

Measure of the perceived quality in the public service National Social Security insurance fund (CNAS) of -Mascara

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Abstract : This article focuses on the quality of service in the public sector. Its objective is to test a scale for measuring the perceived quality of the public service. Based on the works of Parasuraman (1988) and Sabadie (2011), our study was conducted on a population of 250 individuals regarding their assessment of the quality of Mascara's National Social Security insurance Fund (CNAS) services. The results highlighted three dimensions of public service quality: tangibility, responsibility and general evaluation.

Keywords: Perceived Quality (PQ), Service Quality (SQ), Public Service (PS), Measuring Scale.

ملخص:

يركز هذا المقال على جودة الخدمة في القطاع العام، الهدف منه هو اختبار سلم لقياس الجودة المدركة للخدمة العمومية، استناداً إلى أعمال Parasuraman (1988) و Sabadie (2011)، أجريت دراستنا على 250 شخصاً من السكان فيما يتعلق بتقييمهم لجودة خدمات الصندوق الوطني للتأمين الاجتماعي (CNAS) في مدينة معسكر. أبرزت النتائج ثلاثة أبعاد لجودة الخدمة العامة: الملموسة والمسؤولية والتقييم العام.

الكلمات المفتاحية: الجودة المدركة، جودة الخدمة، الخدمة العمومية، سلم القياس.

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Introduction

Over recent years, several studies have determined the quality of services in various different ways, and through multiple perspectives. Modernization development of public service seeks to facilitate services delivery to citizens, when and where they need them.

Increasing user's dissatisfaction, public administration focused on improving quality of services provided through successive reforms. (Sabadie. W, 2003)

This paper deals with the assessment of current state of systems approaches to public service delivery. Our study is aimed at measure the perceived quality of services in the National Social Security Fund of Employees (CNAS), and determining different factors of CNAS services.

In this context, many researchers conceived clear concepts of quality, quality of service and quality of perceived services. Gronroos argued that service quality is a combination of outcome quality and process quality, and the process of evaluating service quality depending on how the services are delivered. (Gronroos, J. Mark, 1984)

Bolton and Drew (1991), they note that a customer's perception of service quality is based on his/her "preconceived" attitude about the service.

On this case, quality was defined as performance of the staff, and what they offer to users. (Stephen. P, Osborne, august 1992)

In the same context, service quality is an assessment of how well a delivered service comes up to customer's expectations. In short, it's the value of a service to customers. Service quality was defined in 1994 by Bitner and Hubbert as: "the customer impression of the relative superiority or inferiority of a service provider and its services". (Bitner & Hubbert 1994).

Although perceived quality and satisfaction are the two concepts used most often in the literature on services, differentiating them remains a challenge. This paper has been divided into three major sections: introduction, scientific literature and methodology of field study.

I. Literature Review

In 1985, Parasuraman, Zeithaml and Berry (PZB) proposed servequal (service quality) model that explain service quality as the gap between expected and perceived performance. The servequal model evaluate service quality as a difference between customer expectations and perceptions of 22 items in five dimensions including tangibility, reliability, responsiveness, certainty, and empathy, and is most widely used for measuring service quality in service industries, including banking. (Parasuraman, A.; Zeithaml, V.A.; Berry, J. Mark. 1985)

Cowling and Newman found that the servequal model was the most reliable, responsive, and empathic in evaluating the service quality of banks. (Cowling. A ; Newman. K, 1995)

Moreover, with the increasing importance of service quality, the specific roles of service quality in customer's visiting and revisiting decisions should be investigated. Zhou [6] used the servequal model to examine the relationship between service quality and customer satisfaction in retail banking in China. (Zhou, L.X, 2004).

In contrast, according to Cronin and Taylor (1992), their un-weighted performance-based servperf (service performance) scale is a better method of measuring service quality. Arguing that the gap theory of service quality is supported by little empirical and theoretical evidence, they developed the “performance-based” service quality measurement scale called servperf.

Studding the distinction between service quality and product quality in the Chinese banking context, they conducted a survey to analyze the five antecedents of service quality and product quality, as well as their different impacts on the establishment of a positive reputation of bank. As a result, they suggested that managers can benefit by acknowledging the distinction between services and products, as well as the different impacts on the establishment of bank reputation. (Wang, Y.G.; Lo, H.P.; Hui, Y.V, 2003)

Matei (2008) approaches the contribution of public services to local development, using the input-output method. Delivery of high service quality helps to differentiate companies from the competition, and it is a strategic weapon for gaining a competitive advantage. High service quality also results in various desirable outcomes, such as enhanced financial performance, reduction in customer complaints, improved willingness to recommend services to someone else, and improved customer satisfaction. (Karatepe, 2011) Excellent service quality is subjective, and it varies depending on the perceptions, expectations, and needs of the customer. Few determinants affecting the perceived service quality are the interactions between service sectors and customers, and the technical and functional dimensions.

The different dimensions of service quality include for example reliability – delivered service is on time and it is what is promised and consistency meaning that provided service remains rather same each time. (Spacey, 2016).

Meehyang Chang and al said that there are some differences in the factors of service quality that are affecting customer satisfaction. China has become more influential in customer satisfaction in the order of responsiveness, tangibility, reliability, and empathy, while Korea has been in the order of reliability, empathy, and assurance. As we have seen in the preceding studies, the research on efficiency and service quality of commercial banks in China has been tried from various angles. However, there is little research on an integrated framework of the relationship between efficiency, service quality, and customer satisfaction. Therefore, it is great significance to study the relationship between the efficiency and service quality of commercial banks in China. (Meehyang Chang, Han-Byeol Jang, Yi-Mei Li and Daecheol Kim, 2017).

There are several models of quality of service as the model of Sasser 1978, this model proposes seven broad categories of attributes: (1) customer security, (2) the ease of access to the service, (3) the reliability of the service, (4) the attitude of the staff, (5) the variety of services offered, (6) the atmosphere where the performance takes place, (7) the expected time of the service and its duration.

On the other hand, Gronroos on 1984 proposes three factors that determine the quality of a service: (1) technical quality, (2) the functional quality of the service, (3) the company's image.

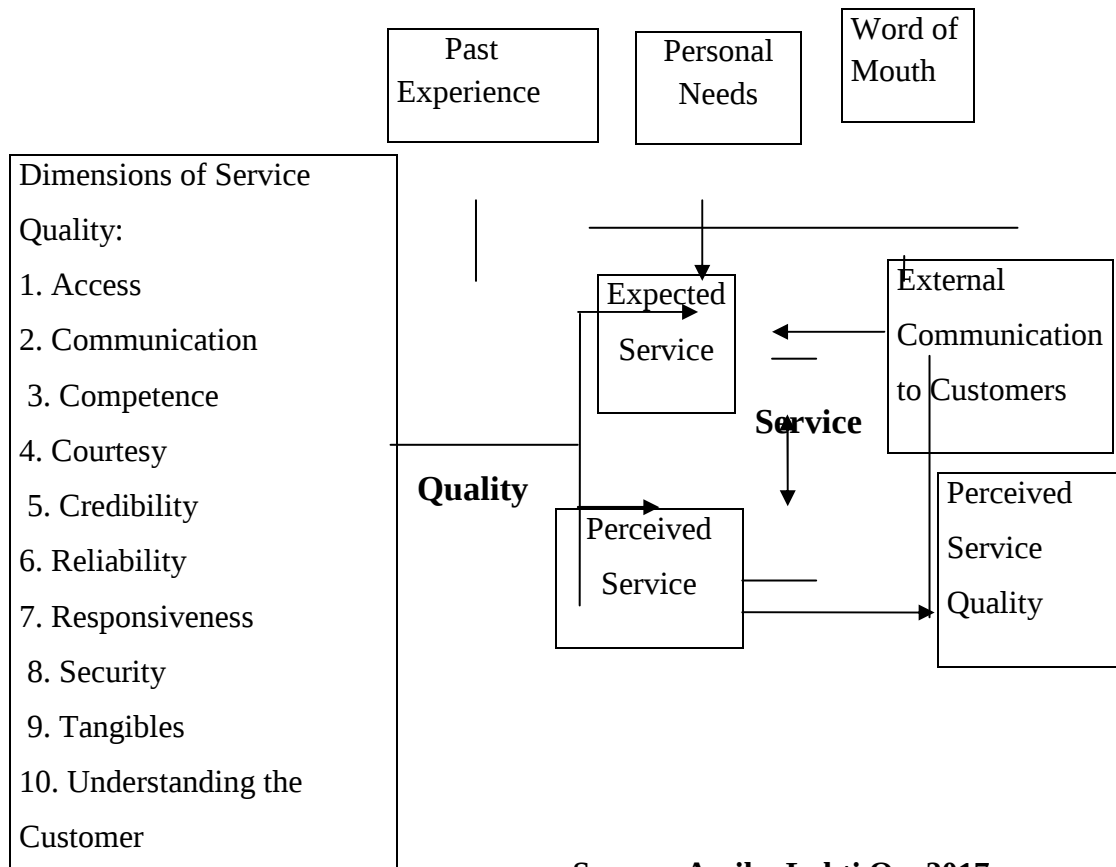
The model of Parasuraman (1985) shows the existence of discrepancies between the perception of quality and the supply of services, four forms of deviation were observed: (1) the gap between the customer's expectations and the manager's perception, (2) the gap between the perception of the manager and the specification of quality standards, (3) the gap between the specification of the quality standards and the presentation of the service, (4) the gap between service delivery and promise of benefits.

As well, Sabadie (2003) added four principals: (1) equal treatment of the file, (2) participations, (3) management of claim; (4) transparency.

Finally, we can say that our study differs from the rest of the previous studies that it only concerns the perceived quality of the public service.

In the figure below, the perceived quality determinants are explained between the customer expectations about the service and the actual received service.

FIGURE 1: Determinants of Perceived Service Quality (Parasuraman, Zeithaml & Berry, 1985).



Source: Amiko Lahti Oy, 2017

II. Methodology

2.1. Paradigm of Churchill

This work followed the steps of the construction of a measurement scale, the Churchill paradigm (1979) is a methodological approach aimed at the construction of multiple scales after the event, precise and simple steps to build reliable measurement scales. The Churchill approach is summarized in four steps: (1) construction of the items of the scale of the construct; (2) constitution of the database; (3) purification of the scale by exploratory factor analysis; (4) verification of the scale by confirmatory factor analysis. (Jean Marie Peretti, Bouchra M'zali, Nader Mansouri ; 2008).

2.2. Materials and Methods

Panel data analysis consists of two parts, an interview in the first level and questionnaire in second with citizen of Mascara state. In the aim of answer the problematic below, we conducted exploratory and confirmatory study in the same time.

The actors were questioned about their relations with the social security services; we assumed that there were nine dimensions (Parasuraman and Sabadie) of quality of service for which we developed five to six questions. At the end of this step, 45 items were generated for the pre-test. The variables were measured with 5-point Likert scales.

A questionnaire was developed and sent to citizens for answers regarding the Mascara social security sector. The choice of this sector is based on the nature of public services rendered by the CNAS. Among 280 samples sent, we selected 250.

About the National Fund for Social Insurance:

The national Fund for Social Insurance: Under Article 49 of Law 88-01 of 12 January 1988 "CNAS" is a public company with specific management and moral personality and financial independence.

The roles and objectives of CNAS:

Management of social security benefits (health insurance, maternity, disability, death); Management on behalf of the state of family allowances; Recovery of social security contributions; Control and litigation of the recovery of contributions for the payment of benefits; Registered employees and their employers; Participate in the promotion of the policy aimed at the prevention of occupational accidents and occupational diseases; The management of insurance benefits provided by bilateral agreements; Perform the medical check; Implement and promote actions carried out within the framework of health and social action; The management of the aid and rescue fund; Conclude agreements with service providers; Inform insurance providers and employers of their rights and obligations; Providers and employers of their rights and obligations;

Table1 : Insured persons at 31/03/2017

Workforce	Enumération	
Social insured persons	152.915	
Active	70.509	46%
Inactive	82.406	54%
pensioners /48.640 (59%) $\Longrightarrow$ between them $\Longrightarrow$ disabled and annuities /3.275		
Have right	386.025	
Récipients	24638	

Source: administration of CNAS

The table above shows social insured persons on CNAS of Mascara 152.915, active 46% and inactive 54%

Table 2: Sample presentation

Demographic characteristics	Description	Number of responses	Percentage
Gender	Man	140	65%
	Women	110	44%
	Total	250	100%
Age	From 20 to 30	20	8%
	31 – 40	100	40%
	41 – 50	90	36%
	Over 50	40	16%
	Total	250	100%
Level of study	Primary	25	10%
	Middle	30	12%
	Secondary	55	22%
	University	140	56%
	Total	250	100%
Function	Employee	150	60%
	Unemployed	10	4%
	Retirement	50	20%
	Student	40	16%
	Total	250	100%

Through the table above, we note that more than half of the sample of men is 65%, aged from 31 to 50 years 76%, with university level 56% and most of them are employees 60%.

2.3. Checking the reliability of the scale: Exploratory Factor Analysis (EFA):

After the collection of the data and the description of the sample, and following the approach advocated by Churchill, the dimensionality of the scale of the measurement of the perceived quality of the public service should be verified. For this, we carried out an exploratory factor analysis (main component analysis with varimax rotation under SPSS software version 20). According to the suggestions of Hair and al (1998) EFA is a "preliminary technique when building a measurement scale». It makes it possible to identify the latent factors from the measured variables. (Gerbing and Anderson, 1988).

Reliability test: the assessment of the reliability of the scale makes it possible to determine whether the identified dimensions are able to present acceptable coherence and stability. (Ahire and al, 1996). The internal coherence of the different dimensions of the measure of perceived service quality is expressed by Cronbach's alpha coefficient. This must be greater than 0.7 for a construct to be considered reliable. (Nunnally, 1967). The alphas of the nine dimensions are above the recommended threshold (0.961). The internal coherence of the scale is thus demonstrated.

Dimensionality test: In free factor, our factor analysis allows to extract three dimensions that explain 70, 50% of the total variance. Items with low representational qualities (less than 0.6) were first eliminated. Then items with low factor scores or multiple axes were removed. All maintained items have a factor contribution greater than 0.7. The selected axes have an eigenvalue greater than 1 and represent the different facets of the notion of quality of service.

The 8 items retained are divided into the following three axes; tangibility axis (4 items), reactivity axis (2 items), general evaluation axis (2 items).

2.4. Estimation of the validity of the scale: Confirmatory Factors

Analysis (CFA):

In a second time, we performed a confirmatory factor analysis (CFA) to (1) ensure that dimensions estimated by first-order factors effectively define a larger, more abstract construct estimated by the second-order factor and (2) attest to the reliability and validity of the measuring instrument. This analysis makes it possible to test the fit and the factor structure of the measurement model identified by the exploratory analysis, to verify the convergent validity and the reliability of the measuring instrument and finally to test the discriminate validity of the subscales of the concept. Analyzed (here the perceived quality of the public service).

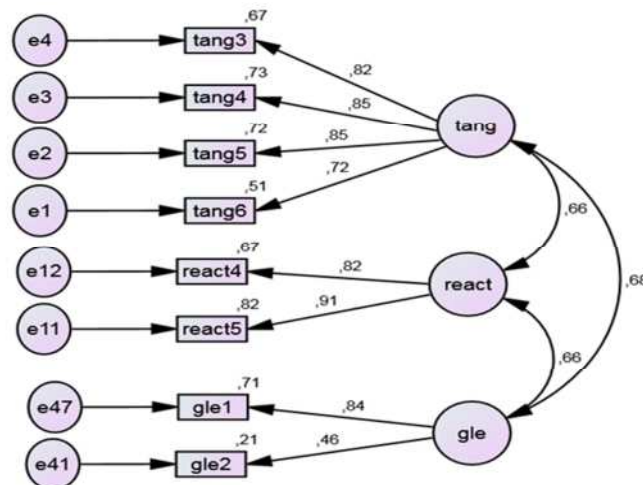
Model fit, first-order analysis - At this stage an important aspect concerns the specification of the i.e. model, the identification of the type of variables that will be integrated into the network of relationships to be tested. We have made the hypothesis that the measurement models are reflective: each item is a manifestation of the construct

and all the items covariate together. This hypothesis is classic for the development of measurement scales since the work of Churchill (1979).

Adjustment Test, Several adjustment criteria were used to evaluate the robustness of the measurement model. (Bollen and Long, 1993) The adjustment was evaluated on the basis of the indices provided by AMOS, (a) the ratio of Chi-square / number of degrees of freedom (CMIN / DF) which must be between 1 and 5; (b) the root mean square error of approximation (RMSEA) which must be less than 0.05 and (c) the indices GFI (goodness-of-fit index), NFI (Normel fit index), AGFI (adjust good fit index) which must be greater than 0.9. The indices implemented for the scale of the perceived quality of the public service- RMSE (0.28), GFI (0.98), NFI (0.98), AGFI (0.958), CMIN/DF (1.193), RMR (0.033) - are in line with recommended threshold values. The square chi-squared ratio by the number of degrees of freedom (1,193) is in the recommended range, and even lower than 0.2, the maximum threshold accepted by some authors. Thus, all the indices show a good fit of the measurement model with the empirical data. These results justify the multidimensional aspect of the scale.

The quality of the model is also appreciated through the evaluation of a set of adjustment indices. Each of these indices has a set of specific characteristics. They are grouped in three categories; we will limit the presentation to the indices that we used. Absolute indices (Chi-square, GFI, RMR, RMSEA, and AGFI) determine the similarity / dissimilarity between the estimated model and the observed variance / covariance matrix. (Roussel and al., 2002) the incremental indices (CFI, NFI) make it possible to evaluate the contribution of the model studied with respect to a reference model having a zero correlation between the data.

Figure 2: Scale model of the perceived quality of the public service



The estimation of the parameters of the model was conducted under AMOS according to the procedure of estimation of maximum likelihood. Estimated by the Maximum Likelihood (ML) method, the model obtained (see Figure 2) is very acceptable with regard to the quality of the corresponding adjustment indices.

Indeed, the CMIN / DF index indicates that the model fits well with the empirical data. The GFI is good. RMSEA is very good. The averages of the regression

coefficients obtained are significant at the 5% level. The confidence intervals are significant for the set of regression coefficients linking the items to the latent variables (tangibility, responsiveness, general evaluation). Second-order confirmatory factor analysis confirms the structural model highlighted, the scale construct is validated.

Having validated the components of perceived quality, we were able to test the causal model. The model obtained is acceptable with regard to the quality of the corresponding adjustment indices. The confidence intervals obtained by bootstrap are significant.

Table 3: Adjustment indices of causal analysis

Models	CMIN/DF	RMR	GFI	AGFI	NFI	RMSEA
Standards	≤5	<0.1	>0.9	>0.8	>0.9	<0.08
Model	1.193	0.033	0.98	0.958	0.980	0.028

The analysis of the adjustment indices presented in the table above makes it possible to conclude that overall our theoretical model fits well with the empirical data. Indeed, the Chi-two reported degrees of freedom is good since less than 2 and therefore meets the strictest threshold. The RMSEA is in line with the usual 0.028 standard, the DPR and the CFI are good.

Discussion of results and conclusion

The analysis of the three dimensions of the perceived quality of the service (Tangibility, Responsiveness and General evaluation) invites to become aware of the need for the leader to have knowledge to improve: Focus on the equipment used to provide the services, as well as the image of employees and how they interact with user, availability of hardware and appearance of workers, this dimension is an essential component of good service quality.

However, if the responsiveness of service providers is a prerequisite, this technical knowledge is insufficient to support the good quality of the given service. The leader must also learn to communicate collaboratively to establish mutual norms that are mutually beneficial. The pro-activity of the communication, the integrity and the transparency of the information are the key to the good quality of the service. According to Militello (1998) the power of information no longer resides in its possession but in its sharing, foundation of a good relationship.

The scale makes it possible to appreciate the impact of the three dimensions on the quality of the service. Thus, the scale can help the actors to identify their weaknesses and the dimensions on which it is advisable to be formed.

Public society are invited to adopt a mode of relationship management with their members and insured who has a strong relational dimension. They must therefore be able to implement collaborative communication and proactivity in the exchange of information on the situation of society. The leader must be aware that the multiplication of direct exchange relationships generates learning about the functioning of the public service world: presenting files, the speed and ease of transmitting information and the desire to help users, these elements that relate to the three dimensions of the quality of

service are basically only different ways of communicating. Furthermore, transparency and proactivity in communication reduces information asymmetry and supports the process of building trust in society, which facilitates the smooth running of relationships.

Finally, we will remember that our sample consists of a public sector company; the generalization of these results will require that this model be tested in different sectors.

Limits, perspectives

This article presents certain limits essentially due to the choice of services studied. The services of a CNAS seem representative of the classic typology of public services. However, as public service relations are very diverse, it is important to emphasize a limit of external validity. On the other hand, this typology is not representative of the perceptual categorization of users. These limits are all paths of research for the future. Other avenues of research are conceivable for the continuation of this work.

References

- Ahire S., Golhar D. et Waller M. (1996), « Development and Validation of TQM Implementation Constructs », **Decision Sciences** , vol. 27, n°1,p23-56.
- Amiko Lahti Oy,(2017), « Service Quality and Customer Satisfaction Survey in Temporary Staffing Industry”, **Lahti university of applied sciences, Bachelor’s Thesis in International Business.**
- Bitner, M.J., Booms, B.H. and Mohr, L.A. (1994) Critical Service Encounters: The Employee’s Viewpoint. **Journal of Marketing.**
- Bollen K. et Long J. (1993), Testing Structural Equation Models, Sage.
- Bolton, Ruth N., Drew, James H.,(1991) “A Longitudinal Analysis of the Impact Service Changes on Customer Attitudes”, **Journal of Marketing**, 55(1), pp. 1-9
- Churchill J. G. (1979), « A Paradigm For Developing Better Measures of Marketing Constructs », **Journal of Marketing Research** , vol. 16, n° 1, p. 64-73.
- Cowling.A, Newman.K. (1995) "Banking on people: TQM, service quality and human resources", **Personnel Review**, Vol. 24 Issue: 7.
- Cronin, J.J. Jr., Taylor, S.A.(1992) “Measuring Service Quality: A Reexamination and Extension”, **Journal of Marketing**, 56(3), pp 55-68.
- Gerbing D. et Anderson J. (1988), « An Updated Paradigm For Scale Development Incorporating Unidimensionality and Its Assessment », **Journal of Marketing Research** , vol. 25, n° 2, p. 189-192.
- Gronroos.C, (1984), "A Service Quality Model and its Marketing Implications", **European Journal of Marketing**, Vol. 18 Issue: 4, pp.36-44
- Gronroos.C, (1984), "A Service Quality Model and its Marketing Implications", **European Journal of Marketing**, Vol. 18 Issue: 4, pp.36-44
- Hair J. J., Anderson R., Tatham R. et Black W. (1998), Multivariate Data Analysis, **Prentice Hall.**

- Jean.P, Nader.M and Bouchra.M. (2008), « la construction d'une échelle de mesure des problématiques de l'environnement tétranormalisé de l'entreprise (Application du paradigme de Churchill) », **5ème congrès de l'ADERSEA**.
- Matei, A, (2008) "Empirical Approaches about the Input-Output Model for the Local Economic Development: Case Study in Braila Municipality", **International Journal of Public Administration in Central and Eastern Europe**, No. 1, Available at SSRN: <http://ssrn.com/abstract=1317609>.
- Meehyang Chang, Han-Byeol Jang, Yi-Mei Li, Daecheol Kim (2017), « The Relationship between the Efficiency, Service Quality and Customer Satisfaction for State-Owned Commercial Banks in China», *Molecular Diversity Preservation International*, MDPI, **Journal Impact**, 2.23
- Militello F. (1998), Reassessing Corporate Banking Relationships, **Financial Executives Research Foundation**.
- Nunnally J. (1967), Psychometric Theory, **Mc Graw-Hill**.
- Osman M. Karatepe, (2011) "Do job resources moderate the effect of emotional dissonance on burnout?: A study in the city of Ankara, Turkey", **International Journal of Contemporary Hospitality Management**, Vol. 23 Issue: 1.
- Parasuraman, Zeithaml, Berry. (1985), "A conceptual model of service quality and its implication for future research(SERVEQUAL), **journal of marketing**.
- Roussel J., Durrieu F., Campoy E. et El Akremi A. (2002), Méthodes d'équations structurelles : Recherche et Applications en Gestion, Economica.
- Sabadie.W, (2003) "Conceptualisation et mesure de la qualité perçue d'un service public", **Recherche et Applications en Marketing**, vol .18, no .1, pp3-9
- Spacy.J, (2016) "10 Types of service quality", *simplicable business guide*; Available at: <http://simplicable.com/new/service-quality>.
- Stephen P. Osborne (1992), "Delivering Public Services: Time for a new theory? », **Public Management Review**.
- Wang Yonggui, Hing.P. Lo, Yer V. Hui, (2003) "The antecedents of service quality and product quality and their influences on bank reputation: evidence from the banking industry in China", **Managing Service Quality: An International Journal**, Vol. 13 Issue:1.
- Zhou.L, (2004) "A dimension-specific analysis of performance-only measurement of service quality and satisfaction in China's retail banking", **Journal of services Marketing**, 18; 34-46.