

# A COMPARISON BETWEEN THE BRAZILIAN NATIONAL QUALITY AWARD AND THE MALCOLM BALDRIGE NATIONAL QUALITY AWARD FROM THE USA

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**Abstract.** *One of the precursors of quality awards is the Malcolm Baldrige from the USA. After its introduction in the end of 80's a number of awards has been created all over the world. The Brazilian National Quality Award ('Prêmio Nacional da Qualidade – PNQ') is one of these initiatives. It completed the 12<sup>th</sup> cycle in 2003 and has helped to spread out total quality management programs. This paper compares the current Brazilian award with the American's. The conclusions show that although the Brazilian award was strongly based on the American one in the past, now it establishes its own identity. In some way, PNQ has implemented more drastic alterations in comparison to its counterpart in the USA.*

**Key-words:** PNQ, quality award, quality management, total quality management, TQM

## 1. INTRODUCTION

It is undeniable that quality awards have been considered as an effective way to pursuit quality excellence in many countries all over the world. Companies have reported that their implementation not only improved quality but also has lead to improvements in market share, customer satisfaction, profit, processes, supplier performance, employ morale and competitiveness (Miguel, 2004). The major awards come from the USA (MBNQA - Malcolm Baldrige National Quality Award), Europe (European Quality Award) and Japan (Deming Prize). They have consolidated as worldwide references for achieving organizational excellence. Following this trend, many other nations also have established quality awards, e.g. the Brazilian National Quality (PNQ) award discussed in this paper. PNQ is currently comparable to some of the major prizes (see Miguel, 2001). Although some comparisons among the awards have been published (e.g. Tan, 2002), they reflect the current state-of-the-art of these awards since they usually suffer from minor or major changes from year to year. These changes are necessary since the criteria for excellence have continually incorporated in its requirements the most up to date and well succeeded management practices (FNPQ, 2004).

The first PNQ cycle was in 1992. According to FPNQ (2004), that time MBNQA was fully adopted as the PNQ criteria for excellence. The major reason for adopting Baldrige was because it had established a comprehensive set of criteria without prescribing methods or tools for management (FPNQ, 2004). In 1995, for instance, significant changes were made following the major evolution trends of management technology. Since 1997, several changes were performed in the Brazilian award process until 2000 when FPNQ published an innovative PNQ after year of experience gained with the award process, interaction with MBNQA and benchmarking with other awards in the world. The result was an award with its own identity modifying the strong similarity with the American award. In this sense, the aim of this paper is to present a comparison between PNQ and MBNQA. The paper describes both awards and identifies their similitude and differences.

## 2. THE NATIONAL QUALITY AWARD OF BRAZIL

The National Quality Award of Brazil (PNQ) is managed by the Fundação para o Prêmio Nacional da Qualidade – FPNQ (National Quality Award Foundation), a private and non-profit organization established in 1991, created by the initiative of 39 public and private institutions from different industrial and service sectors. The award was officially launched in 1992. The primary purpose of the award is to support, encourage and recognise the development of effective total quality management by companies operating in Brazil. Its criteria and assessment stages are designed to help identify organisational strengths and areas for improvement.

Five categories of companies can be awarded, namely: large organisations (more than 500 full time employees); medium-sized enterprises (between 51 and 500 full time employees); small-sized companies (up to 50 full time employees); non-profit organisations, and government institutions. Table 1 shows the winners of the award from 1992 to 2003.

Table 1. Winners of the Brazilian Quality Award (Source: FPNQ, 2003a).

Year	Company (Category)
2003	Dana Albarus – Divisão de Cardans (Large Organizations) Escritório de Engenharia Joal Teitebaum (Medium-sized Organizations)
2002	Gerdau Aços Finos Piratini (Large Organizations) Polítecnico Indústria e Comércio S/A (Medium-sized Company) Irmandade de Santa Casa de Misericórdia de Porto Alegre (Non-profit Organization)
2001	Bahia Sul Celulose (Large Organization)
2000	Serasa (Large Organisation)
1999	Cetrel S.A. (Medium-sized Company) Caterpillar (Manufacturing)
1998	Siemens (Manufacturing)
1997	Weg Motores (Manufacturing) Copesul - Companhia do Sul (Manufacturing) Citibank Corporate Banking (Services)
1996	Alcoa - Poços de Caldas (Manufacturing)
1995	Serasa (Services)
1994	Citibank (Services)
1993	Xerox do Brasil (Manufacturing)
1992	IBM Sumaré (Manufacturing)

The number of applicants has been growing since 1992. In 2003, it was 22 organizations, a slight reduction if compared to 2002 (31 applicants). Most applicants were large organizations (about 68%), within the industrial sector (approximately 60%), and half applicants located within the Southeast region of Brazil (FPNQ, 2003b).

Since the award introduction, a number of changes has been made periodically. Generally, the criteria are updated yearly, with major overhauls occurring every two years or so. The purpose of this updating is to reflect the evolution of the criteria according to the progress of management systems. For instance, the 2004 Criteria for Excellence were improved in terms of objectivity and clearness in an attempt to be used by any type of organization, public or private, for-profit and not-for-profit regardless of its industry (FPNQ, 2004).

### 2.1. Core Values and Performance Excellence Criteria

The award criteria are built on a set of core values and concepts which are consistent with those of highly successful organisations. These core values and concepts include (FPNQ, 2004): leadership and constancy of purposes, vision of the future, focus on the customer and in the market,

social responsibility and ethics, decision by fact, valuing people, process perspective, focus on results, innovation, agility, organization learning, and systems perspective. More details of these core values can be found in FPNQ (2004).

The evaluation framework of the Brazilian Quality Award is depicted in Figure 1. It comprises 8 evaluation criteria, sub-divided into 27 items.

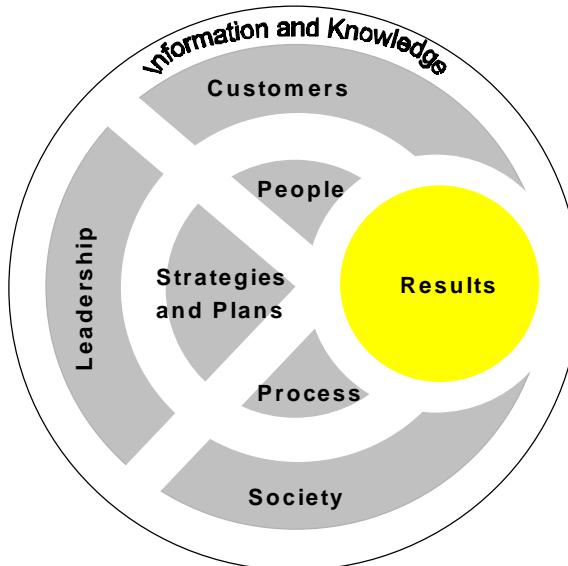


Figure 1. PNQ Excellence Model<sup>®</sup> (FPNQ, 2004).

Table 2 shows the eight examination criteria including a number of items in each criterion, and the weighting attached to each one. Applicants must address these set of examination items. As can be seen, the model uses a 1,000-point scoring system. The award relies on three dimensions for determining the numerical score of the examination items. The term scoring refers to the process of identifying strengths and areas for improvement, named improvement opportunities. The dimensions considered are approach, application and results. Applicants are required to provide information relevant to the evaluation dimension(s) specified for a particular examination item. Each dimension of an examination item (from approach and application, or results) is given a score of 0 to 100%, in increments of 10%, depending on its level of merit. The percentage score multiplied by the point value for that item produces an item by item score for the application. The final score is a sum of all scores for each item. Both the final score and the report of strengths and opportunities for improvement is carried out with the assistance of a software, called Sideral<sup>®</sup>, specially designed by any company (and examiners) to use when conducting the award process.

The Sideral<sup>®</sup> software has been successfully used since 1996 by the board of examiners to the PNQ, to specific regional and sectorial ones and to others in-company self-assessment processes and awards. It is also possible to have a version under MBNQA-like assessment processes. It is composed by two modules: examiner and support. The examiner module is used by examiners for the assessment registration process and data interchange (data encryption assures confidentiality) among examiners of the same team and between senior examiner and the award coordinator. The support module is optionally used by the award coordinator in order to automatically compose comparative figures of the candidates' results and process reports, including a feedback report generation in text format. It handles candidates assessment data and issues reports and compared graphics to the judge board.

The software keeps record of the individual and consensus reviews (described at the following section in this paper), controls secure data exchange among examiners, helps the site visit planning/record keeping, views/prints standard forms, supports the compilation of the final feedback report and allows examiners appraisal to be registered by the senior examiner.

Among the software features it can be named (Compumax, 2003): file names named after examiner number input, assessment selection by candidate name, multiple comments panel (for

writing comments related to strengths and improvement opportunities), and off-line examiners activities sequencing site-visit re-scoring by item.

Table 2. Criteria, Items and Scores of the National Quality Award of Brazil.

Criteria and Items for the 2004 Cycle	Maximum Score
<b>1. Leadership</b>	<b>100</b>
1.1 Leadership system	30
1.2 Culture of excellence	40
1.3 Organizational performance review	30
<b>2. Strategy and Plans</b>	<b>90</b>
2.1 Strategy formulation	30
2.2 Strategy deployment	30
2.3 Performance measurement planning	30
<b>3. Customers</b>	<b>60</b>
3.1 Image and market knowledge	30
3.2 Customer relationship	30
<b>4. Society</b>	<b>60</b>
4.1 Social and environmental responsibility	30
4.2 Ethics and social development	30
<b>5. Information and knowledge</b>	<b>60</b>
5.1 Organizational information management	20
5.2 Comparative information management	20
5.3 Intellectual capital management	20
<b>6. People</b>	<b>90</b>
6.1 Work systems	30
6.2 Training and development	30
6.3 Quality of life	30
<b>7. Process Management</b>	<b>90</b>
7.1 Product process management	30
7.2 Support process management	20
7.3 Supplier process management	20
7.4 Economical and financial management	20
<b>8. Results</b>	<b>450</b>
8.1 Customer and market results	100
8.2 Economical and financial results	100
8.3 People results	60
8.4 Supplier results	30
8.5 Product process results	80
8.6 Society results	30
8.7 Organizational and support process results	50
<b>TOTAL</b>	<b>1000</b>

## 2.2. Award Evaluation Process

The applicant's management system are reviewed and evaluated by member of the Board of the Examiners in a three stage process (FNPQ, 2004):

Individual review: the Application Report is individually reviewed by a group of up to ten examiners. Once the review is completed, charts and tables with the average score are sent to the judges for review. The judges, based on the applicants' score and award categories and without knowing their names, determine the applicants that will proceed in the review process.

Consensus review: the Application Reports of applicants that goes to this stage are reviewed by a smaller but more experienced group consisted of one senior examiner, one reporter examiner and best four examiners of last stage. The examiners determine consensus score to each of the 27 items. Once the review is completed, charts and tables with the average score are sent to the judges for review. The judges, based on the applicants' score and award categories and without knowing their names, determine the applicants that will be visited.

Site visit: site visits to select applicants are conducted by usually the same six examiners of stage 2. The number of examiners is always a function of the applicants' size. The major objective of site visits is to confirm the responses included in the Application Report as well as to clarify any doubts occurred during review. Site visit planning is agreed by the applicants and the FPNQ. Detailed agenda is presented in the beginning of the visit. After site visit, the examiners issue a report with the major conclusions of the visit and a final score which are sent to judges for their final review and recommendations of award recipients.

When using the Sideral® software, it allows to work on the three above stages of the award process. In the first stage, the ten examiners evaluate and send individual review data (comments and ratings) to the senior examiner who prepares the feedback report, optionally with the help of the reporter examiner. In the second stage, the four examiners and the report examiner, leaded by a senior examiner, go to the consensus meeting conducted by the senior examiner who prepares the feedback report, optionally with the help of the reporter examiner. Finally, in the third and last stage, the selected examiners from previous stage, leaded by the senior examiner, prepare site visit checkpoints based on the previous phase feedback report and conduct the site visit. At the end of the visit the checkpoints are rated, the feedback report is adjusted and a recommendation for the judges is raised.

Having presented the Brazilian award, attention is turned to the American award, MBNQA, which is described next.

### **3. MALCOLM BALDRIGE NATIONAL QUALITY AWARD (MBNQA)**

The US Department of Commerce is responsible for the Baldrige National Quality Program and the Award. The National Institute of Standards and Technology (NIST), an agency of the Department's Technology Administration, manages the Baldrige Program.

The award was created in 1988 and, for 16 years, the Baldrige Criteria have been used by thousands of US organizations to stay abreast of ever-increasing competition and to improve performance. The criteria provides a framework that can help companies to plan in an uncertainty environment. In addition, it can help organizations align resources and approaches, such as ISO 9001, Lean Enterprise, Balanced Scorecard, and Six Sigma; improve communication, productivity, and effectiveness; and achieve strategic goals (NIST, 2004).

The Criteria are the basis for organizational self-assessments, for making awards, and for giving feedback to applicants. In addition, the Criteria have three important roles in strengthening US competitiveness (NIST, 2004):

- To help improve organizational performance practices, capabilities, and results;
- To facilitate communication and sharing of best practices information among US organizations of all types;
- To serve as a working tool for understanding and managing performance and for guiding organizational planning and opportunities for learning.

The Criteria are built upon the following set of interrelated core values and concepts: visionary leadership; customer-driven excellence; organizational and personal learning; valuing employees and partners; agility; focus on the future; managing for innovation; management by fact; social responsibility; focus on results and creating value; system perspective. It is understood that these values and concepts are embedded beliefs and behaviours found in high-performing organizations. They can be considered as the foundation for integrating key business requirements within a results-

oriented framework that creates a basis for action and feedback. These core values and concepts are embodied in 7 criteria and 19 items showed in Table 3.

Table 3. Criteria, Items and Scores of the Malcolm Baldrige National Quality Award.

Criteria and Items for the 2004 Cycle	Points Values
<b>1. Leadership</b>	<b>120</b>
1.1 Organizational leadership	70
1.2 Social responsibility	50
<b>2. Strategic Planning</b>	<b>85</b>
2.1 Strategy development	40
2.2 Strategy deployment	45
<b>3. Customer and Market Focus</b>	<b>85</b>
3.1 Customer and market knowledge	40
3.2 Customer relationship and satisfaction	45
<b>4. Measurement, Analysis, and Knowledge Management</b>	<b>90</b>
4.1 Measurement and analysis of organizational performance	45
4.2 Information and knowledge management	45
<b>5. Human Resources Focus</b>	<b>85</b>
5.1 Work systems	35
5.2 Employee learning and motivation	25
5.3 Employee well-being and satisfaction	25
<b>6. Process Management</b>	<b>85</b>
6.1 Value creation process	50
6.2 Support process	35
<b>7. Results</b>	<b>450</b>
7.1 Customer-focused results	75
7.2 Product and service results	75
7.3 Financial and market results	75
7.4 Human resource results	75
7.5 Organizational effectiveness results	75
7.6 Governance and social responsibility results	75
<b>TOTAL</b>	<b>1000</b>

#### 4. A COMPARISON BETWEEN PNQ AND MBNQA

As expected, the objectives of both awards are quite similar, since the PNQ is, in fact, derived from the MBNQA. However, after more than 10 years of experience, it can be said that the Brazilian award achieved its own identity. Then, it is possible to note differences between the awards in the core principles, criteria and items, and point values. Firstly, Table 4 shows a comparison between the core values. As can be seen in the table, the core values are similar although there is a certain degree of variance. Some Brazilian core values are less wider than the MBNQA's. For instance, MBNQA includes 'personal learning', valuing 'partners', 'managing for' innovation, and 'creating value'. On the other hand, PNQ includes 'ethics' with social responsibility (the former is to be, in fact, implicit in the latter) and a separate core value: process perspective that is also tacit in the Brazilian model. This used to be a core principle in PNQ a couple years ago. There are many similarities in the contents (i.e. the description) of the core values. For a more detailed analysis of the contents refer to PNQ (2003a) and NIST (2004).

Table 4. Core Values and Concepts of PNQ and MBNQA.

PNQ Core Values	MBNQA Core Values
Leadership and constancy of purposes	visionary leadership
Focus on the customer and in the market	customer-driven excellence
organization learning	organizational and personal learning
valuing people	valuing employees and partners
agility	agility
vision of the future	focus on the future
innovation	managing for innovation
decision by fact	management by fact
social responsibility and ethics	social responsibility
focus on results	focus on results and creating value
systems perspective	system perspective
process perspective	-

Concerning the criteria and items, the differences are more sensitive. Since the 2003 cycle, the Brazilian award considers 8 criteria and now (2004) 27 items against 7 criteria and 19 items of its American counterpart. It seems that PNQ criteria tries to be more explicit, for instance, including items such as culture of excellence, organizational performance review, performance measurement planning, comparative information management, supplier process management, and economical and financial management. These items are within the American criteria but without being defined in terms of item title. Nevertheless, MBNQA considers aspects of motivation (item 5.2) and value creation (6.1) which are not present in the Brazilian model.

In terms of results, PNQ is wider in terms of number of items for results, obviously, to reflect the larger quantity of items for approach and application. A more emphasis in the society is given in the Brazilian award not only for having a specific criteria for analysing aspects related to ethics, social and environmental responsibility but also for scoring a little bit more (50 points in the MBNQA against 60 points in PNQ). Table 5 shows similar items in a comparison between the two awards (points value by brackets). At the stage of this study, this comparison considers the titles of the items and restrictedly their contents.

The end of Table 5 shows a sum up of the comparable items for both awards. It can be seen that the MBNQA covers more ground in terms of total points. On the other hand, a number of PNQ items was not considered since they do not have a clear correspondence with MBNQA's. These items are: culture of excellence (1.2), performance measurement planning (2.3), comparative information management (5.2), supplier process management (7.3), economical and financial management (7.4), and supplier results (8.4). One can argue that these items are embedded in others. However, this could be the case of 'culture of excellence', because these are criteria for excellence and the applicants should have some sort of culture in this direction. Otherwise, it would be difficult to have a good performance in the evaluation process.

The item 'performance measurement planning' could be part of the organizational leadership (item 1.1 in the MBNQA). This item "requests how the organization defines and implements its performance measurement systems and establishes targets to reinforce its strategies to all stakeholders, to support senior leaders in the evaluation and review of organization directions to enable learning through cause-effect relationship among indicators and to monitor performance in all areas and levels of the organization" (FNPQ, 2004). Although, it is not prescriptive, it suggests the presence of a performance measurement system in order to fulfil this request.

Additionally, the reason why the American award does not consider the supplier, a relevant stakeholder, as a separate item for approach and application, and result is a question that is still be addressed. Perhaps the reason why this happens is because American suppliers have already reach a quality level that can be considered sufficiently good for not having a specific supplier management system put in place, which does not seem the case. Another interesting aspect when comparing the

items relative to the process approach is that the American award gives more value to the value creation process and support process than the PNQ. The term ‘value creation’ refers to processes that produce benefits for the customer and for the business. MBNQA considers those the process most important to run the business, those that involve the majority of employees, and generate the products, services, and positive business results for the stakeholders (NIST, 2004). With this broad definition, either supplier management process or economical and financial process can be considered as value creation processes. If this is the case, the score for process management criterion for both awards is similar (PNQ is 90 and MBNQA is 85). Regarding economical and financial management, PNQ considers this as a separate approach and application item. The reason is to justify part of the economical and financial results (item 8.2), i.e. the organization should have a clear approach to deal with economical and financial activities in order to achieve satisfactory results. In other words, a good economical and financial performance is not only a consequence of all management practices.

Table 5. Comparison of items between PNQ and MBNQA.

PNQ Items	MBNQA Items
1.1 Leadership system (30) 1.3 Organizational performance review (30)	1.1 Organizational leadership (70)
2.1 Strategy development (30) 2.2 Strategy deployment (30)	2.1 Strategy development (40) 2.2 Strategy deployment (45)
3.1 Image and market knowledge (30) 3.2 Customer relationship (30)	3.1 Customer and market knowledge (40) 3.2 Customer relationships and satisfaction (45)
4.1 Social and environmental responsibility (30) 4.2 Ethics and social development (30)	1.2 Social responsibility (50)
5.1 Organizational information management (20) 5.3 Intellectual capital management (20)	4.2 Information and knowledge management (45)
6.1 Work systems (30) 6.2 Training and development (30) 6.3 Quality of life (30)	5.1 Work systems (35) 5.2 Employee learning and motivation (25) 5.3 Employee well-being and satisfaction (25)
7.1 Product process management (30) 7.2 Support process management (20)	6.1 Value creation processes (50) 6.2 Support processes (35)
8.1 Customer and market results (100) 8.2 Economical and financial results (100) 8.3 People results (60) 8.5 Product process results (80) 8.6 Society results (30) 8.7 Organizational and support process results (50)	7.1 Customer-focused results (75) 7.3 Financial and market results (75) 7.4 Human resources results (75) 7.2 Product and service results (75) 7.6 Governance and social responsibility results (75) 7.5 Organizational effectiveness results (75)
Total comparison score: 790	Total comparison score: 955

MBNQA item ‘measurement and analysis of organizational performance’ (item 4.1; 45 points) is not present at Table 5. Management activities of this item are similar to the ‘organizational performance review’ (item 1.3; 30 points) from the PNQ criteria. However, MBNQA also takes into account the ‘measurement’ for this item. In the PNQ criteria, the measurement might be more related to ‘organizational information management’ (20 points) and ‘comparative information management’ (20 points). In this line of thought, the information in Table 5 should be changed. Firstly, there would be an unbalance with regard to leadership score (‘leadership system’ with 30 points in the PNQ against ‘organizational leadership’ with 70 points in the MBNQA). Then, part of the score of ‘organizational information management’ in the PNQ criteria should be comparable to ‘measurement and analysis of organizational performance’ in the MBNQA criteria. It is worth mentioning that it is part of the score of ‘organizational information management’ because there is a

similarity between this items and ‘information and knowledge management’ of the MBNQA (45 points; item 4.2). Figure 2 depicts this idea by using an interrelationship diagram.

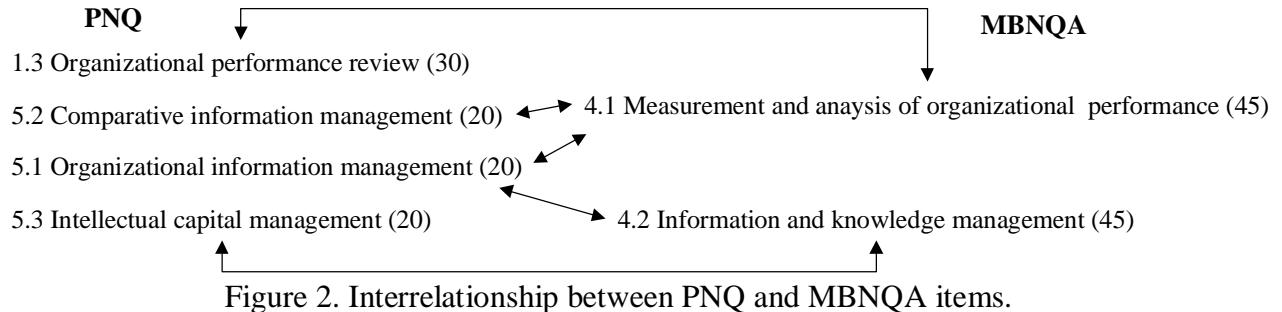


Figure 2. Interrelationship between PNQ and MBNQA items.

As can be seen in Figure 2, although there are four PNQ items and two MBNQA ones, both titles and total score (90 for each item sum up) reflect a balance of this analysis. Nevertheless, at this stage of this study, it is needed to be cautious because a more in-depth analysis in terms of item contents would be necessary. This is one of the next steps of this study.

## 5. FUTURE RESEARCH WORK

Since this project is not completed, a number of future studies can be proposed. Some of them are already being conducted but their results are not available yet. The project proposal involves: analyze the relationship between the core principles and MBNQA criteria and items, conduct a benchmarking study between MBNQA and other world wide quality awards; and perform case studies of recent award winners in Brazil compared to the ones in the USA.

The aim of the first part of the proposal is to identify the alignment and the weight of core principles in criteria and items. The methodology will involve gathering information to construct a QFD matrix as a decision making tool to weigh the core principles. An illustration of a matrix can be seen in Figure 3. The deliverable: analysis of the balance of core principles according to criteria, and items.

MBNQA Criteria and Items (C&I)	Core Principles (CPs)	Level of Importance (score)		
		Strong (x 9)	Moderate (x 3)	Weak (x 1)
	◎ ◎	◎		
	△ ○ △		○	△
	△ △			
	○ ○ △			
Relationship: C&I x CPs		Weight		
		(in blank) No relationship		

Figure 3. Preliminary Example of a Matrix.

The second part of the proposal is to conduct a benchmarking study between MBNQA and other world wide quality awards in order to compare the awards. The methodology is by carrying out literature review on papers and reports by gathering information from the quality award institutions all over the world. The main deliverable is having a better understand of the state-of-the-art of MBNQA criteria in comparison to other awards and checking the criteria evolution and possibly provide improvements and trends for the future. Previous work of this kind can be found in Miguel (2001).

The final part of the project proposal is to Perform case studies of recent award winners in Brazil compared to the USA. The aim is to compare award applications of some recent winners in

both countries. The deliverable can be a comparative benchmark report on the differences in management practices in both countries. Previous work of this kind can be found in Miguel (2004).

The results of this further research work will be published later in the future.

## 6. CONCLUDING REMARKS

The first concluding remark that can be drawn from this preliminary work is that the PNQ has evolved to reach its own model. In the beginning, PNQ used to be a Portuguese version of the MBNQA. Of course, there are still many similarities between them which are inherent to these kind of models. They must reflect the state-of-the-art of management practices in the globe.

The core principles and values are quite similar and they should continue to be the basis for criteria and items. Concerning the criteria and items, the major difference between the PNQ and the MBNQA is the number of criteria and items. This could indicate the necessity of a more detailed view of criteria and items in the PNQ, specially to fulfil interests of applicants thus facilitating to write a more concise and precise application management report. Now it is essential to compare the detailed contents of each award, examining not only criteria and items, focused in this paper, but also to investigate the structure of the items considering the major and minor topics for each of them. Additionally, as previously stated, further work will involve a more in-depth investigation with regard to the relationship between core principles and criteria and items, benchmarking other awards and the conduction of case studies in organizations that adopted the criteria for excellence.

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