT University.
- Foley, K. and Barton, R. (1997), *Quality, Productivity and Competitiveness*, Strathfield, Australia.
- Fornell, C. (1992), "A National Customer Satisfaction Barometer: The Swedish experience", *Journal of Marketing*, January, vol. 56, issue 1, 6-21.
- Fornell, C., Johnson, M. D, Anderson, E. W., Cha, J. and Bryant, B. E. (1996), "The American Customer Satisfaction Index: Nature, Purpose and Findings", *Journal of Marketing*, October, vol. 60 (4), 7-18.
- Fornell, C., Mithas, S., Morgeson, F. and Krishan, M. (2006), "Customer Satisfaction and Stock Prices: High returns, low risk", *Journal of Marketing*, vol. 70, issue 1, January, 3-14.

- Foster, D. and Jonker, J. (2003), "Third Generation Quality Management – The Role of Stakeholders in Integrating Business into Society", *Managerial Auditing Journal*, vol. 18, n° 4, 323-328.
- Fountain, J. (2001), "Paradoxes of Public Sector Customer Service", *Governance: An International Journal of Policy and Administration*, vol. 14, n° 1, 55-73.
- Frederickson, H. (1994), "The Seven Principles of Total Quality Politics", *Public Administration Times*, vol. 17, n° 1, 9.
- Freeman, R. (1984), *Strategic Management: A Stakeholder Approach*, Boston: Pitman.
- Freeman, R. and Reed, D. L. (1983), "Stockholders and Stakeholders: A New Perspective on Corporate Governance", *California Management Review*, 25 (3), 88-106.
- Friman, M., Edvardsson, B. and Gärling, T. (2001), "Frequency of Negative Critical Incidents and Satisfaction With Public Transport Services", *Journal of Retailing and Consumer Services*, n° 8, 95-104.
- Gaster, L. (1995), *Quality in Public Services: Managers' Choices*, Open University Press, Buckingham.
- Goodsell, C. (1993), "Reinventing government or rediscover it?", *Public Administration Review*, 53 (3), 85-87.
- Grönroos, C. (1982), *Strategic Management and Marketing in the Service Sector*, Research Reports.
- Grönroos, C. (1990), *Service Marketing and Management – Managing the moments of truth in service competition*, Toronto, Lexington.
- Grönroos, C. (2000), *Service Management and Marketing – A customer relationship management approach*, 2nd Edition, Wiley, West Sussex, England.
- Gutek, B. (2000), "Service Relationships, Pseudo-Relationships, and Encounters", in Swartz, T. and Iacobucci, D. (Eds.) *Handbook of Services Marketing & Management*, 371-380, Sage Publications.
- Hagen, M. and Kubicek, H. (2000), *One-Stop-Government in Europe – Results of 11 National Surveys*, University of Bremen, Bremen.
- Halachmi, A. (1995), "Measure of Excellence", in Hill, H., Klages, H. e Loffler, E. (Eds.), *Quality, Innovation and Measurement in the Public Sector*, Verlag, Frankfurt, 9-23.

- Haque, S. M. (2001), "The Diminishing of Publicness of Public Service Under the Current Mode of Governance", *Public Administration Review*, 61 (1), 65-82.
- Hazlett, S. A. and Hill, F. (2000), "Policy and Practice: An investigation of organizational change for service quality in Public Sector in Northern Ireland", *Total Quality Management*, 11 (4-6), 515-520.
- Herzberg, F. (1968), "One More Time: How do You Motivate Employees?", *Harvard Business Review*, Jan.-Feb., 53-62.
- Hesse, J. J. and Benz, A. (1990), *Die Modernisierung der Staatorganisation. Institutionspolitik im Internationalem*, Vergleich: USA, Baden-Baden: Nomos Verlagsgesellschaft.
- Hood, C. (1996), "Exploring Variations in Public Management Reforms of the 1980's", in Bekke, H., Perry, J. and Toonen, T. (Eds.), *Civil Service Systems in Comparative Perspective*, Bloomington, IN: Indiana University Press.
- Howard, J. A. and Sheth, J. N. (1969), *The Theory of Buyer Behaviour*, John Wiley & Sons, New York.
- Hoyle, D. (1994), *ISO 9000 Quality Systems Handbook*, Bodenhamy, England, Butford Technical Publishing.
- Hunt, H. K. (1977), "CS/D – Overview and Future Research Directions", in Hunt, H. K. (Ed.), *Conceptualization and Measurement of Consumer Satisfaction and Dissatisfaction*, 300-332, Cambridge, M. A.: Marketing Science Institute.
- Jensen, J. and Rodgers, R. (2001), "Cumulating the Intellectual Gold of Case-study Research", *Public Administration Review*, vol. 61, n° 2, 235-248.
- Johnston, R. (1995b), "The Zone of Tolerance: Exploring the Relationship Between Service Transactions and Satisfaction With the Overall Service", *International Journal of Service Industry Management*, vol. 6, n°2, 46-61
- Johnston, J. and Callender, G. (1997), "Vulnerable Governments: Inadvertent De-Skilling in the New Global Economic and Managerialism Paradigm?", *International Journal of Administrative Sciences*, vol. 63, 41-56.
- Keast, R. and Brown, K. (2002), "The Government Service Delivery Project – A Case Study of the Push and Pull Central Government Coordination", *Public Management Review*, vol. 4, issue 4, 439-459.

- Keaveney, S. (1995), "Customer Switching Behaviour in Service Industries: an exploratory study", *Journal of Marketing*, vol. 59, April, 71-82.
- Köning, K. (1999), "Good Governance – As Steering and Value Concept for the Modern Administrative State", in *Gouvernance: Concepts et Applications*, Corkery, J. (Ed.), Bruxelles: IISA.
- Kotler, P. and Andreasen, A. R. (1995), "Strategic Marketing for Non-Profit Organizations", in Baker, M. J. (Ed.), *Companion Encyclopedia of Marketing*, 930-950, New York: Routledge.
- Krueger, R. A. (1994), *Focus Groups: A Practical Guide for Applied Research*, 2nd Ed., Sage Publications, Thousand Oaks, California.
- Lethinen, U. and Lethinen, J. (1982), *Service Quality – A Study of Quality Dimensions*, Research Report: Helsinki Management Institute.
- Liljander, V. (1999), "Customer Satisfaction with Complaint Handling Following a Dissatisfactory Experience with Car Repair", *European Advances in Consumer Research*, vol. 4, 270-275.
- Liljander, V. and Bergenwall, M. (1999) "Consumption-Based Emotional Responses Related to Satisfaction", Working Paper n° 396, Swedish School of Economics and Business Administration, Finland.
- Liljander, V. and Strandvik, T. (1995), "The Nature of Customer Relationships in Services", in Swartz, T., Bowen, D. and Brown, S. (Eds.), *Advances in Services Marketing and Management*, vol. 4, London, JAI Press Inc.
- Ling, T. (2002), "Delivering Joined-Up Government in the UK: Dimensions, Issues and Problems", *Public Administration*, vol. 80, n° 4, 615-642.
- Loffler, E. (2001), "Defining and Measuring Quality in Public Administration", *BBS Teaching and Research Review*, issue 5, Winter.
- Luo, X. and Homburg, C. (2007), "Neglected Outcomes of Customer Satisfaction", *Journal of Marketing*, vol. 71, April, 133-149.
- Martilla, J. A. and James, J. C. (1977), "Importance-Performance Analysis", *Journal of Marketing*, January, 77-79.
- Martilla, J. and James, J. (1977), "Importance-Performance Analysis", *Journal of Marketing*, January, 77-79.

- Mels, G., Boshoff, C. and Nel, D. (1997), "The Dimensions of Service Quality: The original European perspective revisited", *The Services Industries Journal*, 17 (1), 173-189.
- Mintzberg, H. (1986), *Structures of Organizations*, Sage, New York.
- Mintzberg, H. (1996), "Managing Government, Governing Management", *Harvard Business Review*, May-June, 75-83.
- Moe, R. (1994), "The Reinventing Government Exercise: Misinterpreting the Problem, Misjudging the Consequences", *Public Administration Review*, vol. 54, 111-122.
- Moran, T. (2005), "Regeneration – Innovation and Citizen-centred Delivery", *Australian Journal of Public Administration*, 64 (2), June, 7-9.
- Neely, A., Adams, C. and Kennerley, K. (2002), "The Performance Prism", *Financial Times*, Prentice-Hall, London.
- Oliver, R.L. (1980), "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions", *Journal of Consumer Research*, vol. 42, 460-469.
- Oliver, R. L. (1993), "Cognitive, Affective and Attribute Bases of the Satisfaction Response", *Journal of Consumer Research*, vol.20, December, 418-430.
- Oliver, R. L. (1997), *Satisfaction. A Behavioral Perspective on the Consumer*, McGraw-Hill, Inc., New York.
- Olsen, M. (1996), "The Critical Episode Model as a Tool for Organizational Learning in Service Organizations", in Edvardsson, B. and Modell, S. (Eds), *Service Management*, Stockholm: Nerenius & Santérus Förlag Ab, Sweden.
- Osborne, D. and Gaebler, T. (1992), *Reinventing Government: How the Entrepreneurial Spirit is Transforming the Public Sector from Schoolhouse to Statehouse, City Hall to the Pentagon*, Addison-Wesley, Reading, MA.
- Parasuraman, A., Zeithaml, V. and Berry, L. L. (1985), "A Conceptual Model of Service Quality and Its Implications for Future Research", *Journal of Marketing*, vol. 49, Fall, 41-50.
- Parasuraman, A., Zeithaml, V. and Berry, L. (1994), "Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Future Research", *Journal of Marketing*, vol. 58, January, 111-124.

- Peters, B. G. (1996), *The Future of Governing: Four Emerging Models*, University Press of Kansas.
- Peterson, R. and Wilson, W. (1992), "Measuring Customer Satisfaction: Fact and Artifact", *Journal of the Academy of Marketing Science*, vol. 20, Winter, 61-71.
- Pollitt, C. (1993), *Managerialism and the Public Service*, Oxford, Blackwell
- Pollitt, C. (1995), "Justification by Works or by Faith? – Evaluating the New Public Management", *Evaluation*, vol. 1 (2), 133-154.
- Pollitt, C. (2003), "Joined-Up Government: a Survey", *Political Studies Review*, vol. 1, 34-49.
- Pollitt, C. and Bouckaert, G. (2000), *Public Management Reform: A Comparative Analysis*, Oxford University Press.
- Preston, L. and Sapienza, H. (1990), "Stakeholder Management and Corporate Performance", *The Journal of Behavioural Economics*, 19 (4), 361-375.
- Proença, J. and Castro, L. (2002), "Stress in Business Relationships: the Case of Corporate Banking", *18th IMP Conference*, Perth, Australia.
- Provan, K. and Milward, H. (2001), "Do Networks Really Work? A Framework for Evaluating Public-Sector Organizational Networks", *Public Administration Review*, July/August, vol. 61, n° 4, 414-423.
- Radin, B. A. and Coffee, J. N. (1993), "A Critique of TQM: Problems of Implementation in the Public Sector", *Public Administration Quarterly*, Spring, vol. 17, 42-54.
- Rago (1994), "Adapting Total quality Management (TQM) to Government: Another Point of View", *Public Administration Review*, Jan/Feb, vol. 54, n° 1, 61-64.
- Rivière, V., LaSalle, A., Khorramshahgol, R and Gousty, Y. (1999), "Hospital Information Systems Quality: A Customer Satisfaction Assessment Tool", *Proceedings of the 32nd Hawaii International Conference on System Sciences*.
- Roch, C. H. and Poister, T. H. (2006), "Citizens, Accountability and Service Satisfaction – The Influence of Expectations", *Urban Affairs Review*, vol. 41, n° 3, January, 292-308.
- Roos, I. (1996), "Customer Switching Behavior in Retailing", Working Papers n° 327, Swedish School of Economics and Business Administration, Helsinki, Finland.

- Roos, I. (1999), *Switching Paths in Customer Relationships*, Doctoral Dissertation n° 78, Helsinki: Swedish School of Economics and Business Administration, Finland
- Roos, I. (2002), “Methods of Investigating Critical Incidents – A Comparative Review”, *Journal of Service Research*, vol. 4, n° 3, Feb., 193-204.
- Roos, I. and Strandvik, T. (1996), “Diagnosing the Termination of Customer Relationships”, Working Paper n° 335, Swedish School of Economics and Business Administration, Helsinki, Finland.
- Roy, C. and Seguin, F. (2000), “The Institutionalization of Efficiency-Oriented Approaches for Public Service Management”, *Public Productivity & Management Review*, vol. 23, n° 4, June, 449-468.
- Rust, R. T. and Oliver, R. L. (1994.), “Service Quality: Insights and managerial implications from the frontier”, in Rust, R. T. and Oliver, R. L. (Eds.), *Service Quality: New Directions in Theory and Practice*, 1-19, Sage Publications, London.
- Schachter, H. (1995), “Reinventing Government or Reinventing Ourselves: Two Models for Improving Government Performance”, *Public Administration Review*, November – December, vol. 55, n° 6, 530-537.
- Schneider, B. and Bowen, D. (1985), “Employee and Customer Perceptions of Service in Banks: Replication and Extension”, *Journal of Applied Psychology*, vol. 70, n° 3, 423-433.
- Schröder, G., Birgelen, M., Lemmink, J., de Ruyter, K. and Wetzels, M. (2000), “Moments of Joy and Sorrow – an Empirical Assessment of the Complementary Values of Critical Incidents in Understanding Customer Service Evaluations”, *European Journal of Marketing*, Vol. 34, issue 1-2, 107-125.
- Scitovsky, I. (1976), *The Joyless Economy: an Inquiry Into Human Satisfaction and Dissatisfaction*, New York, Oxford University Press.
- Smith, J. K. (1990), “Goodness Criteria: Alternative Research Paradigms and the Problem of Criteria”, in Guba, E. G. (Ed.), *The Paradigm Dialogue*, Sage, London.
- Stauss, B. (1993), “Using Critical Incident Technique in Measuring and Managing Service Quality”, in Scheuing, E. and William, F. (Eds.), *The Service Quality Handbook*, 408-427, American Management Association, New York.

- Stauss, B. and Hentschel, B. (1992), "Attribute-Based versus Incident-Based Measurement of Service Quality: Results of an Empirical Study With German Car Service Industry", in Kunst, P. and Lemmink, J. (Eds.), *Quality Management in Service*, 59-78, Maastricht, the Netherlands.
- Stauss, B. and Weinlich, B. (1997), "Process-oriented Measurement of Service Quality. Applying the Sequential Incident Method", *European Journal of Marketing*, vol. 31, n° 1, 33-55.
- Stocker, G. (1990), "Reducing Variability – Key To Continuous Quality Improvement", *Manufacturing Systems*, March, 8-3, 32-36
- Stradling, S., Anable, J. and Carreno, M. (2007), "Performance, Importance and User Disgruntlement: A Six-sep Method for Measuring Satisfaction with Travel Modes", *Transportation Research Part A*, 41, 98-106.
- Strandvik, T. and Liljander, V. (1994), "Relationship Strength in Bank Services", in Jagdish, N. e Sheth, A. (Eds.), *Proceedings from the 1994 Research Conference on Relationship Marketing: Theory, Methods and Applications*, June 11-13, Atlanta, Georgia.
- Strauss, A. and J. Corbin (1990), *Basics of Qualitative Research*, London: Sage Publications.
- Swan, J. and Rao, C. (1975), "The Critical Incident Technique: A Flexible Method for the Identification of Salient Product Attributes", *Journal of the Academy of Marketing Science*, 3, Summer, 296-308.
- Swiss, J. E. (1992), "Adapting Total quality Management (TQM) to Government", *Public Administration Review*, vol. 52, n° 4, 356-362.
- Talbot, C., Wiggan, J., H., N., Rafferty, A., Calcraft, R., Freestone, M. and Wyatt, B. (2005), "Jobcentre Plus Customer Service Performance and Delivery: A Qualitative Review", Department for Work and Pensions, Research Report n° 276, UK.
- Toonen, T. and Raadschelders, J. (1997), "Public Sector Reform in Western Europe", *Proceedings of the Conference on Comparative Civil Service Systems*.
- Tse, D. K. and Wilton, P. C. (1988), "Models of Consumer Satisfaction Formation: An extension", *Journal of Marketing Research*, vol. 25, May, 204-212.

- Van Ryzin, G. (2004), "Expectations, Performance and Citizen Satisfaction with Urban Services", *Journal of Policy Analysis and Management*, vol. 23, n° 3, 433-448.
- Vavra, T. (1997), *Improving Your Measurement of Customer Satisfaction: A Guide to Creating, Conducting, Analyzing and Reporting Customer Satisfaction Measurement Programs*, ASQ Quality Press.
- Vigoda-Gadot, E. (2000), "Are You Being Served? The Responsiveness of Public Administration to Citizens' Demands: An Empirical Examination en Israel", *Public Administration*, vol. 78, n° 1, 165-191.
- Walsh, K. (1991), "Quality and Public Services", *Public Administration*, vol. 69, Winter, 503-514.
- Westbrook, R. and Reilly, M. (1983), "Value-Percept Disparity: An Alternative to the Disconfirmation of Expectations Theory of Consumer Satisfaction", *Advance in Consumer Research*, vol. 10, 256-261.
- Wirtz, J. and Tomlin, M. (2000), "Institutionalising Customer-driven Learning Through Fully Integrated Customer Feedback Systems", *Managing Quality Service*, vol. 10, n° 4, 205-215.
- Wright, V. (1994), "Reshaping the State: The Implications for Public Administration", *West European Politics*, vol. 17, n° 3, 102-137.
- Yi, Y. (1990), "A Critical Review of Consumer Satisfaction", in Zeithaml, V. (Ed.), 1999, *Review of Marketing*, 68-123, Chicago: American Marketing Association.
- Yin, R. (1994), *Case Study Research: Design and Methods*, London: Sage Publications.
- Zeithaml, V., Berry, L. and Parasuraman, A. (1988), "Communication and Control Processes in the Delivery of Service Quality", *Journal of Marketing*, 52, April, 35-48.
- Zeithaml, V., Parasuraman, A. and Berry, L. (1996), "The Behavioral Consequences of service Quality", *Journal of Marketing*, 60 (April), 31-46.
- Zhao, X., Bai, C. and Hui, Y. (2002), "An Empirical Assessment and Application of Servqual in a Mainland Chinese Department Store", *Total Quality Management*, vol. 13, n° 2, 241-254.

Recent FEP Working Papers

Nº 344	Margarida Catarino and Aurora A.C. Teixeira, " <u>International R&D cooperation: the perceptions of SMEs and Intermediaries</u> ", November 2009
Nº 343	Nuno Torres, Óscar Afonso and Isabel Soares, " <u>Geographic oil concentration and economic growth – a panel data analysis</u> ", November 2009
Nº 342	Catarina Roseira and Carlos Brito, " <u>Value Co-Creation with Suppliers</u> ", November 2009
Nº 341	José Fernando Gonçalves and Paulo S. A. Sousa, " <u>A Genetic Algorithm for Lot Size and Scheduling under Capacity Constraints and Allowing Backorders</u> ", November 2009
Nº 340	Nuno Gonçalves and Ana Paula Africano, " <u>The Immigration and Trade Link in the European Union Integration Process</u> ", November 2009
Nº 339	Filomena Garcia and Joana Resende, " <u>Conformity based behavior and the dynamics of price competition: a new rationale for fashion shifts</u> ", October 2009
Nº 338	Nuno Torres, Óscar Afonso and Isabel Soares, " <u>Natural resources, economic growth and institutions – a panel approach</u> ", October 2009
Nº 337	Ana Pinto Borges, João Correia-da-Silva and Didier Laussel, " <u>Regulating a monopolist with unknown bureaucratic tendencies</u> ", October 2009
Nº 336	Pedro Rui Mazedo Gil, " <u>Animal Spirits and the Composition of Innovation in a Lab-Equipment R&D Model</u> ", September 2009
Nº 335	Cristina Santos and Aurora A.C. Teixeira, " <u>The evolution of the literature on entrepreneurship. Uncovering some under researched themes</u> ", September 2009
Nº 334	Maria das Dores B. Moura Oliveira and Aurora A.C. Teixeira, " <u>Policy approaches regarding technology transfer: Portugal and Switzerland compared</u> ", September 2009
Nº 333	Ana Sofia Ferreira, Leonídio Fonseca and Lilian Santos, " <u>Serão os 'estudantes empreendedores' os empreendedores do futuro? O contributo das empresas juniores para o empreendedorismo</u> ", August 2009
Nº 332	Raquel Almeida, Marina Silva and Tiago Soares, " <u>Coesão Territorial - As relações de fronteira entre Portugal e Espanha</u> ", August 2009
Nº 331	Custódia Bastos, Suzi Ladeira and Sofia Silva, " <u>Empreendedorismo nas Artes ou Artes do Empreendedorismo? Um estudo empírico do 'Cluster' da Rua Miguel Bombarda</u> ", August 2009
Nº 330	Filipe A. Ribeiro, Ana N. Veloso and Artur V. Vieira, " <u>Empreendedorismo Social: Uma análise via associativismo juvenil</u> ", August 2009
Nº 329	Argentino Pessoa, " <u>Outsourcing And Public Sector Efficiency: How Effective Is Outsourcing In Dealing With Impure Public Goods?</u> ", July 2009
Nº 328	Joana Almodovar, Aurora A.C. Teixeira, " <u>Conceptualizing clusters through the lens of networks: a critical synthesis</u> ", July 2009
Nº 327	Pedro Mazedo Gil, Fernanda Figueiredo and Óscar Afonso, " <u>Equilibrium Price Distribution with Directed Technical Change</u> ", July 2009
Nº 326	Armando Silva, Ana Paula Africano and Óscar Afonso, " <u>Which Portuguese firms are more innovative? The importance of multinationals and exporters</u> ", June 2009
Nº 325	Sofia B. S. D. Castro, João Correia-da-Silva and Pascal Mossay, " <u>The core-periphery model with three regions</u> ", June 2009
Nº 324	Marta Sofia R. Monteiro, Dalila B. M. M. Fontes and Fernando A. C. C. Fontes, " <u>Restructuring Facility Networks under Economy of Scales</u> ", June 2009
Nº 323	Óscar Afonso and Maria Thompson, " <u>Costly Investment, Complementarities and the Skill Premium</u> ", April 2009
Nº 322	Aurora A.C. Teixeira and Rosa Portela Forte, " <u>Unbounding entrepreneurial intents of university students: a multidisciplinary perspective</u> ", April 2009
Nº 321	Paula Sarmento and António Brandão, " <u>Next Generation Access Networks: The Effects of Vertical Spillovers on Access and Innovation</u> ", April 2009
Nº 320	Marco Meireles and Paula Sarmento, " <u>Incomplete Regulation, Asymmetric Information and Collusion-Proofness</u> ", April 2009
Nº 319	Aurora A.C. Teixeira and José Sequeira, " <u>Determinants of the international influence of a R&D organisation: a bibliometric approach</u> ", March 2009
Nº 318	José Sequeira and Aurora A.C. Teixeira, " <u>Assessing the influence of R&D institutions by</u>

	<i>mapping international scientific networks: the case of INESC Porto</i> , March 2009
Nº 317	João Loureiro, Manuel M. F. Martins and Ana Paula Ribeiro, " <i>Cape Verde: The Case for Euroization</i> ", March 2009
Nº 316	Ester Gomes da Silva and Aurora A.C. Teixeira, " <i>Does structure influence growth? A panel data econometric assessment of 'relatively less developed' countries, 1979-2003</i> ", March 2009
Nº 315	Mário A. P. M. Silva, " <i>A Model of Growth with Intertemporal Knowledge Externalities, Augmented with Contemporaneous Knowledge Externalities</i> ", March 2009
Nº 314	Mariana Lopes and Aurora A.C. Teixeira, " <i>Open Innovation in firms located in an intermediate technology developed country</i> ", March 2009
Nº 313	Ester Gomes da Silva, " <i>Capital services estimates in Portuguese industries, 1977-2003</i> ", February 2009
Nº 312	Jorge M. S. Valente, Maria R. A. Moreira, Alok Singh and Rui A. F. S. Alves, " <i>Genetic algorithms for single machine scheduling with quadratic earliness and tardiness costs</i> ", February 2009
Nº 311	Abel Costa Fernandes, " <i>Explaining Government Spending: a Cointegration Approach</i> ", February 2009
Nº 310	João Correia-da-Silva, " <i>Uncertain delivery in markets for lemons</i> ", January 2009
Nº 309	Ana Paula Ribeiro, " <i>Interactions between Labor Market Reforms and Monetary Policy under Slowly Changing Habits</i> ", January 2009
Nº 308	Argentino Pessoa and Mário Rui Silva, " <i>Environment Based Innovation: Policy Questions</i> ", January 2009
Nº 307	Inês Drumond and José Jorge, " <i>Basel II Capital Requirements, Firms' Heterogeneity, and the Business Cycle</i> ", January 2009
Nº 306	Adelaide Maria Figueiredo, Fernanda Otilia Figueiredo and Natália Pimenta Monteiro, " <i>Labor adjustments in privatized firms: a Statis approach</i> ", December 2008
Nº 305	Manuela A. D. Aguiar and Sofia B. S. D. Castro, " <i>Chaotic and deterministic switching in a two-person game</i> ", December 2008
Nº 304	Ana Pinto Borges and João Correia-da-Silva, " <i>Using Cost Observation to Regulate Bureaucratic Firms</i> ", December 2008
Nº 303	Miguel Fonseca, " <i>The Investment Development Path Hypothesis: a Panel Data Approach to the Portuguese Case</i> ", December 2008
Nº 302	Alexandre Almeida, Cristina Santos and Mário Rui Silva, " <i>Bridging Science to Economy: The Role of Science and Technologic Parks in Innovation Strategies in "Follower" Regions</i> ", November 2008
Nº 301	Alexandre Almeida, António Figueiredo and Mário Rui Silva, " <i>From Concept to Policy: Building Regional Innovation Systems in Follower Regions</i> ", November 2008
Nº 300	Pedro Quelhas Brito, " <i>Conceptualizing and illustrating the digital lifestyle of youth</i> ", October 2008
Nº 299	Argentino Pessoa, " <i>Tourism and Regional Competitiveness: the Case of the Portuguese Douro Valley</i> ", October 2008
Nº 298	Aurora A.C. Teixeira and Todd Davey, " <i>Attitudes of Higher Education students to new venture creation: a preliminary approach to the Portuguese case</i> ", October 2008
Nº 297	Carlos Brito, " <i>Uma Abordagem Relacional ao Valor da Marca</i> ", October 2008

Editor: Sandra Silva (sandras@fep.up.pt)

Download available at:

<http://www.fep.up.pt/investigacao/workingpapers/>

also in <http://ideas.repec.org/PaperSeries.html>

www.fep.up.pt

FACULDADE DE ECONOMIA DA UNIVERSIDADE DO PORTO

Rua Dr. Roberto Frias, 4200-464 Porto | Tel. 225 571 100

Tel. 225571100 | www.fep.up.pt