

QUALITY ON THE PORTUGUESE PUBLIC INSTITUTIONS AND THE CAF MODEL: EMPIRIC STUDY ON THE UNIVERSITY OF ÉVORA

Teresa Nogueiro

Margarida Saraiva

University of Évora, Management Department

Apartado 94, 7002-554

Évora/Portugal

tpn@uevora.pt, msaraiva@uevora.pt

Abstract

More and more Quality is seen as a competitive and distinguish factor between institutions. Institutions from Public Sector like Universities are no exception. It's urgent to evaluate their quality. But we wonder how to evaluate them? Why is it important? The degrees, the courses, the services that support all the University,...What? To evaluate the quality of degrees/courses taught on a Higher Superior Institution it was approved legislation to make compulsory its evaluation. What about the structures that support all the life of a Higher Superior Institution? Shouldn't their quality also be evaluated? What happens if, for instance, the Academic Services doesn't work properly or collapse? This service is considered as essential and fundamental on Higher Education Institutions.

The society is more and more demanding on professional terms. Therefore it is necessary to measure and evaluate that parameter in order to achieve Excellency throughout continuous improvement.

Evaluation is part of managing since the creation of the world (Kardec, Arcuri e Cabral, 2002) and leads to the continuous search for Excellency. According to Vught e Westerheijden (1995), the motives for the necessity of evaluating the Higher Education Systems are the increase of public expenses, the expansion of higher superior systems, more transparency of processes, the increase of students', teachers' and researchers mobility. But evaluate is not enough it's necessary to control the evaluated quality.

The Common Assessment Framework (CAF) is a quality self-assessment tool developed in the European Union for public institutions. In Portugal, this model is named "Estrutura Comum de Avaliação" and is faced as a starting point for continuous improvement.

The present Proposition to Apply the Model CAF is based on methodological instruments that "Direcção Geral da Administração e Emprego Público" (DGAEP) presents. The documents available consider a group of practical orientations already perfected and improved, regarding to experiences of public organizations to lead along Portuguese services and institutions that have already used CAF and benchmarking from other European countries, under the cooperation on European Union. The use of CAF will lead to a gradual improvement of the quality of the services and courses offered by the University of Évora, its administrative organisation, institutions' image, the increase of collaborators and clients' satisfaction and the capacity of intervention of the Executive and Top Managers.

On this paper, is presented a brief description of the CAF, their evaluation criteria's and its framing on national and European context. Following, an explanation of the CAF application process and the support tools for self-assessment. Finally it will be presented some final results obtained through the enquiries made to the undergraduate students and other type of clients of Academic Services.

For each institution to know the weak and strong points, the threats and opportunities of a service, a degree, a course, etc. is a matter of survival. But to survive it's not enough we must innovate and that is equal to quality. Quality must be evaluated and guaranteed by the parts involved in the process. With this research we would like to stimulate the use of a costless and easily manageable tool for self-assessment on public organizations like a University is.

Keywords

Common Assessment Framework (CAF), Quality, Quality Evaluation, Higher Education.

1. CONCEPTUAL FRAMING

The CAF was a result of co-operation among the EU Ministers responsible for Public Administration. It was jointly developed in 1998 under the aegis of the Innovative Public Services Group (IPSG), a working group of national experts set up by the Directors-General (DG) in order to promote exchanges and cooperation where it concerned innovative ways of modernizing government and public service delivery in EU Member States.

A first version of CAF was elaborated in 1998 by the IPSG, inspired by the Excellence Model of the European Foundation for Quality Management (EFQM) and the model of the German University of Administrative Sciences Speyer and the European Institute of Public Administration (EIPA), under the influence of the great orientation guidelines defined during the German presidency, on the first semester of 1999. Another CAF version was produced and tested during the Finish presidency on the second semester of 1999 and during the Portuguese presidency on the first semester of 2000.

This model has been continuously perfected. On the 2nd Conference of Quality of Public Administrations from European Union, in Copenhagen (Denmark), on October 2002, was presented the last version – CAF 2002. This version was a result of improvements introduced, based on information obtain through enquiries applied on 2001 concerning the use of this tool around Europe. The main objectives of these enquiries were to avoid redundancies, overlapping, to make easier the use of this tool and to do a glossary of terms.


In Portugal, the Direction-General from Public Administration (DGAP), while service responsible for the promotion of Quality and Innovation on Public Administration, put available the CAF 2002 reference document on a paper version or on digital support, on its web site.

The Common Assessment Framework (CAF) was inspired by the Excellence Model of the European Foundation for Quality Management (EFQM) but adopted on a more simplified form for Public Services. It's a way of public organisations know better their organisational performance and use the techniques of Quality Management.

This model is settled on a methodology based on objective criteria's, used for public organisations that presents a self-assessment process and emphasize the leadership, the continuous improvement, satisfaction of clients and all interested parts.

Table 1 presents on a schematic form the advantages and disadvantages when it is implemented on an organisation.

Table 1 – Advantages and disadvantages of the implementation of CAF model

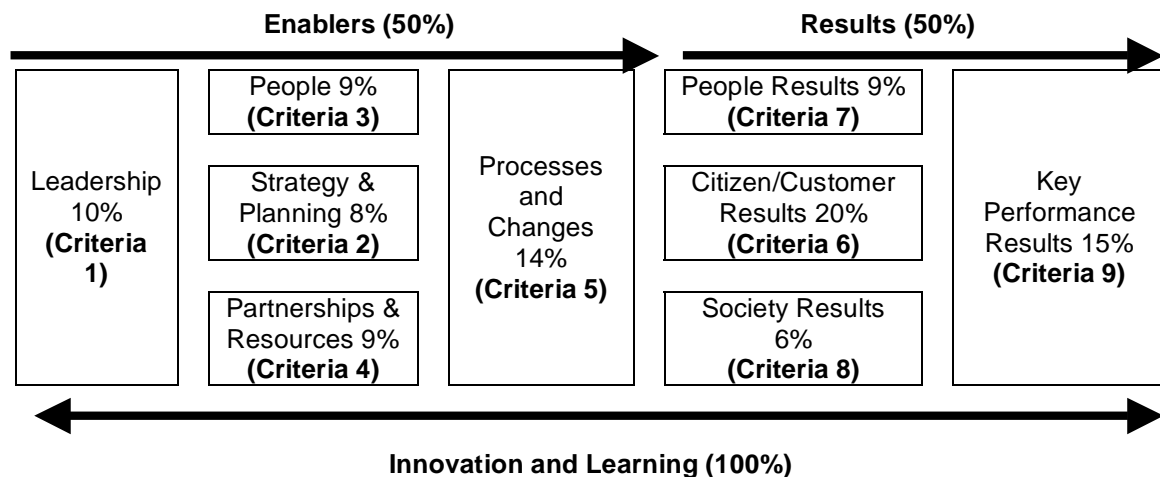
Advantages		Disadvantages
<ul style="list-style-type: none"> Improvement of the Management System Improvement of the real knowledge of the institution, strong points and areas to improve Information share Creation of bookmarks for quality control Definition of strategic orientations on an institutional level To systematize the tasks and understanding of its importance on the organisation context Increase of sensitization for quality questions Improvement of the Management System Improvement of the real knowledge of the institution, strong points and areas to improve 		<ul style="list-style-type: none"> Time to implement the model Information and formation of the intervenient Resistance to changes Process orientation on an uncertain context

Source: Self made

2. THE COMMON ASSESSMENT FRAMEWORK (CAF) MODEL

CAF is settled on a 9 structure criteria's corresponding to the main aspects of an organisation, considered in any organisational analysis. Those 9 criteria's of self-assessment are divided in 5 enablers' criteria's and 4 results criteria's. The enablers' criteria determine what the organisation does and how the tasks are developed to achieve the desired results (DGAP, 2003; Carapeto e Fonseca, 2006; Rocha, 2006; António e Teixeira, 2007).

Table 2 – Presentation of Common Assessment Framework Model



Source: Adapted from DGAP (2003), António e Teixeira (2007)

The Results criteria refer the results that are being achieved by the organisation, i.e., action's final product which show how well we are doing against the targets we may have settled for the organisation.

The conjugation of these nine criteria refer that the results are caused by enablers and enablers are improved using the outcomes of results. The results obtained by the organisation are a consequence of the action developed on several areas such as people, clients, processes, etc. That means that excellent results concerning Performance, Clients, People and Society are achieved through a strong leadership in Planning and Strategy, transferred by People, Partnerships and Resources and Processes (Lopes e Capricho, 2007)

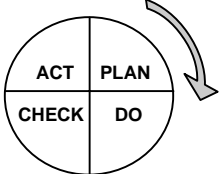
Per each criterion there is a list of sub-criteria which identify the main questions to be considered on the organisation assessment. Related to them there are feasible indicators that are capable to show a privileged action for quality management. This means that the organisation must act in a determined way or present determined results to be considered positive its management (Pires, 2004).

3. METHODOLOGY TO APPLY THE CAF

Taking in consideration the methodology proposed by DGAP, the CAF Model suggests a group of guiding lines to apply, with the purpose to guarantee a certain level of standardization on the assessment process. Therefore, the supporting guide from DGAP helps organizations to prepare the files for self-assessment, to do the evaluation of both criteria (enablers and results) and to analyse and to divulgate the results obtained. **Table 3** presents a scheme of those guidelines for using CAF.

On this manual was also included a glossary of terms used on total quality management. Since this is an introductory tool for quality its necessary the existence of theoretical and methodological concepts, which allows non experts to apply CAF.

Table 3 – Orientation guidelines for using CAF

Phases for self-assessment	<p><u>Phase 0: Decision and communication of self-assessment</u></p> <ul style="list-style-type: none"> • A high level of commitment and shared ownership for the senior management is crucial for middle managers to be convinced of the benefits of the model CAF • Before implementing CAF it is very important to increase the level of awareness and communication throughout the organisation, to settle the procedures and discuss the actions that will follow <p><u>Phase 1: Project leader nomination and self-assessment planning</u></p> <ul style="list-style-type: none"> • The leader will be responsible for managing the tasks and the logistics necessary as well as the planning for self-assessment • Accomplishment of a set of tasks related to data, information and necessary documentation for self-assessment as well as several supporting logistic tasks <p><u>Phase 2: Compose of self-assessment group</u></p> <ul style="list-style-type: none"> • The self-assessment group must be as representative of the organisation as possible. Normally it includes people from different sectors, experience, functions such as stakeholders representatives and senior management executives <p><u>Phase 3: Training of self-assessment groups</u></p> <ul style="list-style-type: none"> • A self-assessment group must choose the tools that will use (questionnaires, verifying lists, etc.) and determine the way that the punctuation will be used. For that reason they must be adequately trained for the comprehension and use of the model <p><u>Phase 4: Accomplishment of self-assessment</u></p> <ul style="list-style-type: none"> • Select the data for analysing each criteria using the punctuation on the analysed aspects
Assessment process	<ul style="list-style-type: none"> • On this phase it's demanded to do the comments about the Strengths points and the areas to improve on each sub-criteria of the enablers and results criteria's • But before comments the members of the self-assessment group must analyse evidence in function of the factors registered on assessment enablers planner that follows Deming's Cycle (PDCA) as well as the results and give punctuation to each sub-criteria. • Each criterion has six levels of alternative evaluation. The answers given in terms of evaluation are necessarily different according to either they are enablers or results criteria. Because of that it's used two different answers panels. The result of self-assessment depends totally on the rigour and honesty of the valuator. On the answers to each question valutors must find the best way to explain and justify them to an external assessor, basing their assessment on evidences and objective data on present structures, activities or organisational results. <p>The Deming cycle also known as Plan-Do-Check-Act Cycle (PDCA) is a systematic approach that helps organisation to manage on a better way the continuous improvement of products and processes.</p> <ul style="list-style-type: none"> • The cycle demands a plan (<i>Plan</i>), it's execution (<i>Do</i>), to verify the results (<i>Check</i>) and the definition of the proper actions (<i>Act</i>). • The PDCA means to apply a process by a cycling action in four fundamental steps. The following Figure illustrate the PDCA cycle:  <ol style="list-style-type: none"> 1. To Plan, the improvement demands the knowledge of clients needs. To examine the existing processes based on those needs help to develop an improvement plan. This step requests the identification of the problem and the proper data to be defined the more adequate action. 2. To Do keep up the implementation of the plan. 3. To Check is the step where the results obtained are analysed to determine if the purposes settled on step one were reached. 4. Based on results analyses it's time to Act. If the results are positive they should spread the model to all organisation and standardize the procedures, looking for new improvement opportunities. If the results are negative it's necessary to look over the "Planning" step and restart the cycle again.

Assessment panels – Enablers

Phases	Enablers panel
0	We are not active in this field. We have no information or very anecdotal.
1	We have a plan to do this. - P (Plan)
2	We are implementing/doing this.- D (Do)
3	We check/review if we do the right things in the right way. - C (Check)
4	On the basis of checking/reviews we adjust if necessary.- A (Act)
5	Everything we do, we plan, implement and adjust regularly and we learn from others. We are in a continuous improvement cycle on this issue. - PDCA

Assessment panels – Results

Phases	Results panel
0	No results are measured and/or no information is available.
1	Results are measured and show negative trends and/or results do not meet relevant targets.
2	Results show flat trends and/or some relevant targets are met.
3	Results show improving trends and/or most of the relevant targets are met.
4	Results show substantial progress and/or all the relevant targets are met. (<i>internal benchmarking</i>)
5	Excellent and sustained results are achieved. All the relevant targets are met. Positive comparisons with relevant organisations for all the key results are made. (<i>external benchmarking</i>)

Results of self-assessment: To do an improvement plan

Step 1: Hierarchy of improvement opportunities

(strength points to preserve or to optimize with the existing processes; to select the improvement opportunities)

Step 2: To define the improvement goals through hierarchized priorities

(targets to be reached on a way that allows to transform improvement opportunities into strength points)

Step 3: To elaborate the improvement plan by top management

(results that wish to be reached and indicators)

Step 4: To define the accompanying system of the improvement plan

(control actions to possible realigning)

Step 5: To communicate the improvement plan and the organisation training

(to motivate all collaborators and should be followed by training)

Step 6: Executing the plan and follow up

(new improvement cycle)

Source: Self made

On any methodology used on the application of quality self-assessment models the starting point is the willing of top management to support the process and to actively participate on it. Once the decision to do self-assessment is taken, the selected units must be the more adequate as possible to be evaluated among the ones that are willing to participate; assessment groups must be formed, including people of all management levels and of the more relevant functions.

The teams can choose the tools they want to use (questionnaires, verifying lists, etc.) and determine the way that the punctuation will be used these teams must be trained for the self-assessment process. After that it's time to collect the data and information, to determine the strength points and the areas to be improved.

If several departments of the organisation participate on the self-assessment cycle, the final results are collected and discussed on a superior level. After the self-assessment is done the conception and planning of improvement measures starts. The results will appear as planning actions with defined priorities, projects and goals. The self-assessment process is the base to a permanent control of progress, developed by top management.

If one organisation decides to implement the CAF one of its goal will be to know better the organisation. However, several obstacles can come up, such as the most common one the scepticism of people with regard to the use of the work to develop. But, at the end, the CAF aim at quality improvement to any level of the organisation, because it's a complete, systematic and regular exam of activities and results of one organisation, allowing the identification of strength points, sectors to improve, planned actions and stage control.

4. CAF MODEL AND THE EVALUATION OF ACADEMIC SERVICES: SOME RESULTS OBTAINED

The estimation of the sample for undergraduate students was based on the following Cochran's (1977) formula:

$$n_0 = \frac{(t)^2 \cdot (p)(q)}{(d)^2}$$

on which (t) is the estimated value for the 0,025 interval of confidence; (p)(q) is the estimated variance of 0, 25; and, (d) is the margin of error for the estimated proportion. Therefore, for the target-population of 5276 undergraduate students enrolled, the dimension of the sample was of 358 individuals. A total of 896 answered questionnaires were received. To analyse the questionnaires was used the Statistical Package for the Social Sciences commonly called SPSS, version 15.

For Academic Services internal collaborators and managers the questionnaires were applied to all both populations so, no sample was calculated.

Table 4 – Undergraduate Students: Results Obtained and Conclusions

	Results obtained	Conclusions
Personal Characterization	<ul style="list-style-type: none"> Average age of undergraduate students: 22 years old; 65,9% of respondents are 20-29 years old; 63,6% of respondents are female sex; 93,3% of respondents are single. 	The population of undergraduate students from the University of Évora is majority young, single and from the female sex.
Students Type	<ul style="list-style-type: none"> 89,5% of respondents are regular undergraduate students. 	The majority of respondent population is a regular student..
Degree of satisfaction concerning the global image of Academic Services	<ul style="list-style-type: none"> About the way that the services required were rendered, 71% was satisfy, 12,7% was unsatisfied and 7,4% had an indifference opinion; About the opinion concerning the sympathy of the employee of Academic Service: 54% was satisfy, 12,3% was very satisfy and, 19,1% was unsatisfied; 64,2% are satisfy with the courtesy and equality of the Academic Service reception but 15,2% was unsatisfied; 62,8% of respondents were satisfy with the receptivity of Academic Services employees to their requests but 17,1% of respondents were unsatisfied; 62,1% of the respondent students were satisfy with the clearness of the given information but 17,9% were unsatisfied; 52,3% of respondents have an indifference opinion concerning the diligence of corrective measures suggested by them or by others and 30,9% were satisfy; 68,8% of undergraduate respondent students were satisfy with the global performance of Academic Services but a total of 15,6% were unsatisfied. 	<p>The undergraduate students of the University of Évora are majority satisfied with the performance and global image of academic services.</p> <p>The exception item was the opinion concerning the diligence of corrective measures where the majority of respondents is indifferent.</p>
Degree of satisfaction concerning the accessibilities to Academic Services	<ul style="list-style-type: none"> 57,8% of respondents were satisfy with the accessibilities to the information that is supposed to be available by Academic Services but 21,3% were unsatisfied; 58,1% were satisfied and 20,2% were very satisfied concerning the decentralized Internet computer access to the Academic Services; 41,4% of respondents were unsatisfied and 11,4% were very unsatisfied concerning the opening hours, public reception and waiting times; 51,4% of respondents were satisfy with the location of Academic Services; 60,8% of respondent students were satisfy with the reception space; 52,7% were satisfy and 19,3% very satisfy with the existence of accessible payment means on Academic Services 	The inquired students on a general way were satisfied with the accessibilities of Academic Services. The weak points that must be eliminated are clearly the opening hours and waiting times.

Degree satisfaction concerning the services rendered by the Academic Services	<ul style="list-style-type: none"> 57,1% of respondents were satisfy the time to obtain an answer to a request and 22,2% of inquired students were unsatisfied; 62,7% of inquired students were satisfy with the forms available on Academic Services; 52% of respondents were indifferent to telephone reception done by the Academic Services; 56,7% of respondents were satisfied with the existence of on-line services available; 61,8% of respondent students were satisfy with the on-line useful information from the Academic Services webpage; 47,1% were indifferent and 38,7% satisfied with the contact established by electronic way; 53% of respondents revealed an indifference opinion but 33,4% were satisfy with the suitability of the answers given by the Academic Services to the requests done by email; 50,4% were satisfy with the variety of forms available on Academic Services webpage; 51,1% of undergraduate respondent students were indifferent with the item concerning the electronic sending of forms but 35,5% of respondents were satisfy with the service rendered; 48,8% were indifferent and 31% were satisfy with the answering time to claims. 	<p>The students are on a general way satisfied with the services rendered by the Academic Services. However there are several services rendered where the students are indifferent perhaps because of their non acquaintance or just because they never used them.</p>
Suggestions	<ul style="list-style-type: none"> Major information available concerning the Curricula transition process to Bologna; Diminution of answering waiting times; Improvement of installations for handicap people access; Improvement on personal and telephone reception; A better and a larger diffusion of important deadlines and important information; Decentralized service (an office per building); Better location preferably in the centre of the town with good accessibilities and parking place; A larger number of computer terminals; A quick and personalised reception; Efficient answers capable of diminishing the number of displacements of the clients to the Academic Services to solve their problems; Introduction of other ways of payment besides debit or credit cards and check and also to have the possibility to do them on Academic Services; Availability of application models; Applications less ambiguous and confuse; On time answers to the questions sent by email; Implementation of tickets for the reception; Payment of fees on Academic Services; Diffusion of the services rendered; To have available the timetable of the courses before the enrolment /inscription period; Better furniture and space for reception. 	<p>The undergraduate students are perfectly aware of the problems existent on the Academic Services of the University of Évora and they present their suggestions. The Academic Services have now some marks to improve their image, accessibilities and services rendered.</p>

Source: Self made

Table 5 – Collaborators and Managers: Results Obtained and Conclusions

	Resultados obtidos	Conclusões
Leadership: Vision, mission and values	<ul style="list-style-type: none"> 94,7% of the respondents know and understand the mission of the University of Évora; 89,5% of the respondent claim that the mission of Academic Services is lined up with the one from the University of Évora; 100% of the respondents' managers and collaborators state to know and understand the vision of the University of Évora, although the opinion about what it is differs. For the majority (73,7%) the institution intends to cooperate, to do research, to form, to serve the community and to do excellent cultural, scientific and technical exchange; 52,6% of the respondents affirm have had knowledge of vision's University through the statutes of the institution; 71,4% of the inquired respondents declare to know the vision of the Academic Services; Only 5 in 10 positive questions refer a definition for the 	<p>There is a long way for the leaders to run about the way they develop and carry out the mission, the vision and necessary values that will sustain on a long term the success of Academic Services. The communication processes and the enrolment of interested parts for the establishment of the mission, vision and values must be improved. There is a</p>

	<p>vision of the Academic Services although all different;</p> <ul style="list-style-type: none"> 70,6% of the people inquired declared have given their contribute to the construction of the mission and vision of Academic Services. The majority (47,1%) have done it through active communication of his/her suggestions and opinions to the chief; For 42,1% the essential values defended by the Academic Services are: experience, quality e excellence; 64,7% of the individuals answered to have knowledge of the values defended by the Academic Services when they have meetings with all the collaborators; 63,2% of the individual inquired assure that they were never asked to give their opinion about the values of the Academic Services; 7 of the inquired by their own initiative gave their opinion about the values of the Academic Services. Only one of them integrated a working group to elaborate the code of conduct and ethics; 75% of the respondents affirm not have knowledge of the strategic goals for the Academic Services. 	<p>need to clearly establish which are the values and the codes of conduct of the organization. It's necessary that the strategic (medium term) and operational goals (short term) and actions occurs from the transformation of the vision and own mission.</p>
Personal characterization	<ul style="list-style-type: none"> 89,5% are from feminine sex; 94,7% have ages between 30-39 years old 47,4% of the respondents are married (31,6% doesn't give any answer) 	<p>The personnel that Works on Academic Services is their majority from feminine sex, married and with an average age of 36 years old.</p>
Academic Certifications	<ul style="list-style-type: none"> 50% have higher superior qualifications and the other 50% have the secondary grade. 	<p>Both populations academically qualified.</p>
Professional characterization	<ul style="list-style-type: none"> On collaborators case we verify a balance between the time working in the University of Évora and the time working in the Academic Services; On managers level there is a big divergence between the time working in the University of Évora and the time working in the Academic Services. 	<p>The collaborators of the academic services have been supporting themselves along the years and they were admitted in their majority for the straight integration in these services after admission. The managers were placed in the Academic Services, in their majority, come from other services of the University of Évora.</p>

Source: Self made

5. CONCLUSIONS

Generically the purposes for performance evaluation process on organisations, among others, are to stimulate the quality improvement of the developed activities, to inform and to clarify the organisation and the society, to assure a more rigorous knowledge and a more transparent dialogue between the interested parts. Therefore, the CAF can be considered as a precious tool for the institutions that wish to establish a continuous improvement culture that can be cultivated by periodic exercises of critic self-assessment.

It's important to say that the CAF was developed as a tool of introduction to quality management, for simple use allowing public organisations to do self-assessment exercises with reduced risks and costs. On this board there are limits to its use as a tool of critical and detailed analysis. Organisations that wish to apply total quality management principles on a more rigorous and profound way have at their disposal more developed and detailed assessment models such as EFQM Model and the fourteen Deming principles.

The application of the CAF model will allow to progressively improve the service to the clients, administrative organisation (with no costs increase), and the internal and external image of the organisation and to increase collaborators satisfaction and intervention capacity of boarding

managers. So, the implementation of the model CAF on evaluation performance will allow at the same time, to approach the organisation to Excellence Model and to develop the concept of self-assessment from inside, putting it apt to develop a philosophy supported on Continuous Improvement.

We shouldn't forget that the true evaluation of quality passes on a Higher Superior Institution through the evaluation of services. CAF can inevitable be an instrument to be used to the introduction of a quality policy on any public institution and even to any context with the necessary adaptations. As we saw it's easy to use and the costs of it use are extremely low. However, not everything is an advantage. There are some limits of it use as an instrument of a critical and detailed self-assessment.

In general the use of this model will gradually lead the teaching and service rendered, the administrative organisation, the institutional image, the increase of clients' satisfaction and the intervention capacity of top and executive managers.

Some results obtained on this study allow us to foresee that a long way is still yet to look over by the Academic Services of the University of Évora to achieve Excellence. The evaluation made by the undergraduate students (main clients of this service) enrolled on the 2006/2007 academic year only evaluate this service as satisfactory. The evaluated items are institutional image, accessibilities and services rendered. The list of suggestions to achieve the "Very Good" level is long. Suggestions are very convenient, giving to us the impression of concern by these clients. They want to be attended on an accurate and adequate way. These marks are very important for the Academic Services to walk on the Excellence purpose.

The collaborators and managers questionnaire results also indicates that a long way is yet to run concerning the way the leaders develop and follow the mission, the vision and the necessary values that will sustain in the future the Academic Services of the University of Évora. These respondents declare that it is important the improvement of communication processes and the involvement of the parts interested in the formulation of the mission, vision and values. On the other side, they point out, in a clear form, the need of values and codes of conduct of the organization. They also tell that it is necessary that the establishment of strategic objectives (middle term), the operational objectives (short term) and the actions will drift of the transformation of the vision and of the mission itself.

References

- [1] ANTÓNIO, Nelson Santos e TEIXEIRA, António (2007), *Gestão da Qualidade – de Deming ao Modelo de Excelência da EFQM*, Edições Sílabo, Lisboa.
- [2] CARAPETO, Carlos e FONSECA, Fátima, (2006), *Administração Pública: Modernização, Qualidade e Inovação*, 2ª Edição, Edições Sílabo, Lisboa.
- [3] COCHRAN, W.G. (1977), *Sampling techniques*, 3rd edition, John Wiley & Sons, New York.
- [4] DGAP – Direcção-Geral da Administração Pública (2003), *Estrutura Comum de Avaliação (CAF)*, Lisboa, disponível na WWW: <URL: http://www.dgap.gov.pt/docs_down/caf_giq/estrutura_comum_avaliacao-CAF/caf_v2003.pdf >.
- [5] KARDEC, Alan, ARCURI, Rogério e CABRAL, Nelson, (2002) *Gestão Estratégica e Avaliação do Desempenho*, Qualitymark Editora Ltda, Rio de Janeiro.
- [6] LOPES, Albino e CAPRICHIO, Lina (2007), *Manual de Gestão da Qualidade*, Editora RH, Lda, Lisboa.
- [7] PIRES, A. Ramos (2004), *Qualidade, sistemas de gestão da qualidade*, Edições Sílabo, Lda, Lisboa.
- [8] ROCHA, J.A.O., (2006), *Gestão da Qualidade, Aplicação aos Serviços Públicos*, Escolar Editora, Lisboa.
- [9] VUGHT, Franz van and WESTERHEIJDEN, Don F., (1995), "Quality measurements and Quality Assurance in European Higher Education" in C. Pollit G. Bouckaert, eds. *Quality Improvement in European Public Services*. Sage Publications, London, 31-57.