Quality in Museums

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From the Concept of Public Quality to the Adoption of Total Quality Management Models in Museums

Massimo Negri[1]

1. A Lecture in Mexico

This paper summarizes a lecture held in the Museo de San Carlo of Mexico City in October 2007. The audience was made up basically of museum professionals (encouragingly, rather young ones, from a European point of view) interested in a topic which apparently is not frequently discussed in Mexico and other Latin American countries, that is to say the application of Quality Management Models to museums. A subject which is also at the beginning in Europe and which presents a wide variety of applications in the daily running of museum's matters according to the individual situations and national context. For me to deal with this topic was very special. Having taken part in Italy into the experience which brought to the compilation of the first book on this item published in my country (and I suppose one of the first ones, if not the first one, also at the European level i.e. *La cultura della qualità nei musei* edited by Massimo Negri and Margherita Sani, CLUEB Bologna 2003, ISBN 88-491-1700-0.) and having "celebrated", in 2007, 25 years of activity as a judging member of the European Museum of the Year Award (EMYA) , I found myself in the dilemma of focusing on the core business of EMYA which has basically meant assessing new museums (or museums largely renovated, as EMYA is devoted to recognizing innovation in museums) of any kind, evaluated through direct visits "on the spot" , or dealing mainly on the experimental use of the European Foundation Quality Model (EFQM) in the museums field carried out in Italy as a part of a project supported by the Cultural Heritage Institute of the Emilia-Romagna Region some years ago. The first aspect meant I would base my speech on the experience done in practice, assessing hundred of museums over the years (EMYA has involved so far more than 1600 museums in more than 40 European countries) , an empirical approach founded on the use of an evaluation grid which the members of the EMYA Committee have elaborated starting from Kenneth Hudson's intuition of the so-called "Public Quality of Museums" , a concept to which we'll refer more in details later, that we can express in terms of assessing a museum "from the point of view of visitors". The second approach referred to a contamination between the culture which has grown about the Total Quality Models, historically originated in the business field, and the needs and features of a specific cultural organization, i.e. the museum. There was an obstacle, among the others, in taking the decision, particularly because any model necessarily implies a certain level of standardization (conceptual and or methodological) and by definition museums (differently from libraries and archives, for instance) perceive themselves (when are not perceived by the others) as "a world apart" where everyone is different and comparison (which are the heart of assessment and evaluation) are blaspheme.

If every collection is unique, by definition, how can I be forced into any sort of predetermined scheme, instrumental to an evaluation process and consequently to a continuous improvement process, which in the end is the goal of any Quality policy?

Squeezed among these two alternatives, I preferred to share with my Mexican audience simply a series of experiences, feelings, elements and reflections which at least had the advantage to come from practical experience, leaving open all the areas of contradictions, ambiguity and uncertainty which implies the move from an empirical approach to a more structured one without aiming at a general theory or at the definition of a complete set of tools for activating a Total Quality policy in a museum. By the way, one of these tools (of primary importance) is made available in the context of this publication under the title "Models for Quality Management" and consists into a kit for the self evaluation of museums which is

[1] European Museum Forum Director

the result of a one year work carried out by a group of Italian museums professionals in 2000 which has raised some attention in Italy and given the way to some further experimental application in different contexts.

Consequently my lecture started with a short overview on how we've been assessing museums (which means "evaluating" them) since 1977 in view of the European Museum of the Year Prize giving.

2. An Empiricist Approach to the Topic of the Quality in Museum: the Experience of EMYA

To understand the meaning of the EMYA/EMF's experience (EMF stays for European Museum Forum, the organization which runs EMYA) it is necessary to give some basic information about the organization and its Awards'scheme.

The European Museum Forum Identity Card can be summarized as follows:

- EMF is an independent organisation founded in 1977 by *Kenneth Hudson* and registered as a Charity Trust in the UK.
- It operates under the auspices of the *Council of Europe* and under the patronage of *Her Majesty Queen Fabiola of Belgium*
- The *Secretariat* of EMF has its head office in Bristol (UK), EMF maintains an Archive at the *Institut für Museumskunde* in Berlin (DE)
- Runs the European Museum of the Year Award scheme and related prizes (namely the Council of Europe Museum Prize)
- Organizes workshops, researches, etc.

In 2007 EMF celebrated 30 years of experience in search of excellence developed year after year through

- The European Museum of the Year Award,
- The Micheletti Award,
- The Council of Europe Museum Prize.

At the core of EMF assessing activity there is the idea generated by its founder , the late Kenneth Hudson, of the museum as *"a package of qualities"*. The three Awards mentioned above aim at recognising excellence providing its public with the benefits of its "Public Quality".

> "The *"public quality*" of a museum is the extent to which it satisfies the needs and wishes of its visitors […] One could almost translate "*public quality*" as "the sum of a museum's public virtues". These are not necessarily the same as its professional virtues and in many museums the two are often seen to be in conflict.
> [...] the public virtues are the methods employed to use the professional virtues in the service of the public […]
> In commercial terms: *the customer is always right*, a criterion which is defensible only if one is constantly trying to improve the task and heighten the expectations of the customers…."[2]

[2] *The Concept of Public Quality in Museums* (Kenneth Hudson 1997)

Kenneth Hudson has clarified his idea of what the Public Quality of a museum is in other occasions:

> "In order to assess the public quality of a museum, there are four or five details that we need to think about specially. First, has the museum got interesting things to show? Second, you have to ask, 'are they well interpreted, are they well presented?' Then you have to decide what the atmosphere of the museum is like. Is it friendly and welcoming or is it cold and clinical? There are, as we all know, museums of both sorts. You then have to ask what the public amenities are like. Is it easy or even possible to park a car? Is there a convenient and safe place to leave a wet coat or hat? Is there a restaurant or café in the museum? Are there places where you can sit down and rest, because walking around a museum is tiring? All these, together with the museum shop, are part of the Public Quality of a museum.

Another part of this quality is the public relations and publicity of the museum. Does the museum push its fingers effectively into the local community? And then there is what is called visitor research. A museum doesn't know if it is meeting people's real needs unless it does research, and research of the right kind. Museums have been doing a standard type of visitor research for years. They discover quite easily by means of questionnaires where their visitors come from, what their sex is, how old they are and what sort of school they went to, but what they don't know are the much more personal things which can be found out only by actually talking to people.

But public quality and the quality of visits are very closely connected, in fact inseparable. There is a fashionable obsession with visitor numbers as a way of balancing the museum's books, but this is accompanied by a most regrettable ignorance of, or possibly decision to forget, very important recent research, which shows that visitor quantity is usually at the expense of visitor quality. More precisely, the more people are in the museum at any given time, the shorter the period that people spend in front of any particular exhibit. If this is taken as a measure of the quality of a visit, then it would seem to be misguided at best to regard mere numbers as evidence of a museum's success. Time to look is surely a mark of a museum's public quality."[3]

The full version of the two texts from which are quoted these two passages is printed in the present publication under the title : *Two Texts by Kenneth Hudson*.

Coming back to EMYA and related prizes, one could point out that these schemes are focused on what we could define the areas of qualities *perceived by the public*. To assess EMYA candidates under this perspective, EMF has elaborated a precise process which enables the Judging Committee to fully evaluate the experience offered by museum candidates to their visitors and which is communicated to candidates in the following terms:

"This process passes through the following stages:

1. EMF receives and processes applications from museums every year in March. There are usually between 50 and 60 each year. We then arrange for members of our Judging Committee to visit and assess the candidates, which they do between June and early November.
2. We circulate their detailed reports to the members of the Judging Committee.
3. The Committee meets for two days in Strasbourg at the Council of Europe Headquarters at the end of the
4. year in order to discuss the reports, examine photographic and written material, and eventually select the winners.
5. What we are particularly looking for each year is what we call Public Quality, that is, the degree to which a museum meets the needs and wishes of its visitors and provides for their comfort and convenience.

[3] Kenneth Hudson, Reprinted in *The Colonial Williamsburg Interpreter*, Vol. 7, No. 2, March 1986.

6. In Strasbourg, our judging method is as follows:
(a) We draw up a list of what we have called Nominated Museums, that is, those candidates whose Public Quality is such as to give the museum concerned a serious chance of winning either the Main Award, the Council of Europe Award or the Micheletti Prize.
(b) In the course of further discussion, we reduce this list to one consisting of about 6-7 Specially Commended museums.
(c) From these, we select the ultimate winner of the *Main Award*, our recommendations to the *Council of Europe* for their own Prize for the candidate which presents in the most effective and imaginative way the concept of Europe as a single cultural unit, and the *Micheletti Award*, for the most impressive scientific, industrial or technological candidate among the current year's entries.

We should like to emphasise that, in arriving at our decisions, we <u>are</u> concerned with the way in which the collections are presented and interpreted, with the atmosphere of the museum, with effective business management and publicity, and with the amenities provided for visitors. We are not primarily concerned with such professional matters as collecting policy, conservation, documentation and training, although these must obviously be of an acceptable standard. "

The structure of the Reports still follows more or less what Kenneth Hudson dictated in the early '80s:

"After a good deal of experiment and modification, my museum package has come to include 10 elements:
- the building;
- the collections;
- the presentation and interpretation of the material on display;
- museum publications and the shop;
- the educational programmes;
- activities other than those that are deliberately and obviously educational;
- publicity and marketing;
- management;
- attention to the physical comfort of visitors;
- the general atmosphere of the museum;
- and a somewhat elusive but important quality that goes under the heading of 'ideas, imagination'."

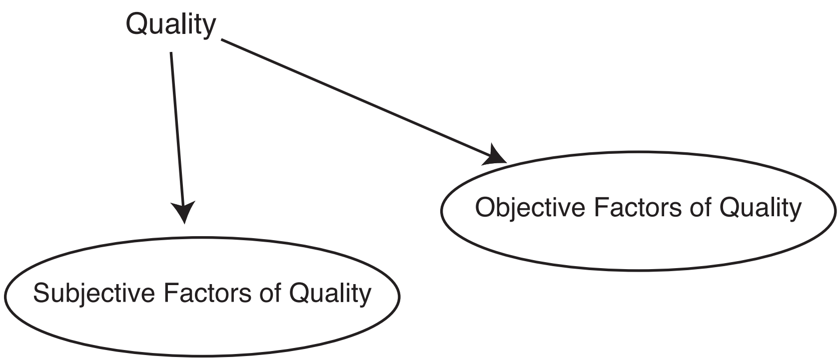
At the end of the process a Judges' Report is published and distributed during the EMYA Prize giving ceremony which is held every year in a different European country. Recently the process of gathering Applications and accompanying materials sent by museum candidates (which forms a highly interesting study resource in the filed of museum innovation) has been developed with an EMYA Application on-line procedure in the context of the BRICKS 6th Framework Programme of the European Union (www.brickscommunity.org). This tool will make available to the museum community highly interesting materials (pictures and texts) prepared by museums candidates to present their achievements which is accessible through the EMF internet site, www.europeanmuseumforum.org

3. From Qualities to "Quality"

My Mexican audience, at this point, raised a crucial question: Don't you think that your evaluation system is largely influenced by subjective factors? And they were right, in some sense.

Actually, we all know that any evaluation process is a combination of subjective and objective elements.

Also in the museum field, the distinction between subjective and objective factors of Quality is crucial and not always easy to be done. Not only, but they vary greatly according to the “observer” (or if you prefer, the “evaluator”), would it be, for instance, the visitor or the curator.



3.1 Examples of objective factors of the quality of a museum.

a) From the point of view of the visitor:
- Parking lot and external visibility of the building
- Services of reception (wardrobe, etc.)
- Organization services booking
- Physical accessibility of the building and the exhibitions
- Clarity in the orientation of the visitor (indications, etc.)
- Texts in various languages and in Braille
- Condition of comfort (physical-environmental conditions, areas of rest, position of services all along the museum tour)
- Security services for the benefit of the visitor
- Favourable opening hours

b) From the point of view of the curator of the museum:
- Accessibility of the collections in show and hosted in storage (easy moving of items, access means, etc.)
- Environmental conditions of the maintenance (climate control, light; programs of preventive conservation, etc.)
- Overseeing and environmental safety active and passive
- Working conditions for research and administration
- Availability devices for scientific analysis of materials
- Availability tools and programs for collection cataloguing
- Availability of communication with other subjects regarding the scientific programs and of popularization of the museum (participation in congresses , scientific and didactic publications, plan of communication with the public, etc.)
- Effective operational procedures of the maintenance.

3.2 Examples of subjective factors of the quality of a museum.

a) Visitor’s evaluation:
- Perception of the building and of the exhibition itinerary
- Perception of the attitude of the staff and the organization towards the customer
- Effectiveness of the exhibition (clarity of the texts and their accessibility)

- Value of the informative content (ability to reinforce the knowledge already possessed and informative enrichment)
- Ability to provoke interest
- Ability to stimulate a collective experience
- Ability to supply one's meditative experience
- Content of the visit in terms of edutainment

b) Curator's evaluation:
- Museum organization state (atmosphere between colleagues, hierarchical relationships, union, etc relationships).
- Effectiveness of languages used in the various tools of of communication address the many users segments (text elaboration, lessons, driven visits, production audio-visual media, etc).
- Perception of the physical work environment and the and some macaws of conservation and exhibition
- Capacity of the organization to stimulate the individual and group creativity and
- Capacity of the organization to face emergencies
- Capacity of the organization to answer the qualification needs of individual staff members
- Moral and social reward offered by the organization in terms of content of the work

Of course these lists could be longer and much more comprehensive, but the intention was just to give an idea of the problem and of the possible outcome of the exercise of defining the complex of qualities perceived by different groups of museums users.

4. From the Empirical Approach to the Experimental Adoption of Quality Management Models

All the elements so far evoked can be interpreted as jigsaw of a mosaic which becomes coherent and fully effective when adopts the form of a Model strictly speaking. Going back to my Mexican lecture, this brought me to touch the theme of the adoption of Total Quality Management (TQM) models by cultural organization and namely by museums. The issue of TQM in cultural organizations is raised as a cross-point between company and public services management. TQM models move from the private sector to the public sector, then to cultural organizations and eventually to museums.

The European Foundation for Quaility Management (EFQM) was founded in 1988 and its Model (the EFQM Model) began to circulate in industry and services , and in fact a part of this book is focused on how to adapt the model (I worked on this myself, with several colleagues) to cultural organizations and museums in particular. Here we will simply sum up the main points on which the Model is based.

By TQM we mean a set of concept, methods and management techniques aimed at creating and maintaining in an enterprise cultural and working conditions to get excellent results.

The key points are:
- Pursuit of the organization's mission and customers' satisfaction
- Rational use of resources
- Stakeholders satisfaction (financial investors, clients, personnel, social and professional communities involved by the organizations' activities)

This does not necessarily means that an excellent museum is the one which adopts a TQM model in running its daily life. In May 2003, the V&A was voted by the EMF Jury European Museum of the Year for the British Galleries. The Judges commented that "the enormous achievement in presenting the sometimes difficult subject of applied art in a fresh context with meticulous attention to detail should be widely acknowledged."

Nevertheless, if you visit its excellent Internet site, which makes available a large documentation about the running of this project and the running of the museum, you will find out this passage:

> "At the V & A:
> **Use of Business Excellence Model as a tool for improving processes.**
> Pilot The Museum will not be pursuing this method. In 2002/03 the Museum initiated a review of risk management as a means of improving processes and this will continue into 2003/04."

which probably means that the museum has not found the Model adequate to its needs or has not considered itself ready to adopt this method.

EFQM is not the only tool adopted for a progress toward Quality Management in museums In general, museums throughout Europe have preferred to adopt systems based on (minimum) standards to improve the quality of their work, as described in Margherita Sani's contribution in this same publication. However, the EFQM Model has been employed, although not on a large scale, in some European museums or museum support organisations, as shown in the list below.

Netherlands
- EFQM model used by the Netherlands Museums Association

UK, used by
- Scottish Museums Council
- MLA, Museums Libraries and Archives Council (Wycombe Museum Service)
- National Heritage

Belgium
- Used by the Ministry of Culture of the Flemish Community

Finland
- Used by the National Board of Antiquities in conjunction with other indicators to assess museums

Spain
- MARQ Alicante ISO 9001
- Guggenheim Bilbao, EFQM

Germany
- EFQM Model and ISO 9001 used by the Deutsches Bergbau Museum Bochum

Austria
- EFQM applied by small organizations supporting museums

Italy
- Experimental use of the EFQM Model in small museums in Emilia Romagna (Ethnographic Museum of Santarcangelo di Romagna , Municipal Museum of Montebelluna)

Furthermore, in Denmark they are presently introducing a quality classification system for museums and other tourist attractions on which we will refer later, and which is presented on the Internet site of the Danish museum journal in the following terms, very clearly and very honestly, I would say:

"This means that after years of state-subsidized elucidation work we are now trying to see if we can get museums and other tourist attractions to pay for being compared and classified. The idea is first and foremost that it should be informative to visitors. In addition, it should also be a tool to improve the attractions – i.e. a management tool. Does it work? Well, we shall see."

5. The Main Tool in the EFQM Model: Self Evaluation Based on 9 Criteria. An Italian Pilot Experience

As we said, an experiment to apply the EFQM Model to museums was launched in the year 2000 in Italy. Programme offered short training courses , and saw the commitment of a group of various professional who re-wrote the Guide to the Model from its "company" version to one which could be applied to the Museums and the resulting tool was used as a pilot in the quality assessment of the Folk Museum of Sant'Arcangelo di Romagna. In fact, part of the materials I edited with Margherita Sani , for the book I quoted above, came right from this experience.

EFQM model for companies is composed of 9 elements (or Criteria) used to measure the progress of the organization towards excellence:

1. Leadership
2. Human Resources Management
3. Policies and Strategies
4. Resources (financial , informative, etc.)
5. Processes
6. Outcomes on personnel
7. Customer satisfaction
8. Impact on community, territory, etc.
9. Key-issues in organizations (instead of performance outputs)

Points 1–5 are defined "Factors", whereas Point 6–9 are identified as "Results".

Each element is given a mark, but both group have the same relevance of 50%.

The adaptation process of this scheme to the museums' reality has required a relevant effort starting from the adoption of a set of terms appropriate for describing process which take place in the museum daily work. You find a sample of the results of such an effort in a chapter of this book.

6. Measuring: an Obsession or a Necessity?

Every evaluation process is based on measuring according to shared standards. One of the two texts by Kenneth Hudson that you can find in this book is focused on this question and deals with the contradictory meaning of figures in the museum world (especially when dealing with visitors' numbers). The problem has affected even art museums which traditionally consider themselves rather far from this prosaic questions or because they are so successful that figures are always very high and not subject to discussions, or because (and the two things go frequently together) the importance of their collections is the answer to any possible question about their quality in terms of service to society and of management of the organization.

In his "Metrics of Success in Art Museums" (a short essay written for the Getty Leadership Institute in 2004) Maxwell L. Anderson, Director of the Indianapolis Art Museum, states:

> "American art museums today are beset as never before by disagreement about their priorities. Those without such a debate are most likely unclear about their real contributions to society. [...]
> The root of the problem is that there is no longer an agreed-upon method of measuring achievement. Half a century ago, art museums were largely measured by a yardstick comparable to that applied to libraries of the time: the size and importance of their collections. But today, the original mandate of art museums, to collect, is for the most part overlooked in informal rankings of museums.

> The difficulty in measuring success in art museums today stems in part from the fact that, over the last generation, art museums have shifted their focus away from collection-building and toward various kinds of attention to the public – without balancing these two imperatives and without a consensus on what constitutes best practices in the latter. The shift is in many ways salutary, shining light, as it does, on resources that were formerly dedicated to a preserve of the affluent but are today used in service of public education and experience."

And he goes on, in the chapter "The Need for Metrics":

> "While many challenges beset art museum leaders today, finding a way to measure performance is accordingly among the field's most urgent. A downward trend in arts funding is accelerating, while freshly expanded facilities are requiring more revenue. Funders – ranging from government agencies to corporations, foundations, and individuals – are now demanding proof that their past support has been effective. Without generally accepted metrics, arts organizations will have more and more trouble making a case for themselves. [...] The following aspects of a museum's identity fit the three criteria for appropriate metrics (i.e., mission-focused, long-term, and verifiable):

1. Quality of experience
2. Fulfillment of educational mandate
3. Institutional report
4. Management priorities and achievements
5. Caliber and diversity of staff
6. Standards of governance
7. Scope and quality of collection
8. Contributions to scholarship
9. Contribution to art conservation
10. Quality of exhibitions
11. Facilities' contribution to the core mission

A shared definition of success in art museums has never been more pressing."[4]

If we speak in terms of figures which could express measuring of performances objectively, it is not difficult to identify the following numbers as a sign of the good health of a museum:

- Number of visitors
- Number of frequent visitors
- Number of loan requests from the museum's library (if any)
- Number and financial volume of sponsorships
- Number and categories of volunteers
- Number of general publications
- Number of scientific publications produced by the museum
- Number of the scientific publications to which museum's curators have contributed as individuals
- Number of the invitations received by the museum staff to congresses and other professional meetings

I am certain that everyone is able to produce a list like this, to enlarge it according to the specific situation and to use it a toll for identifying objective factors of standing a given museum's Quality.

[4] The full text of this essay is available at the Museum Leadership Institute site: http://www.getty.edu/leadership/mli.html

7. More Simply: Some Instruments for a Quality Policy in the Museum

Quality management brings – hopefully – to a more effective use of resources, but it has its own costs. The question of the "cost of Quality" is not a minor aspect of the reluctance of museums in fully adopting TQM models or simply to give the organization a defined policy in this field. Under the present circumstances, Quality Management is not felt as a priority. But I think that this cannot exclude the possibility to make use of some of the tools which are typical of any Quality Management programme or model adopting a realistic approach to individual situation on the basis of economic and human resources available. Therefore I try to list here some tools which could be adopted step by step or without embarking into an engaging TQM programme as a whole.

A set of tools:

- Chart of the services offered (communication of the Mission, transparency in the relationships with the users, etc.)
- Definition of indicators of performance shared from the organization and from the stakeholders, definition of agreed criteria for measuring the museum's performances
- Systematic surveys on the profile of visitors and on the users (the two categories are different)
- Qualitative and quantitative surveys of customer satisfaction (by the use of questionnaires, focus groups, and other methodologies)
- Surveys on staff level of satisfaction
- Adoption of a system of self evaluation
- Adoption of a protocol for the corrective actions necessary to solve crisis and overcome weaknesses
- Publication of an annual report as tool for social accountability

I am sure that many museums are already doing something similar although not always in a systematic and coherent way (typically – visitors' surveys done occasionally), nevertheless I am convinced that experiments are anyway useful in order to promote the growth of a "Culture of Quality" of which museums can substantially benefit.

But my audience (and this is my last reference to my introduction of the Mexican colleagues to the mysteries of Quality Management in museums) evoked these sentences with which museum people are unfortunately rather familiar:

- "Museums are not for me…"
- "I am not interested…"
- "I've got nothing suitable to wear for a museum visit…"
- "I do not have time for this…"
- "It's certainly a bore…"

These are frequent answers one can collect from surveys about non-visitors in any country and about any museum. And this has to do primarily with the perception of the public image of museums in some social groups and with the unsatisfactory experience of the visit to a museum (and do not forget that for many people to visit a museum is a very occasional experience). And this can happen also with museums which are very well managed, pay a lot of attention to the organization of their services, etc. In other terms: the quality of management not necessarily coincides with the qualities perceived by the visitor, which are fundamentally determined by the complex structure of the exhibition environment, and the same "quality" of the collection is certainly among the elemenst more directly perceived by the visitor, but not always in a comprehensive and conscious way as strongly dependent from the level of knowledge that every visitor can count on.

Apart from the wise Kenneth Hudson's thought on the fact that holding an excellent collection rarely is the merit of the present generations which at the most can claim the merit of preserving it adequately, we are here facing a potential contradiction which Birgitte Wistoft (from the Post & Tele Museum Denmark) illustrates appropriately when writing about the Danish Quality Classification System, based on a "star rating" system according to some shared criteria:

> "We are yet to teach the public what the stars stand for, e.g. that you may very well stand in one of the world's finest special collections of something interesting at a three-star museum because it has not got texts in three foreign languages, a separate room for breastfeeding mothers, and a degree of satisfaction exceeding 97 % in its last users' satisfaction survey. Or you may have been beguiled into a five-star museum which may be well-equipped with sanitation, eating facilities, foreign languages, and satisfied visitors, but is actually lacking collections of really international super class".

In other terms: at which extent the quality of the museum experience is determined by the qualities of the exhibition environment or by the quality of the exhibits (i.e. of the collection)?

Whatever answers one can give to this question – which has its own importance in the definition of the evolution process of every museum – it remains the fact that to win the interest , the curiosity and the hearts of visitors has always been a daily challenge for museums. A rather complicated "chemical" formula where unpredictable elements play their part – only to mention a few of them: the poetry of exhibitions, the game of evocations, the spirit of the place, hints from a creative environment, these are all factors which are unlikely to be disciplined and organized by TQM programmes, but they will be reinforced by TQM in order to help our organizations in breaking down barriers which still keep too many citizens away from museums.

Two Texts by Kenneth Hudson

Kenneth Hudson (1916-1999) has been not only the founder, in 1977, of the European Museum of the Year Award which has later generated the European Museum Forum, but it is still remembered as one of the most imaginative and inspiring author of books on museums of the past century. His *Museums of Influence* Cambridge University Press (1987), *A Social History of Museums* Macmillan (1975) and the monumental *Directory of World Museums* compiled for UNESCO in 1975 (latest edition as *The Directory of Museums and Living Displays*, with A. Nicholls, 3rd Edition, Macmillan 1985), remain as crucial contribution to the development of the contemporary museological thought. Kenneth was also a very prolific lecturer and author of articles and short essays. Thanks to the attentive work of Ann Nicholls (who has assisted Kenneth in editing most of his books for many years and has been involved in EMYA since the beginning as the Administrator of the scheme) we've been able to trace two texts written by Kenneth at the distance of ten years which focused on the theme of quality and performances' measurement in museums. Two texts which can be doubtless defined as pioneering considering the dates when they were conceived. Since then many things have changed and some of the examples quoted by Kenneth have shown themselves not so significant under the strain of decades, but Kenneth's intuitions remain very inspiring for contemporary museum professionals and stand as a document of his anticipatory view of the European museums future. (M. N.)

The Concept of Public Quality in Museums

Kenneth Hudson[5]

How can one measure the success of a museum? What is a reasonable criterion? The first and most obvious answer is not necessarily the right one. A museum with two million visitors a year is not necessarily 'better' than a museum with a million or 50,000, although it may be commercially more successful. By the same argument, is a book which sells five million copies a 'better' book than the one which sells only 100,000?

In the business world, there is no argument about this. Big sales represent success and prosperity and small sales failure and possibly bankruptcy. But can the same standard be applied to museums? Are museum exhibits a different kind of commodity from shoes or frozen peas? Should they be judged in the same way? To what extent is a museum director running a business?

The essence of the problem lies in the never-ending discussion about quantity and quality. One can't automatically say that an author is bad or inferior because large numbers of people want to buy and read his books. He may have a special talent for capturing a current mood, for identifying the most significant human issues of his time and for putting them into fictional form. Charles Dickens was not a bad novelist because millions of people enjoyed reading what he wrote, and the fact that a novel sells only two thousand copies does not prove that the author is a genius. In any field, understanding the potential market is not a crime, whether that market is for paintings or potato crisps.

The definition of 'quality' is a very complex matter. So, too, is the combination of causes which produce a satisfied customer. Rubbish unfortunately does sell well, provided it is fashionable rubbish and that it is skilfully advertised and promoted. What matters most in every aspect of life is the feel-good factor. If a teenage girl feels good after buying a pair of high-fashion shoes which fall to pieces in a month, she may well feel that her money has been well spent. If someone feels good after queuing for two hours in the rain to see a Picasso exhibition or to buy a theatre ticket, that is his or her own affair and it has little to do with the quality of the exhibition or the play. The point is that one has achieved success

[5] For Cortona EMF Workshop "Public Quality in Museums", September 1997.

in seeing something that has had wonderful reviews and that thousands of other people are anxious to experience.

Some years ago I published a definition of a good museum and, for better or worse, it has often been quoted. 'A good museum,' I wrote, 'is one from which one goes out feeling better than one went in', and I still feel quite proud of this, although I realise perfectly well that, to a considerable extent, with museums, as with everything else, the feel-good factor will depend on who one is and on what one takes into the museum in the way of education, previous experience and personal background. We all have our prejudices and they go with us into the museum, as they do into the cinema, the concert hall or the holiday resort.

After this introduction, let us make a serious attempt to explore the matter of the public quality of museums. For quite a different purpose, I have recently been taking a careful look through four national lists of museums – catalogues of the museums which each country contains. They related to France, Italy, Switzerland and the United Kingdom, and they provided details of about 12,000 museums altogether. It was a laborious task and it took me a long time. I don't recommend it for pleasure purposes, although it had its interesting moments. As I read through all these pages I was asking myself four questions about each museum. Why did it exist? What was it trying to do? What kind of people visited it? What satisfaction did they get from the time they spent in it? I suppose these questions form the basis of any enquiry into this important matter of public quality and I shall be going into this in more detail in a moment.

But first, a caution. If we decide to concentrate on the public quality of a museum, we clearly think that the museum situation contains other types of quality, which we might, I suppose, call the professional qualities or, if you like, the private qualities. These would include the range and importance of the collections, the manner in which they are conserved, that is, looked after from a physical point of view, the efficiency with which they are indexed and catalogued and the degree of knowledge which the museum personnel have about them. This would necessarily involve investigating the professional qualifications and the personal quality of the people working there, since the level reached by any museum can't be better than that of the people it employs. One follows the other. Museums are a good deal more than mere collections.

A few years ago I was in Croatia, at the former capital, Varazdin. When I was in one of the museums there I asked the lady in charge – she was in fact the director of the city's museums – 'Why is this museum so beautiful?' I chose the word carefully and deliberately, because it was in fact precisely that. Its rooms and displays were beautiful to look at aesthetically charming and attractive. Here answer was very interesting. 'In an unfortunate country like ours,' she said, 'with so much misery and poverty as a result of the civil war, we are surrounded with ugliness. The first duty of a museum is to become a small island of beauty in the middle of a sea of ugliness.' I understood this and congratulated her on what she had achieved. But how, I wanted to know, had she got these admirable results? 'In two ways,' she said, 'first by employing only women. All my professional colleagues are women. They know their collections and they are anxious to present them in the best possible way, just as a mother wants her children to appear cared for, clean and well-dressed. Each of them is the mother of her collections. And my second secret of success is never to employ a designer. The designer is a nurse who gets between a mother and her children.' I had never heard these arguments before, and I was impressed.

And now for the second story or experience, if you prefer the term. This took place at a new local history museum in central Germany. It is more diplomatic to allow it to remain anonymous. It occupied a large house, well-converted for the purpose, in a very pleasant park. I remember it was on a fine Wednesday in June. There were quite a lot of people walking and sitting in the park, especially mothers with small children.

I was in the museum with its director – a man of about 40, from nine o'clock until one, and during that time not a single visitor entered the museum. As I was preparing to leave, I said to the director, 'You have a problem. Nobody comes to your museum.' 'That,' he replied, 'is their problem, not mine. The museum is open and they choose not to come.' I asked him if that worried him. 'Not at all,' he said. 'It's a good museum, full of interesting things, and people are foolish not to come. I have no idea why they don't come.'

I would describe that museum, quite unlike the one at Varazdin, as being of quite high private quality and very low public quality. Objects, not people, were what the director and his colleagues appeared to be thinking about and, hardly surprisingly, the people failed to arrive, because it was fairly obvious that the museum was not run for their benefit. There was a take-it-or-leave-it atmosphere about the place. Whether it has changed direction since the eight years since I was there, I have no idea, but I find it difficult to believe that any municipality would feel proud to be responsible for a museum without customers, although maybe things were better on a wet day in November.

My third example is much more encouraging. It concerns the Noorder Dierenpark in Emmen, a small town in the Netherlands, not far from the German border. It is difficult to describe the Noorder Dierenpark, which has been running in its present form for 20 years. Briefly, it is a museum of everything that has ever existed on earth, including Man. It has both living and dead exhibits and it includes a savannah-type zoo, with 14 elephants. There are two million paying visitors a year, who come from all over the Netherlands and from Germany as well. It is not enough to say that the Noorder Dierenpark was created and run until two years ago by an inspired genius. She has recently retired, but she has left behind a thoroughly well-run and by any standards successful museum enterprise. It is rewarding to explore the causes of this remarkable achievement. First, the professional standards have always been very high. Employees, at all levels, who fail to match up to the standards expected of them as regards knowledge, responsibility and efficiency, disappear very quickly. There are no passengers, no disruptive elements. Enthusiasm is maintained at all costs. The management is democratic and friendly, but determined and, when necessary, tough.

There is a constantly changing programme of exhibitions and the research behind them is impeccable. The museum is willing to pay for the best advisers and the best designers. Repeat visits are considered essential and people will only come again regularly if they know there will be something new to see. Two well-publicised baby elephants count as a new exhibition and they sent the attendance figures soaring. Every member of the staff is in the public relations business, very approachable and ready to answer questions. There are no academic barriers between different subjects. This is at the same time a museum of ethnology, anthropology, botany, biology and zoology and visitors are given every encouragement to allow their attention to cross from one field to another. There are several different kinds of restaurant and café and a good shop. Parking problems do not exist, owing to a well-organised park and ride system.

It would be an exaggeration and not particularly helpful to describe the Noorder Dierenpark as the model museum for the Third Millennium, but there are certainly a great many useful lessons to be learned from it, especially in relation to what we are calling the public quality of a museum. And, with the three museums I have just described as solid ground on which to build, it is now possible to suggest what the essential ingredients of public quality are. I am not putting them in any particular order of priority, but one has to begin and end somewhere. First, the museum must have or obtain a reasonably accurate picture of the kind of people its visitors are, their age-range, where they come from and what kind of social and educational background they have. It should try to discover why they have come and whether they have enjoyed their visit. In order to get this information it is not necessary to indulge in detailed questionnaires or elaborate and expensive market research. Mixing with the customers is often, perhaps normally, a more reliable method.

Second, it must be made clear to visitors that the museum exists for their benefit and not that of the management and staff. Any printed information must be geared to real, not ideal or imaginary customers, and it has to be realised that the range of possible questions, spoken and unspoken, is enormous and that the most interesting questions are often unexpected and possibly unprecedented. Everything has to happen for the first time, the most likely minds often belonging to heretics, and museum staff should be unshockable and prepared for anything.

Third, museum visitors are likely to belong to one of two categories. The first will probably never come again, probably because this is a once-in-a-lifetime arrival in the place concerned, and the second, usually composed of people who live fairly near by, can sometimes make the place part of their regular pattern of leisure activities and somewhere they can bring friends or relatives who happen to be staying with them, a local facility to be proud of and to show off.

Fourth, that it does help enormously if visitors are provided with an opportunity to sit down, talk and rest, ideally with some form of refreshment. Even the simplest café is not a luxury, partly because it helps to encourage the idea that a visit to a museum is a social as well as an intellectual activity, partly because it provides a welcome opportunity to recover one's strength after an hour or more spent walking around a museum and to discuss one's experiences and partly because the leisure market is a free market and museums are in competition with other leisure-time activities and need all the assets they can accumulate.

Fifth, that at every museum, however small, people like to have a souvenir to take way as a reminder of their visit. It is wise to offer such an opportunity, not because it is a source of profit for the museum – museum shops are rarely a money-making exercise – but much more because it provides a means to take part of the museum away with them to add to one's accumulation of travel-treasures.

I have sufficient faith in human nature to believe that, when they visit a museum, most people like to feel that they are improving themselves in some way. Largely for this reason, I think that it is wise to give the museum-going public one or two strong messages to carry home with them, pieces of cultural information which will make them feel intellectually stronger in some way, better able to rise above the common herd. This is to some extent a matter of snobbery, no doubt, but it is also a reward for effort, feeling that the visit has been worthwhile.

It goes without question, I should have thought, to say that the public quality of a museum involves an effective promotional campaign, to convince people that the museum believes that the outside world matters and that it is not composed of scholars who earn their salary by looking at their own navels. I suppose this is another way of saying that a substantial and influential element of the staff of any museum should consist of men and women with a passion for communication, people who do not regard the public as an unavoidable nuisance, an interference with their normal research and writing activities. I am convinced that, as time goes on, a much higher percentage of museum personnel, even in large establishments, will be made up of communicators and fundraisers and a much smaller proportion of researchers and scholars. The concept of a museum as a mini-university is moving towards its last days.

But public quality and the quality of visits are very closely connected, in fact inseparable. There is a fashionable obsession with visitor numbers as a way of balancing the museum's books, but this is accompanied by a most regrettable ignorance of, or possibly decision to forget, very important recent research, which shows that visitor quantity is usually at the expense of visitor quality. More precisely, the more people are in the museum at any given time, the shorter the period that people spend in front of any particular exhibit. If this is taken as a measure of the quality of a visit, then it would seem to be misguided at best to regard mere numbers as evidence of a museum's success. Time to look is surely a mark of a museum's public quality.

Measuring the Good Museum

Kenneth Hudson[6]

I suppose a simple definition of a good museum would be a museum form which one went out feeling better than when one went in. A bad museum would have the reverse effect. One could rate a concert or a theatre performance in the same way, which amounts to saying that the whole business of assessment must inevitably be subjective to a large extent. There is, fortunately or unfortunately, no agreed standard by which to measure the goodness or badness of a museum. The same museum can appear exceedingly boring to a group of teenagers and yet provide a visiting scholar with everything he asks for.

For the past 10 years or so I have wrestled with the problems involved in trying to compare one museum with another, in editing *The Good Museums Guide*, as a member of the Museum of the Year Award in Great Britain, and as the creator and administrator of the European Museum of the Year Award. I have come to the conclusion that the only way of going about the job is to consider each museum as a package of qualities and to allocate a certain number of points for each item in the package.

After a good deal of experiment and modification, my museum package has come to include 10 elements: the building; the collections; the presentation and interpretation of the material on display; museum publications and the shop; the educational programmes; activities other than those that are deliberately and obviously educational; publicity and marketing; management; attention to the physical comfort of visitors; the general atmosphere of the museum; and a somewhat elusive but important quality that goes under the heading of ‘ideas, imagination’.

One can quarrel endlessly about this approach, but it does at least provide a method of comparing small museums with big ones and, say, a museum of lawnmowers with the National Portrait Gallery. Large and prestigious museums may not come out of the process very well, partly because they are in the habit of believing that their collections are everything, or almost everything, and partly because they have had no great incentive to tailor themselves to the modern world. The British Museum and the Louvre, for example, have enormous and important collections, but their total points on a package basis would almost certainly be considerably lower than the ones received by Scunthorpe Borough Museum, Chatterley Whitfield Mining Museum or Quarry Bank Mill, Styal. They would score low on presentation and interpretation, on management, on attention to the physical comfort of visitors, on general atmosphere, on activities and on ideas and imagination.

Faced with this, the Louvre, the British Museum, The Rijksmuseum in Amsterdam, and most of the world’s other major museums would say that to be attractive to visitors is only a part of their duty – and probably the least important part. Their prime task, as they see it, is to collect, conserve and make available for study. They are intellectual powerhouses, mini-universities, and the public galleries are little more than the icing on the cake, the licence to operate.

The real problem is that the quality of the big public museums has so rarely been questioned. There is no recognised body of professional museum critics to keep them on their toes. Because armies of tourists and schoolchildren flock to the British Museum, the Science Museum, The Roman Baths at Bath, the Tower of London and the rest, the excellence of these institutions is taken for granted. It is a dangerous and unjustified assumption and one that prevents the places in question from being as good as they could be. One is reminded of the advertising slogan used for so many years by Rolls Royce, that they made the best or the finest car in the world. Few people took the trouble to turn this claim upside down and look into it. In what ways was a Rolls Royce so superior to other cars? What did it actually do better? Was it more reliable, more comfortable, easier to drive, safer? It was certainly very expensive, it drank fuel as a cow drinks water, and it cost a great deal to service. But it had more practical disadvantages. I remember once talking to a well-to-do Rolls Royce-owning doctor during a winter when there was a lot of snow

[6] Reprinted in *The Colonial Williamsburg Interpreter*, Vol. 7, No. 2, March 1986

and ice about. He had, he confessed to me, left the Rolls behind in the garage and was transporting himself in his wife's Mini because it was so much better on snow and ice.

'But,' I said, 'surely a Rolls is the best car in the world?' 'Better for some things,' he replied, 'like arriving at the hospital or leaving it parked outside in Harley Street.'

The British Museum and the Louvre are among the Rolls Royces of the museum world, but this does not and should not mean that they are out of the competition. As public museums they are in the market place like all the others, competing for the leisure time of the people who visit them voluntarily. But unfortunately quite a high proportion of their visitors are not volunteers in the strict sense of the word. Most school groups are made up of conscripts. They may well prefer a day at the Science Museum to a day at school, but they have little say in being in either place. They have to take what comes. And so it is with a great many tourists. If they are in Paris, it is unthinkable that they should not spend a few minutes in the Louvre. It is on the list of any tourist organisation that wishes to stay in business, so a bus dumps them there and they pay their respects to it, as medieval pilgrims did at the shrine of a saint. The fact that they appear in their tens of thousands proves nothing about the quality of the museum. They go to the Louvre and its equivalents in other countries because tradition demands it, not because they have made a conscious and reasoned decision to go. The situation suits the management very well. The crowds keep coming, the museum shop keeps selling and the Mona Lisa keeps smiling.

Most of the world's major museums – and 'major', one should emphasise, is not a synonym for 'best' – have carried out research at one time or another to discover who their visitors are and what they think about the museum. But they rarely encourage the kind of remark that allows praise or blame to be expressed in concrete terms, and as a result the value of the investigation is very limited. It is one thing to know that in July and August 62% of one's visitors come from abroad, or that on a given day in December 36% of the people who arrived had had some form of higher education, but quite another to discover that someone resented the rudeness of a uniformed attendant or longed for a seat where weary feet could be rested. Up to now research among museum visitors has relied far too much on easily analysed generalisations. This is certainly one field in which the computer is all too likely to be the enemy, rather than the friend.

But given the opportunity, what kind of comments does the non-professional visitors feel inclined to make about a museum? In preparing *The Good Museums Guide*, I relied heavily on reports sent in by people who lived not more than 20 miles from the museums they had been to see on the *Guide*'s behalf, their local museums. They were told to assume nothing, spare nothing and say exactly and honestly what they thought. There are about 2,000 museums in the British Isles, and the 400 that achieved the most satisfactory packages earned a place in the *Guide*. A number of the largest and best known museums were excluded, simply because their package mark was not high enough. Several of them were very annoyed and said so publicly and loudly. With such a marvellous collection of Art Deco or Spode or steam engines or whatever, they had a divine right to a place and to keep them out just because their labels were faded, their attendants offhand, their selection of postcards poor, and their lavatories substandard, was a scandal. And didn't I realise that their Keeper of prints and Drawings was one of the greatest authorities in the country and that all that prevented them from cleaning up and modernising the place was a chronic shortage of money, which was rather like a restaurant defending a disgraceful meal on the grounds that the chef was off sick.

Anyway, I played very fair. The favourable comments were included in the relevant entries, and the mud and the misery were reserved for a special section called *Why they didn't make it*, in such a way that it was impossible to identify the offenders. Both the plus and minus criticism make illuminating reading, and the more impressive because the reporters' remarks were not paraphrased. They appeared as they were made and makes the public's concept of good, bad and indifferent museums very clear.

Why did so many museums, including a number of the most respected, fail to make the grade? The comments need no explanation or amplification.

> 'Extremely cold. This curtailed the reporter's visit.'
> 'Educational, but so uninspiring.'

‘Empty frames left around in the galleries.’
‘A well cared for lumber room of items.’
‘Showcases with labels for non-existent objects.’
‘Suffers from a clapped-out curator. The sooner this museum is closed the better.’
‘Lighting marred by Woolworths’ lampshades.’
‘Man at counter appeared shell-shocked by school parties.’
‘The person in charge belonged to the Parks Department.’
‘Distracted by playing of radio sports results by the caretaker.’
‘There were odd seats about. They mostly seemed to be occupied by attendants.’
‘Several of the labels were falling off, or were crooked, and some of the documents and badges had dropped off their pins.’
‘The outside loos were very chilly in February.’

And what was there to say on the good side?

‘A pleasantly amateur flavour about parts of it, but you can’t help being infected by the enthusiasm of these people.’
‘An honest place, which leaves the visitor in no doubt that art means wealth.’
‘Children find ready answers to their queries at the desk.’
‘Plenty of seating for those who wish to rest.’
‘An excellent cafeteria, with homemade cakes and good coffee.’
‘The staff are very helpful.’
‘Cheerful, relaxed atmosphere.’
‘Wonderful photographs on cheap postcards.’
‘A friendly welcome and advice on where to leave one’s bicycle in safety, so that the custodian could keep an eye on it.’
‘The kitchen-sink, do-it-yourself flavour of early scientific research really comes across here.’
‘All the staff seem to have a lively interest in the museum.’

After assembling a few thousand comments like these, one begins to build up something like an identikit picture of what the British public regards as a good museum. It is not so big as to present an impossible challenge, it has a friendly, welcoming, helpful staff, a pleasant cafeteria, and a shop stocked with the kind of items both adults and children want to buy, at prices they can afford. The exhibition rooms are clean, bright and cheerful, not too hot in summer and not too cold in winter. The washrooms are impeccable and easy to find. Texts and captions are clearly written and easy to follow. There are plenty of seats, well distributed around the building. Children are not treated as potential criminals or as destroyers of an atmosphere of holy peace and quiet.

Above all, the museum should not give the impression of existing for the benefit of people different from oneself. It should not feel like enemy territory. There are many museums, particularly art museums, that appear to have been planned on the assumption that every visitor is or should be preparing for an examination of some kind and that browsing and aimless enjoyment are sinful.

But the museum Puritans are finding the going harder than they did 10 or 20 years ago. I spent a delightful three hours in Glasgow last summer going round the Burrell Collection with its adventurous director, who described himself to me as ‘a refugee from the British Museum’. The place was full of all kinds and ages of people, wandering around casually looking at the interesting objects on show, much as they would have done in a medieval cathedral or the Roman Forum. At the end of my visit I said to the director, “This is the first time I’ve ever spent a thoroughly pleasant half-day in a museum and learned absolutely nothing. You’ve created something new and enormously stimulating, a thinking man’s leisure centre.” He accepted the compliment with some surprise but a good grace, pointing out that if I wanted to learn something, the catalogue was at my service. Perhaps ‘a thinking man’s leisure centre’ is a reasonable definition of a good modern museum.

The Guggenheim Museum Bilbao Management Model

Juan Ignacio Vidarte

1. Introduction: the Project

The basic idea underlying the project of the Guggenheim Museum Bilbao is that of culture as a tool for development and its usefulness as a variable that is instrumental to reaching goals beyond purely cultural aims. The social function played by culture and, consequently, the survival of public intervention in the financing of cultural activities, is a subject of constant debate in Western societies. In recent years, a new argument has arisen and is gradually acquiring more and more importance. From this point of view, culture not only deserves public support on its own merits as a factor to stimulate creativity, as a medium of artistic expression, or for the development of a collective identity, but can be used as a tool to achieve objectives linked to policies of economic development or urban revitalization.

More and more frequently, these kinds of initiatives form part of wider strategies of economic development in which culture is considered to be an influential factor in the location of business projects and in fostering activities linked to cultural or business tourism and to the services sector in general. Culture is also given an important role as an instrument used to project a certain image abroad.

In projects based on this concept – including the Guggenheim Museum Bilbao – it is assumed that there is a direct relationship between the potential cultural activity of a specific region and its level of economic development, not only because culture is, in itself, an economic activity that generates employment and tax revenue and that buys goods and services, but also because it is an essential factor in creating the conditions necessary for a balanced and sustainable economic development.

2. The Guggenheim Museum Bilbao's Management Model

There are a number of special characteristics that feature the Guggenheim Museum Bilbao. Firstly, the Museum is a joint project which came out of an initiative that joins the public and private spheres: public in the form of the three institutions of the Basque Country – the Basque Government, the Provincial Council of Bizkaia, and Bilbao City Hall –, and private, represented by a non-for-profit institution – the Solomon R. Guggenheim Foundation, with its headquarters in New York. This joint nature, which existed from the outset, makes this an atypical project: these cultural plans usually have a more autonomous origin, and in this case, the project has involved very different cultures. In the Guggenheim Museum Bilbao, it was accepted from the beginning that the limited economic resources and dimensions of the Basque Country made the proposal and development of a cultural infrastructure at an international level unfeasible. Nevertheless, it was the recognition of this impossibility, precisely, that led to an attempt to attain these objectives in association with the aforementioned North American institution. Such confluence of interests – those of the Solomon R. Guggenheim Foundation to expand, and those of the Basque Institutions to build a first class cultural facility – made a perfect alliance for the Guggenheim Museum Bilbao to come true.

The management model of the Guggenheim Museum Bilbao focuses upon the client. Its main customers, clearly, are its visitors, but its Individual and Corporate Members are also its customers, as well as society as a whole, which has certain expectations with regard to the Museum. It is for this reason that the guidelines of the operation and the key aspects of the institution are oriented precisely towards meeting the objectives relating to these groups of customers, maximizing in this way the level of income received and, therefore, its level of self-financing.

This management model is of a mixed type. As mentioned above, the Guggenheim Museum Bilbao project had in its origins a very solid public component from the point of view of the financing of the investment, but the operating model is quite private in the sense that, although there are three public institutions in the Board of Trustees, there are also around 30 private entities and only a fourth of the Museum's funds are of public origin; all of these determine that, in a certain fashion, the key features of its activity are different from what might be the case in other types of cultural institutions.

There is another key factor in the operating model of the Museum and this is the fact that certain activities are carried out in a network, i.e., with a certain level of integration with the Solomon R. Guggenheim Museum in New York and with the Peggy Guggenheim Collection in Venice, especially in those areas where advantage might be gained from the scale economies of joint activities and the consequent management efficiencies, such as education activities, the organization of exhibitions, shared systems of information, etc.

3. Mission Statement

The Mission Statement of the Museum contains a broader approach to modern and contemporary art and their connection with other movements in the History of Art and includes other disciplines such as design, architecture, fashion, etc. Moreover, the Mission Statement reflects the aspiration of the Museum to reach a broad and diverse audience.

Thus, the Mission Statement of the Guggenheim Museum Bilbao has been reformulated within the Strategic Plan 2005–2008, as follows:

Mission Statement

"Collect, preserve and research into modern and contemporary art, and present it from multiple perspectives within the context of the History of Art, addressing a broad, diverse audience, so as to contribute to the knowledge and enjoyment of art and the values it represents, within a unique architectural landmark, as an essential part of the Guggenheim network, and as a symbol of the vitality of the Basque Country."

Vision

The Strategic Plan 2005-2008 includes the Museum Vision, i.e. its strategic aspirations.

The Guggenheim Museum Bilbao aspires to...

Consolidate the Museum as a European reference for the presentation of temporary exhibitions and Permanent Collection in continuous growth.

Be a leader in Spain and the reference in Europe in educational programs for a broad audience.

Consolidate high levels of audience and promote its diversity.

Be a leader for its innovative management model for museum and cultural institutions in Europe.

Maximize the benefits derived from the joint operation with other Guggenheim Museums.

Values

Continuing along the lines established in the previous Strategic Plan 2001–2004, the Museum maintains certain Values that define its standards of behaviour. These conform the philosophy with which the Museum pursues its Mission and are the constants that should preside over all its activities.

Sensibility and respect for art

Our work is based on a sensibility for art and our respect for the works of art presides over all our actions.

Integration with the Basque art community

The Museum contributes to enhancing artistic and cultural activities in the Basque Country aligned with the cultural strategies of its Institutions.

Commitment to quality
The success of the Museum is linked to management excellence; thus we strive to work with the highest level of quality.

Client orientation
Satisfied clients are the only guarantee of future sustainability. Their diversity and orienting our work towards their satisfaction is our priority.

Didactic orientation
Facilitating the public's access to culture, especially to modern and contemporary art, is our aim.

Economic orientation
We work to optimize the management of our resources in order to maximize the Museum's financial autonomy.

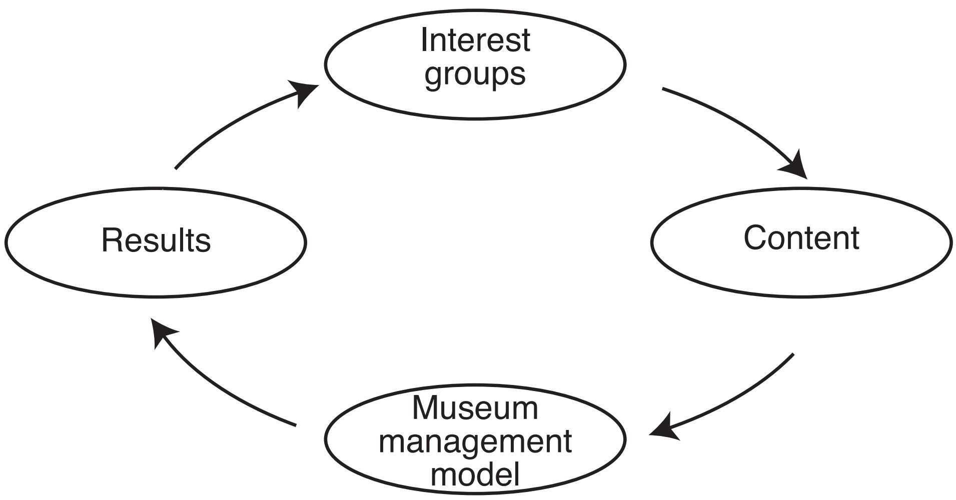
Integration and co-operation with the Guggenheim Museums
We foster and encourage integration at a personal and institutional level in the objectives, strategy and identity of the Solomon R. Guggenheim Foundation.

Commitment to society
We try to serve as a symbol for the vitality of the Basque Country and to promote ethical behaviour through art.

Trust in the Museum staff
We foster participation based on honesty, integrity and personal responsibility. We also promote freedom and respect for the individual.

Conceptual Model

The Strategic Plan 2005–2008 includes a further development of the Conceptual Model in which interest groups play a more important role and therefore define the Museum's activities.



The interest groups, which are very diverse in nature and with very different expectations, demand from the Museum certain contents: Art program, educational activities, use of its premises, etc. In the current strategic analysis the Museum considers the following as interest groups:

Basque Government	Tourism sector
Provincial Council of Bizkaia	Other museums
Solomon R. Guggenheim Foundation	Staff
Bilbao City Hall	Art critics
Strategic Trustees	Artists
Trustees	Curators
Corporate Benefactors	Mass media
Associate Members	Visitors
Sponsors	Clients-spaces
Individual Members	Clients-image
Basque society	Clients-Retail
Education community	Clients-Restaurant

It is the Museum's aim to respond to the various expectations of the groups with whom it relates. Its singular management model uses the available resources (persons, technology, working in network, etc.), to obtain results which attempt to respond to the demands of interest groups.

The Guggenheim Museum Bilbao management model is based on the EFQM total quality system, which presides over its operations and establishes as a goal the search for continuous improvement. In this context, the Guggenheim Museum Bilbao was awarded in 2004 the Quality Silver Q, which made it the first European museum institution to have been certified in total quality.

The implementation of the EFQM management model has also fostered formal policies which, in turn, have been articulated through specific actions related to developmental, environmental, or social issues, thereby bringing about greater benefits for the community as a whole.

The Guggenheim Museum Bilbao is determined to preserve the environment and it is in this spirit that its activities are carried out within the framework of sustainable development. The actions taken are focused on minimizing the Museum operations' environmental impact and preserving the ecosystem, fostering the conservation of nature and the implementation of eco-efficient activities, i.e., maximizing resources with the minimum impact possible.

Such commitment led the Museum to adopt, since its inception, various systems for pollution prevention, residue control, and policies for efficient use of resources, which reduce the impact of the Museum activities in its surroundings. The Museum's concern for the environment led the organization to pursue the adoption of policies according to auditable, international quality standards. The Museum's environmental management system according to ISO 14.001 was certified in 2004 and according to it, internal and external audits are carried out in various processes that bring about opportunities for environmental improvement.

On a different matter, it is the Museum's wish that all persons can take part in all cultural and artistic manifestations, including people with disabilities, the elderly, or children, who may find themselves in a disadvantageous position in certain circumstances. To this end, the Guggenheim Museum Bilbao implemented and certified in 2003 a global accessibility management system under UNE 170.001-2, pioneering accessibility management under this standard and being the first museum to do it in the world. The main assumption presiding over this system is that no two visitors are alike, and each, no matter their language, culture, disability, training, age, etc. can access the Museum and the services it has to offer in a different way and to a different extent.

The MARQ, a Quality Museum
The Quality Management System at MARQ

Javier Sáez, Josep A. Cortés, Manuel Olcina, Jorge A. Soler[7]

1. Introduction

The priority objective of Quality Management is to achieve customers' satisfaction. Customers' satisfaction is an individual feeling produced when they perceive they received more than expected. The difference between expectations and perception is customers' satisfaction, and this determines if a product or service is a quality one.

Customers' expectations are generated according to necessities and personal demand of each one of them, to the importance they give to specific aspects, to their previous personal experiences, and to what was conveyed to them by other people in previous contacts. Their perception depends on the answer to their needs and the way it is provided. The difference between expectation and perception generates a feeling of personal satisfaction or dissatisfaction. If the perception is equal or larger than the expectation, customers will be satisfied and will attribute quality to the product or service.

The ISO UNE-EN 9000 norms were defined in 1987 in Europe according to the above concepts. They were initially named Quality Control. In the 1994 series they were named Quality Assurance, and finally in the year 2000 version they were named Quality Management.

UNE-EN ISO norms are a set of rules of international nature adopted by the International Standardization Organization (ISO). The European Committee for Normalization (CEN) adopts norms at the European level, giving them the character of European Norms (EN). Finally, the Spanish Association for Normalization and Certification (ENAC) adopts the norms at the state level, giving them the character of Spanish norms (UNE).

A number of initiatives are taking place in the *Diputación*[8] of Alicante and in its autonomous bodies, agencies and foundations, concerning quality and improvement of services to citizens, civic associations and province municipalities in all areas and socio-economic sectors. Such initiatives have already been presented elsewhere and some of them received important awards. Some worth mentioning are those recently obtained by the *Patronato de Turismo*[9] and by the Archaeological Provincial Museum MARQ, designated as European Museum of the Year 2004 by the European Museum Forum.

In the present paper we will describe the experience in quality management and certification of the Archaeological Provincial Museum, within the *Diputación* of Alicante.

2. Quality at MARQ

The Quality management system of the Archaeological Provincial Museum of Alicante, MARQ, is certified according to the international quality norm ISO 9001:2000 by the certifying authority AENOR and has the registration number ER0008/2006. This certification was obtained through the audit of the auditing team on 2/12/2005, which followed the internal audit by quality technicians of the *Diputación* of Alicante on 28/10/2005. The certification process took a total of 534 days (some 20 months), as it started on 28/04/2004.

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7 *Diputación* de Alicante-Marq.

8 *Diputación* or *Diputación Provincial* is the Spanish province administrative body.

9 Provincial Tourism Agency.

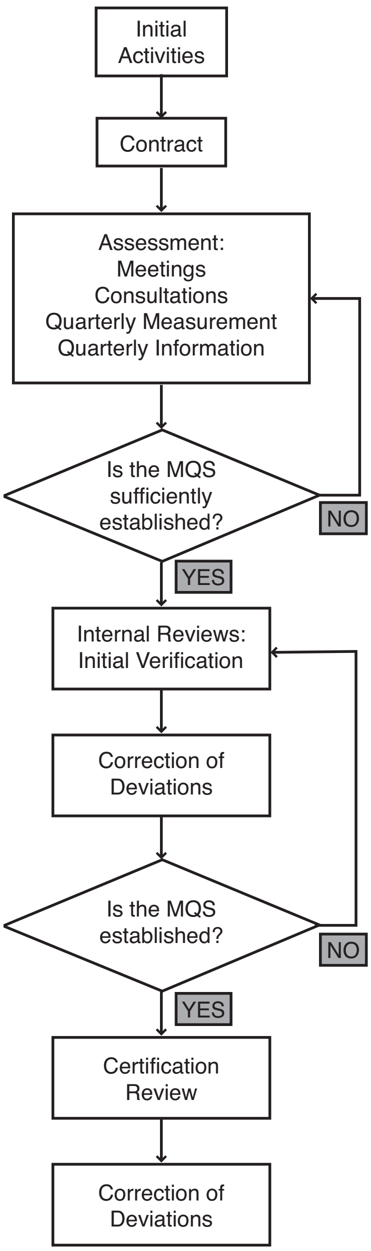
The MARQ is the first archaeological museum in Spain to have obtained quality certification.

The scope of the certification comprises the services of promotion, conservation, investigation, exhibition and dissemination of the collections of the Archaeological Museum and of the historic and archaeological heritage of the Alicante province.

MARQ internal organization consists of three sections:

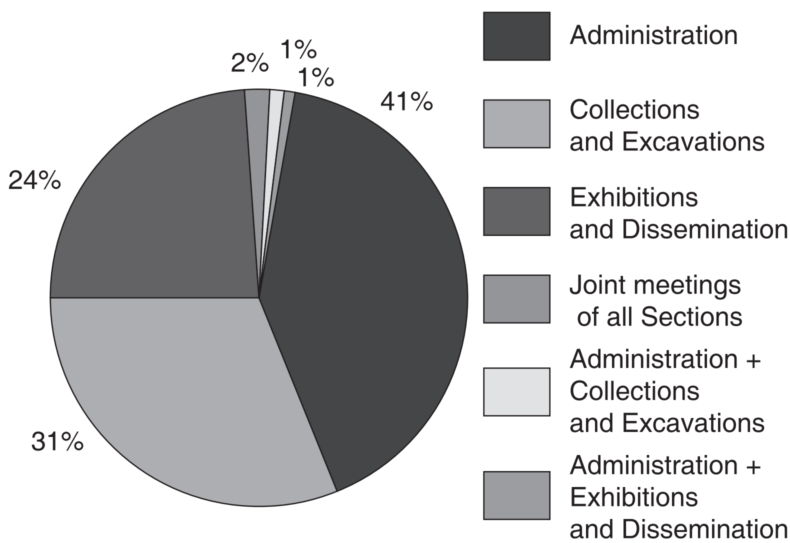
- Administration, managing the Museum's finance and general administration
- Exhibitions and Dissemination, planning and controlling didactic activities and the temporary exhibitions supported by the MARQ Foundation.
- Collections and Excavations, whose activities concern conservation – restoration of the archaeological collections of the Museum, and the archaeological parks fostered by the Museum.

The procedure adopted for the certification may be summarized in the following flow-chart (MQS = Management Quality System).

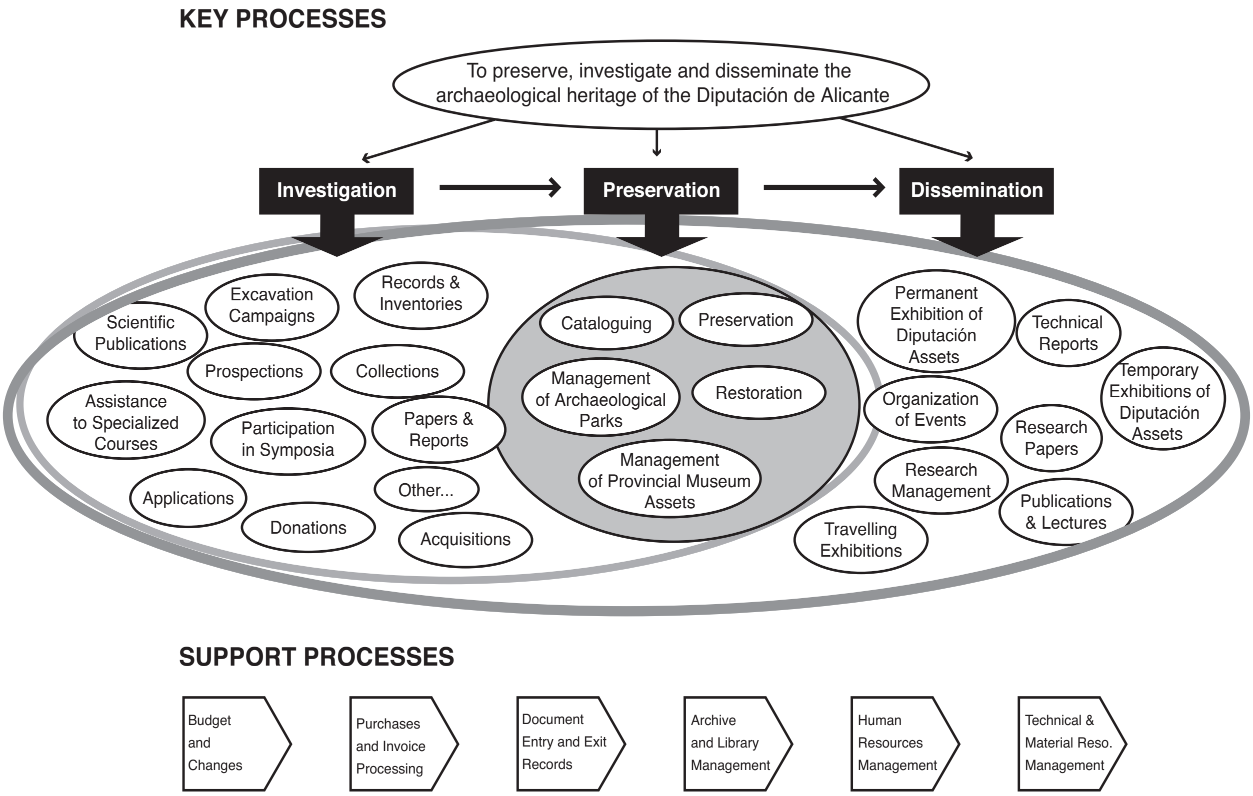


The effort necessary to achieve the certification, measured in number of meetings of different sections or joint meetings, is shown in the following table, both in absolute values and percentages and in the diagram below.

Sections	No. of meetings	%
Administration	38	41%
Collections and Excavations	29	31%
Exhibitions and Dissemination	23	24%
Joint meetings of all Sections	2	2%
Administration + Collections and Excavations	1	1%
Administration + Exhibitions and Dissemination	1	1%
Total	94	100 %



The following process map described the key processes and their mutual interaction and with support processes.



3. Quality Documents

General Procedures
These are the four Procedures and the Quality Manual required by the International Norm ISO 9001:2000

- MARQ-M QUALITY MANUAL
- MARQ-PD DOCUMENTATION MANAGEMENT PROCEDURES
- MARQ-PR REGISTRATION PROCEDURES
- MARQ-PA AUDITING PROCEDURES
- MARQ-PN PROCEDURES FOR THE MANAGEMENT OF NON-CONFORMITY, COMPLAINTS AND SUGGESTIONS, CORRECTIVE ACTIONS AND PREVENTIVE ACTIONS

Documents and Specific Procedures
The following are the twenty specific procedures enabling to specify the implementation protocol and the actual tasks to comply with the archaeological museum mission:

- MARQ-P01 ACQUISITION PROCEDURE FOR GOODS AND OBJECTS OF HISTORIC-ARCHAEOLOGICAL INTEREST WITH A VALUE UP TO 12.020,24 EUROS[10]

[10] This figure is related to the former Spanish currency Peseta, in use before Euro adoption. It corresponds to two million Pesetas.

- MARQ-P02 ACQUISITION PROCEDURE FOR GOODS AND OBJECTS OF HISTORIC-ARCHAEOLOGICAL INTEREST WITH A VALUE ABOVE 12.020,24 EUROS
- MARQ-P03 PROCEDURE FOR THE INCORPORATION OF GOODS THROUGH DONATION
- MARQ-P04 PROCEDURE FOR ITEM ACQUISITION FROM CESSION
- MARQ-P05 PROCEDURE FOR THE TEMPORARY CESSION OF ITEMS AND HISTORIC-ARTISTIC OBJECTS TO OTHER INSTITUTIONS FOR EXHIBITIONS
- MARQ-P06 PROCEDURE FOR PUBLICATIONS AND OWN PUBLISHING
- MARQ-P07 PROCEDURE FOR PUBLICATIONS AND PUBLISHING IN SYMPOSIA
- MARQ-P08 PROCEDURE FOR THE PROCESSING OF INVOICES WITH SIMPLIFIED PROCESS
- MARQ-P09 PROCEDURE FOR FIXING THE PUBLIC PRICE FOR PUBLICATION SALES
- MARQ-P10 PROCEDURE FOR PUBLICATION DISTRIBUTION AND SALES
- MARQ-P11 PROCEDURE FOR CONTRACTS NEGOTIATED WITHOUT ADVERTISING
- MARQ-P12 PROCEDURE FOR THE MANAGEMENT OF THE MUSEUM YEARLY EXCAVATION PLAN
- MARQ-P21 PROCEDURE FOR RESEARCHERS SERVICES
- MARQ-P22 PROCEDURE FOR RESTORATION
- MARQ-P23 PROCEDURE FOR PREVENTIVE CONSERVATION
- MARQ-P24 PROCEDURE FOR COLLECTIONS CONTROLLING AND RECORDING
- MARQ-P25 PROCEDURE FOR MOVING MATERIALS
- MARQ-P31 PROCEDURE FOR PUBLISHING
- MARQ-P33 PROCEDURE FOR THE YEARLY EXHIBITION PROGRAM
- MARQ-P34 PROCEDURE FOR EXHIBITION TECHNICAL ASSISTANCE

Likewise, working instructions were defined for the verification/calibration of measuring instruments:

- MARQ-I60 INSTRUCTIONS FOR SCALES VERIFICATION
- MARQ-I62 INSTRUCTIONS FOR THERMO-HYGROMETER VERIFICATION

4. Indicator System

Some measures of quality standard achievement were defined as well. They were graphically represented with time evolution tables with regard to standard averages and deviations, defining the allowed normal deviation ranges. Thus it is possible to study the monthly cases in which variations from the normal activity margins are detected, to analyze the causes and to remove-control-minimize them, in order to avoid that such alterations take place again.

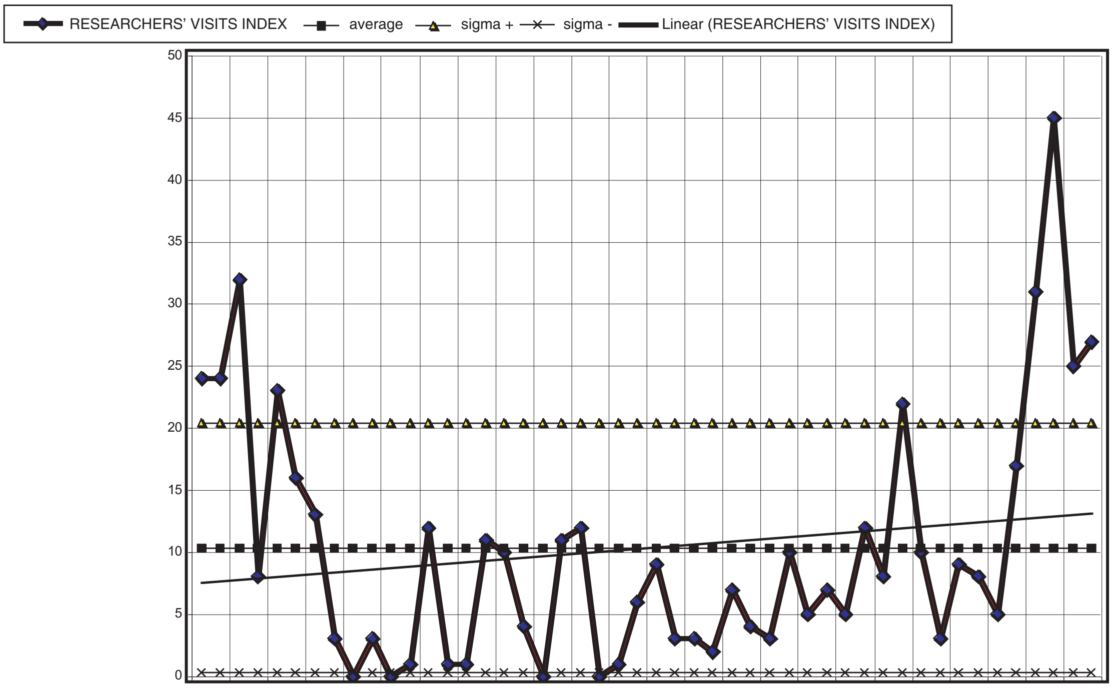
As an example we show the graphs of researchers' visits from the year 2004 until 2007.

Another example shows the number of publications according to partnership, carried out since the year 2000.

In the same line, the following graphs shows the number of exhibitions organized by MARQ since the year 2000. It is possible to clearly appreciate a constant increasing trend throughout these eight years.

A synthetic indicator of all the processes is obtained by measuring "Customers Satisfaction". One of these is obtained with a poll to all researchers visiting MARQ either to study pieces that are not exhibited or to use its large library.

For example, see the following anonymous questionnaire.

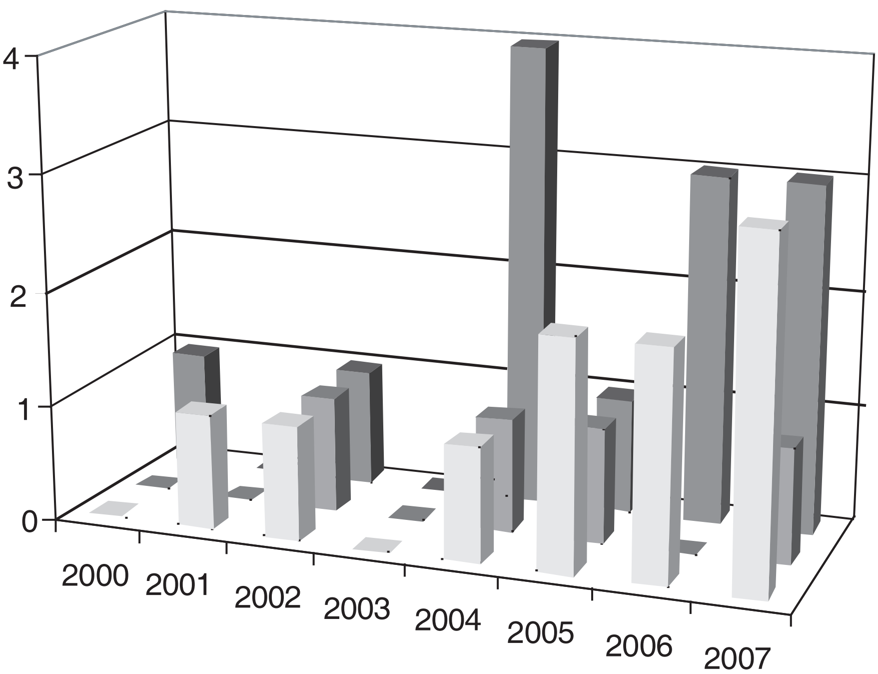


	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
RESEARCHERS' VISITS INDEX	24	24	32	8	23	16	13	3	0	3	0	1
average	10	10	10	10	10	10	10	10	10	10	10	10
sigma +	20	20	20	20	20	20	20	20	20	20	20	20
sigma -	10	10	10	10	10	10	10	10	10	10	10	10

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
RESEARCHERS' VISITS INDEX	12	1	1	11	10	4	0	11	12	0	1	6
average	10	10	10	10	10	10	10	10	10	10	10	10
sigma +	20	20	20	20	20	20	20	20	20	20	20	20
sigma -	10	10	10	10	10	10	10	10	10	10	10	10

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
RESEARCHERS' VISITS INDEX	9	3	3	2	7	4	3	10	5	7	5	12
average	10	10	10	10	10	10	10	10	10	10	10	10
sigma +	20	20	20	20	20	20	20	20	20	20	20	20
sigma -	10	10	10	10	10	10	10	10	10	10	10	10

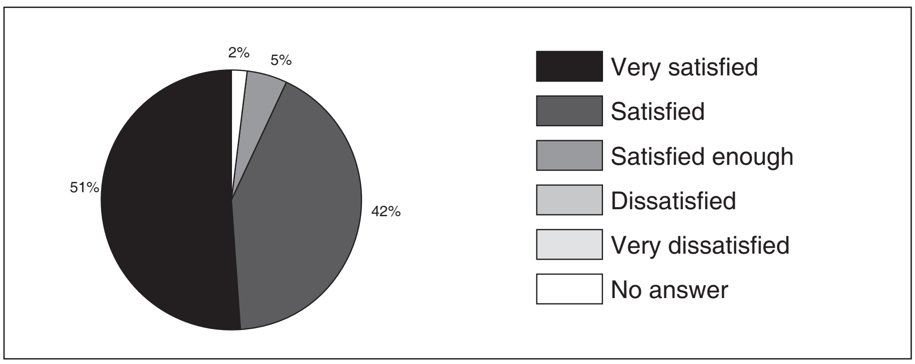
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
RESEARCHERS' VISITS INDEX	8	22	10	3	9	8	5	17	31	45	25	27
average	10	10	10	10	10	10	10	10	10	10	10	10
sigma +	20	20	20	20	20	20	20	20	20	20	20	20
sigma -	10	10	10	10	10	10	10	10	10	10	10	10



	2000	2001	2002	2003	2004	2005	2006	2007
Publications without other Institutions	0	1	1	0	1	2	2	3
Joint publications with other Institutions	0	0	1	0	1	1	0	1
Exhibition Catalogues	1	0	1	0	4	1	3	3

Please answer to the following questions using the following satisfaction ranking				
1	2	3	4	5
Very dissatisfied	Dissatisfied	Satisfied enough	Satisfied	Very satisfied
1. Please evaluate the effectiveness of the service:				
1	2	3	4	5
2. Please evaluate the resources provided:				
1	2	3	4	5
3. Please evaluate your level of satisfaction as far as professional advice is concerned:				
1	2	3	4	5
4. Please evaluate your level of general satisfaction you would assign to our service:				
1	2	3	4	5
5. Please evaluate your level of satisfaction regarding the correspondance to your expectation:				
1	2	3	4	5

The results obtained in 2007 are shown in the following graph (12 answers).

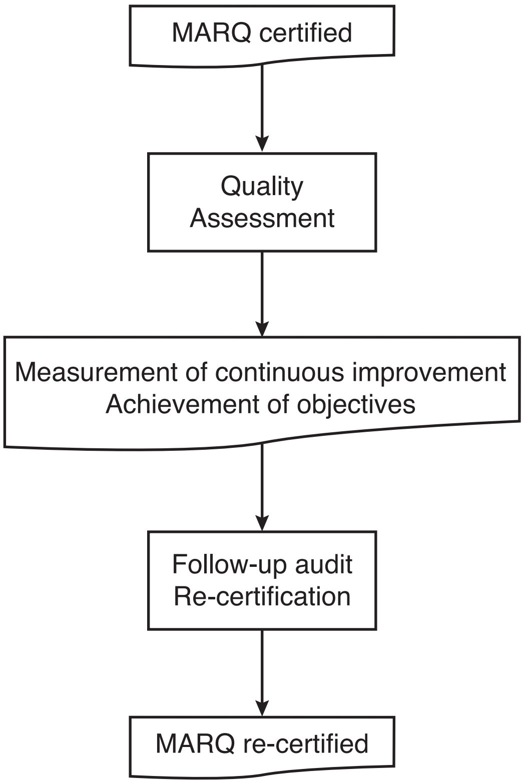


5. Maintaining the certification

The Quality Management System is maintained yearly, preparing an exhaustive report including all the results of improvements to the system, its analysis and proposals for the following year. It is reviewed with Quality Audits, with a yearly periodicity:

- Internal maintenance audit
- Follow-up audit, or renew audit three years after obtaining the certification to extend it for three more years, or re-certification.

This process may be summarized as shown in the following flow-chart:



6. Conclusions

The above system allowed implementing a systematized work model, adopted by all the Museum personnel. It provides, in conclusion, not only a guarantee of the quality level of our services for internal use, but also externally, because it consists of processes continuously reviewed and analyzed. It is also a guarantee for those who avail of our facilities, testing with polls the suitability of adopted procedures with evaluators and AENOR auditors, with researchers, students and the general public related to MARQ.

MARQ closed past 2007 with a total of 175.000 visitors, being undoubtedly one of the Archaeology Museums most visited in Spain.

Developing a Quality Experience for the Museum Visitor. The Impact on Birmingham Museums & Art Gallery of Participating in the Charter Mark Quality Assessment Scheme (1998–2007)

Jane Arthur[11]
Shirley Chisholm[12]

Summary

Birmingham Museums Service has used the UK Government Charter Mark scheme for public sector bodies to promote a customer focused approach within the service. The Charter Mark assessment has ensured we continue to test ourselves and review our performance based on customer feedback. With better knowledge of our users and regular consultation we have both increased the number of visitors to our museums and increased their satisfaction levels.

1. Birmingham Museums Service

Birmingham Museums Service is the largest local authority museum service run by a single local authority in England. Supported by c220 staff (full-time, part-time and temporary) and working to a net budget of c £7.4m, the service received 682,510 personal visitors (local, regional, national and international) and 1,800,998 website visits in 2006/07.

We hold one of the finest collections of art, history and science in the U.K. The collections have been Designated as outstanding by the Department for Culture, Media and Sport and have local, regional, national and international importance.

We deliver our service across eight sites:

- **Birmingham Museum and Art Gallery**, housed in a city centre landmark building. The museum shows its collections of art, applied art, social history, archaeology and ethnography in over 40 galleries. The Waterhall and Gas Hall run a complementary programme of temporary exhibitions throughout the year.
- **Aston Hall**, built in 1635, is one of the finest surviving Jacobean houses in Britain. The Hall is presented through a series of room settings representing the periods of its occupation from the mid seventeenth to mid nineteenth centuries.
- **Blakesley Hall**, built by a local merchant in 1590 this timber framed Elizabethan house was re-opened to the public in May 2002 following a major Heritage Lottery funded development scheme.
- **The Museum of the Jewellery Quarter** occupies the former workshops and offices of the jewellery manufacturers Smith and Pepper. It provides a unique interpretation of the development and technologies of Birmingham's jewellery industries.
- **Sarehole Mill,** is one of only two surviving working watermills in Birmingham. Built in 1768, Sarehole has important associations with the 18th century industrialist and entrepreneur Matthew Boulton and with the author J.R.R.Tolkien.

[11] Head of Collection Services
[12] Visitor Services Manager

- **Soho House**, is the former home of the Birmingham 18th century industrialist and entrepreneur Matthew Boulton. It now contains outstanding examples of late 18th century furnishings together with products of Boulton's Soho Manufactory and Mint.
- **Weoley Castle** ruins date from the thirteenth century. Following six years of closure, we were able to partially re-open the site in July 2005 following the creation of a new secure viewing area.
- **Museum Collections Centre**
  Completed in 2005, the MCC brings together the 90% of the reserve collections in one building. Public access is being developed via open days, research visits, school services and visits supported by IT and learning resources.

In addition, the Museums Service has responsibility for the loan, development and care of the City's collections of science and technology to Thinktank Trust.

Our interpretation of the collections is supported by an active education programme delivered by our award winning Schools Liaison Unit, Education Outreach Officers and the Public Programmes Team**.** In 2006/7 there were 72,108 visits by school children in organised groups to the Museum & Art Gallery and community museum sites for either taught or supported education sessions. We manage a constantly changing programme of exhibitions and events across the whole service with Soho, Aston and Blakesley offering special community-focussed spaces and programmes. In addition, we provide a variety of visitor services including a restaurant (the Edwardian Tea Room), tea rooms, shops, toilets and baby-changing facilities at our various sites.

2. The Charter Mark scheme

The Charter Mark scheme was introduced by the UK Government in the early 1990s as a way of testing how public sector services meet their customer needs and improve their customer service. At the heart of Charter Mark is the fundamental question: what does the customer expect or hope for from the service offered? We cannot know if we are performing if we do not consult and receive feedback from our users. Charter Mark is not about winning an award but about promoting a culture change in public sector organisations so that they become responsive to customer needs and have a continuing focus on improving customer service.

The content of the Charter Mark scheme has changed slightly over the years as feedback from applicants and assessors has led to refinement of the criteria and evidence required. It has, however, always retained its focus on excellence in customer service. Charter Mark makes an impact by:

- Increasing customer focus
- Improving consultation with users
- Developing better internal processes
- Developing more effective service delivery
- Improving complaints handling
- Delivering more cost effective services

Six criteria make up the Charter Mark scheme:

1. Set standards and perform well
2. Actively engage with your customers, partners and staff
3. Be fair and accessible to everyone and promote choice
4. Continuously develop and improve
5. Use your resources effectively and imaginatively
6. Contribute to improving opportunities and quality of life in the communities you serve

To achieve the Charter Mark Standard an organisation

- May not have any major non-compliance
- May only have the following number of Partial Compliances per criterion:
    - Criterion 1 3 partial compliances
    - Criterion 2 4 partial compliances
    - Criterion 3 3 partial compliances
    - Criterion 4 3 partial compliances
    - Criterion 5 2 partial compliances
    - Criterion 6 2 partial compliances

Compliance with the Standard	
Best Practice	All aspects of the element are met, and the applicant can demonstrate that they have gone beyond the requirements.
Full compliance	All aspects of the element are met.
Partial compliance	Some but not all aspects of the element are met and remedial action to meet the remainder could be put in place within a short period of time (maximum three months).
Major non-compliance	None of the requirements of the element are met or the assessor concludes that remedial action to address those elements that are not met would require a time scale in excess of three months.

The Charter Mark scheme is due to be re-launched in late 2007. The full criteria for the current scheme can be found at www.cabinetoffice.gov.uk/chartermark/criteria . An initial self assessment tool, guidance on the evidence required and on specific aspects of meeting the criteria, for example consulting with children, can also be found on this website.

3. The certification process

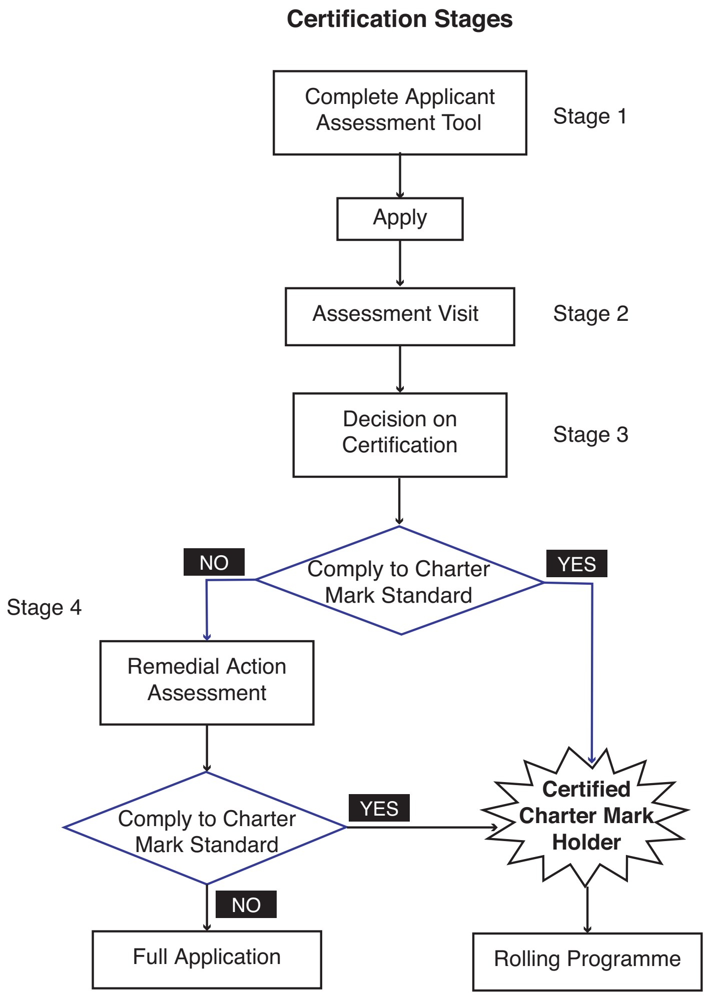
Four certification bodies have been approved by the UK Government to undertake Charter Mark assessments. These are private sector companies and a fee is charged for the application and the assessment visit. Since 2004 all applications for Charter Mark are made online with a self-assessment form that logs evidence against each of the six criteria. This is followed by a rigorous inspection visit from a trained Assessor. At the end of this process, the Assessor reports back to the organisation on where they have met or not met the standard and makes recommendations for further improvement. The Assessor's report is also validated to ensure that the Standard remains consistent.

Following certification if organisations have not complied with the requirements of the Charter Mark Standard they have an option to complete a 4th stage of the process allowing for a Remedial Action Assessment.

To maintain the certification organisations are required as a minimum to undertake a Surveillance Review 12 months following certification. Applicants with significant partial compliance to the Standard but who meet the requirements for certification may require additional surveillance activities. These are discussed with the applicant at the time of certification.

Certification to the Charter Mark Standard can be suspended should organisations fail to maintain compliance to the requirements of the Standard.

Non-compliance to the Standard may be identified either through surveillance or through notification to the Certification Body of the failure by the organisation to comply with the Standard.



4. Drivers for Change – introducing a customer focused approach

There were a number of drivers for change that led to our initial application for Charter Mark in 1998. The Museums Service went through a major re-structure in 1994 and there was a need to both embed the new structure and to reflect a more outward and visitor centred approach. This led to the formation of a new Visitor Services section at the Museum & Art Gallery. During this same period Birmingham City Council also made a commitment to invest in the personal training and development of employees. The Investors in People (IiP) programme, another UK Government sponsored standards programme, was adopted throughout the City Council as a way of ensuring that the training and development needs of employees were regularly reviewed and addressed.

The IiP initiative was used at the Museum & Art Gallery to work particularly with front line staff to build morale and a team approach to their work. Quality Circles were used to identify customer service problems and to propose solutions that could then be implemented by staff. These groups were supported by managers, but were empowered to decide on their own approach and given small budgets with which to make improvements. The two most successful groups were those looking at improving Parent and Child Rooms across the service and access for people with disabilities at the Museum & Art Gallery. Staff development continued in the next few years with training focused on customer care and support for front line staff with an NVQ level 2 in Visitor Services and Heritage Care.

By this time, the Museum Service was also preparing to meet the requirements of new legislation such as the Disability Discrimination Act and Race Relations (Amendment) Act.

5. Charter Mark Application 1998

BM&AG made its first Charter Mark application in 1998, by which time there was a confidence across the service that we were already making headway in some important areas of customer responsiveness. It was recognised that the work undertaken previously via IiP, the Quality Circles, response to legislative driven initiatives, all lent themselves well to addressing the Charter Mark criteria.

In that year Birmingham City Council was to play a lead role in co-ordinating the G8 Conference of World Leaders in Birmingham where the Museum & Art Gallery was to act as a host venue. The increased visitor interest that resulted was seen as an opportunity to strive for even higher standards of customer service. The concept of a prestigious award for customer service that proved we were delivering services that visitors wanted was very appealing. It was felt that it would give new impetus to our efforts and offer a tangible ‘reward’ for the efforts made by staff to improve services. It was hoped that an external audit of our services would provide a further lever for change in our organisational culture. The Charter Mark criteria fully encompassed all of the areas of work in which we were involved and set testing standards.

For this first application we put together a team of 6 staff from across the service including representatives from curatorial, community museums, education and visitor services. Charter Mark assesses the whole service not just the public areas of the museum therefore it was important that all the staff understood how their role and work impact on the visitor and users of our services.

6. Improving our User Consultation

One of the most important areas of development and improvement was a proactive approach to consulting our users. Since our first Charter Mark application the Museum Service has considerably extended and improved its user consultation processes. Our first application relied heavily on the posters and leaflets we produced as evidence. However through our subsequent Charter Mark applications we can map continuous improvement in this area. We have developed a regular programme of public consultation on general issues, in addition to targeted research on specific aspects of the service. This is used to inform our key planning document, the Service Plan, and to prioritise the work of the service. The results of these consultations are communicated to staff and the public in our Annual Report, on our website and the Visitor Information Files that are available at all our sites.

Charter Mark assessment has ensured we continue to test ourselves and continually review our performance. Through assessment, we have been encouraged to think more broadly about who may want to access information about our services, the language we use and where we make it available. We seek the opinions of all sectors of the community, including non-users of the service.

To facilitate this, the service has committed to a range of initiatives aimed at discovering how the community would like us to deliver our services. The formation of the Community Action Panel (CAP), a focus group comprised of local people from a wide range of social-economic backgrounds is playing a key role in this area. This group has been actively involved in projects such as looking at what names we give to galleries and how we write object labels.

Likewise, an initiative aimed at learning from non traditional museum audiences, Ask the Audience, has seen the museum communicating in new ways. This has included working with older people on reminiscence with handling objects and with under 5s on their first gallery visit. We have extended the range of information we provide in order to engage with potential users of our services. Information about our services has also been made available in large print and audio versions. One of the most important documents for the service is the Summary of Evaluation. This document records all evaluation and consultation since 1998 with the key findings or recommendations from each piece of work. From this we can show how we have developed and improved our Museum Service through consultation.

7. Consulting non users

A case study in how we have successfully consulted with non users is the development of the "How Art is Made" gallery at BM&AG. In 2005 local people were asked what they would like to see in the Art Gallery. An independent agency, QA Research, conducted extensive consultation with non-visitors from the Ladywood area (the district within which the Museum & Art Gallery is located in central Birmingham) who fell into our target categories within lower socio economic groups, unemployed, older people and people from black and minority ethnic communities.

Amongst the many things discussed were a range of possible themes for new permanent gallery displays. "How Art is Made" emerged as one of the most popular gallery art themes in this consultation. The members of the Ladywood community said that they did not just want to see object displays, but were particularly interested in meeting artists face-to-face, watching them create things, have an opportunity to try out artistic techniques for themselves and to also be told the story behind how things came to be made.

The key aims of the new gallery were:

- to introduce people to art in a fun and informal way.
- to introduce visitors to the wide range of objects on display throughout the museum.
- to promote local and regional artists through both the displays and an ongoing series of artist-led workshops and demonstrations sited within the display space itself.

8. "How Art is Made"

We set aside two of our galleries for this thematic display, targeted at first time visitors as well as families and school groups. The display is viewed as a continual work in progress and changes will take place as a result of evaluation and consultation with visitors. The galleries display a diverse range of work from our collections including fine and applied art as well as ethnographic and Egyptian material. Most importantly though are loans from artists in the region in displays that explore the different creative techniques including painting, woodcarving, bronze-casting and etching. There is a strong audio-visual element to the gallery with an introduction by a popular children's TV presenter Mark Speight, and a series of interactive TV screens throughout the gallery where visitors can watch up to nine different short films of artists from the region making work and talking about their artistic process as well as what inspires them. Next to the TV screens there are displays that show actual works and tools used by the artists featured.

"How Art is Made" opened to the public in April 2006. Since then it has received over 154,500 visits with significant increases during the school holiday periods, for example over 10,000 visits each month in February, April and July 2007. An important feature of the gallery is the ongoing series of artist-led workshops, demonstrations, talks and residencies that take place. This programme is aimed at a diverse range of people from under-5s, families, school groups to day-to-day visitors and adult groups. Since opening over 100 workshops have been held.

The impact of the gallery is evaluated through self completion questionnaires which are analysed quarterly (see Appendix 1 for a sample questionnaire). These use the Museum, Libraries & Archives Council "Inspiring Learning for All" generic learning outcomes to capture a qualitative response to learning. (More information on ILfA can be found at www.inspiringlearning.gov.uk). The generic learning outcomes are a tool that provides a framework within which to record evidence and measure learning. The types of learning experience are broken down into 5 areas:

- knowledge and understanding (eg learning new things, deepening understanding)
- skills (eg being able to do new things)
- enjoyment, inspiration and creativity (eg having fun, innovation, exploration)
- attitudes and values (eg feelings, perceptions, emotions)
- activity, behaviour, progression (eg action, change of intentions)

Examples of impact and comments are outlined below:

Enjoyment, Inspiration and Creativity
95% of respondents enjoyed the session that they attended.
My son was happy to participate in activities
Loved watching demonstration with Frank Johnson
Children from holiday playgroup enjoyed it
Skills
63% of respondents felt they had 'learnt a new skill':
Some were very specific and related to an artform:
Making mosaics, using different materials to a finished product
Developing art design
How to use recycled materials to make art
Knowledge and Understanding
59% of respondents felt they had a better understanding of something.
Some of the responses relate to specific artforms:
Art crafts and metal crafts (stained glass)
Oil painting specifically Pre Raphaelite
Attitudes and Values
28% of respondents had changed their opinion about something during their visit. Many answers related this question to the Museum itself demonstrating a possible change in attitude towards Museums:
That the BMAG is child friendly
That you can have fun at Museums not just to look around
Not only a place of looking but a place for enlightenment and child learning
Activity Behaviour and Progression
54% of respondents said that they intended to do something else as a result of their visit today. The responses are very varied and suggest a wide range of behaviour following a visit:
Some responses suggest follow up activity at home by children
I think the children will go home and get out their paints.

The continuing Generic Learning Outcome evaluation is important in helping us to develop our future programme indicating which artists and artforms and methods of delivery work best for our audiences.

9. Charter Mark application 2007

The development of new galleries based on the user and non user consultation were an important part of the evidence provided for our fourth and most recent application for Charter Mark in May 2007.

We submitted nearly 300 pieces of evidence to support our application matched against the criteria. These are broken down into 63 elements of which we achieved full compliance in 49, partial compliance in 10 and best practice in 4.

It was encouraging to see that the areas where we received **best practice** commendations were in our work with local communities.

Criterion 2 – Actively engage with your customers, partners and staff
2.1.1 You consult people in a variety of ways and regularly review these to make sure that the results are effective and reliable.

For evidence we provided details of partnership working, consultation with non users as well as users, our annual service plan and how these are brought together and communicated to staff so that everyone is aware of how important this feedback is to the organisation.

Criterion 6 – Contribute to improving opportunities and quality of life in the communities you serve

6.1.3 You have collected the views of customers, staff and other interested people or organisations, and used them to influence the contribution you make to the community.

For evidence we provided details of consultation with user groups such as teachers, local youth groups and our Ask the Audience programme of outreach with black and minority ethnic communities. We were able to show that we not only collect views and opinions but use the consultation to develop further community based activities.

6.2.2 You have been positively involved with the community for six months or more.

In addition to long standing projects such as the Asian Women's Textile Group we were able to show examples of how we can help combat social exclusion through discrete projects such as the Museum of the Jewellery Quarter programme with African-Caribbean elders.

6.2.3 You monitor your activities and have evidence of their positive effect in the community.

We were able to provide evidence that we changed the content or presentation programmes based on feedback from participants and recommendations from external evaluators. The ongoing evaluation we undertake shows that projects with young people and other groups at constant risk of social exclusion have made a positive impact through work with artists and outreach community officers.

In terms of **partial compliance** the key issues for consideration and recommendations for improvement were on ensuring that we communicate regularly with our users to show that we take notice of their feedback and subsequently make changes to the way in which we deliver services. The assessor commented that we are too reticent about the improvements we've made and that we should communicate these more proactively with our visitors.

An example of how we are addressing partial compliance relates to Criterion 2:

Criterion 2 – Actively engage with your customers, partners and staff

The evidence for this Criterion needs to show that our organisation:

- Actively works with (engages with) customers, partners and staff to make sure it delivers high-quality services
- Consults and involves present and potential customers of public services, partners and staff
- Is open, and communicates clearly and effectively in plain language and in a number of different ways
- Provides full information about services, their cost and how well they perform

  We received partial compliance for sub-criterion 2.3.2 as the assessor felt that there was insufficient evidence that we had used customer feedback to make improvement for full compliance.

Sub-criterion 2.3 – Your information meets the full range of your customers' needs, abilities and preferences.

2.3.2.1 Your organisation makes sure customers have received and understood the information you provide

2.3.2.2 and that you improve this using feedback from them.

With an increasing emphasis on encouraging the use of the service by children, BM&AG is now looking to use Criterion 2 to challenge its information provision to younger people. During this year's assessment, it was suggested that our Service Standards, which describe the minimum standards users can expect from us across the full range of our services, be made available in a format children could understand.

This would add an extra dimension to our compliance and prove our information ‘meets the full range of your customers’ need, abilities and preferences’.

Since our assessment in May the Visitor Services Manager has consulted on an insert for our gallery guide that would set out our standards in simple terms as shown below:

Birmingham Museums and Art Gallery
Doing the things you ask for….

At Birmingham Museums and Art Gallery we ask our visitors what they want our museums to be like. They said a good museum should:

- Be a welcoming place to come into with beautiful and interesting things inside
- Have collections and objects that help us to understand the culture and heritage of our own country and other ways of life
- Tell us about things we see in a way we can understand and learn from
- Allow us to see how objects are made and how they work
- Be open everyday of the week and have lots of free things for everyone to see and do
- Make it easy for everyone to get in and around the museum
- Have a good place to eat and a shop where we can buy things that remind us of our visit
- Do something quickly to help if we have a question or problem

Because these things are important to our visitors we make sure we think about them when planning new things in our museums. You can tell us what you think about our Museums and Art Gallery by telling one of our staff, filling in a Customer Comments form or by visiting www.bmag.org.uk

Visitor reaction to this new format will be used to inform our approach in providing more information about our services in accessible formats. Out aim is to develop this theme and reduce our long and complex service standards information into a format that will engage and inform children and young people. Presenting them in attractive ways using lively posters, pictures and web based information, consultation will be undertaken with these groups to establish what formats have most impact and relevance.

We will look to benchmark our consultation and participation processes against good practice within and, in necessary, outside our sector in order to identify ways to match and improve on existing practice. An additional benefit to this work is that by making information accessible to children and young people in this way, we also create the potential to engage those whose first language is not English and people with learning disabilities.

10. Conclusion

Over the last 10 years, the ongoing process of application, assessment and feedback that Charter Mark offers has become embedded in the Museum Service. As a lever for change this process does concentrate our minds on why and how we do what we do and most importantly, for whom. It is relevant to all areas of our work and has made us review many of our activities to put the customer at the centre of our thinking. The challenge of a regular external review that pushes us to raise the bar in delivering service standards has proved to be a very positive driver for change.

Appendix 1:
Sample questionnaire for evaluation using the Generic Learning Outcomes

Birmingham City Council

Birmingham Museum & Art Gallery (or name of Community Museum)

(Exhibition/Event Title) **Date:** / /

1. Have you visited this Museum before? Yes/No

If yes, how many visits in the last 12 months?

Once		Twice		Three or More	

2. Do you now have a better understanding about something? Yes/No/Don't Know
If yes, what?..
…………………………………………………………………………………………………
…………………………………………………………………………………………………

3. Have you learnt a new skill today? Yes/No/Don't Know
If yes, what?..
…………………………………………………………………………………………………
…………………………………………………………………………………………………

4. Have you changed your opinion about something today? Yes/No/Don't Know
If yes, what?..
…………………………………………………………………………………………………
…………………………………………………………………………………………………

5. Have you enjoyed your visit? Yes/No/Don't Know
If yes, how?..
…………………………………………………………………………………………………
…………………………………………………………………………………………………

6. Do you intend to do something else as a result of today's visit? Yes/No/Don't Know
If yes, what?..
…………………………………………………………………………………………………
…………………………………………………………………………………………………

7. Was there anything about the exhibition/event that could be improved? Yes/No/Don't Know
If yes, what?..
…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………

continued…

8. Have you any other comment about the Museum? Yes/No
If yes, please write or draw in the box below.

To Join Our Emailing List
If you would like to receive information on events and services provided by Birmingham City Council, you can join our emailing list. In compliance with the Data Protection Act 1998, all information will be treated confidentially and will not be passed on to other organisations. If you wish to join, please write your email address here:
……

IF YOU ARE UNDER 16 YOU WILL NEED TO GET THE CONSENT OF YOUR PARENT/GUARDIAN.

I AM THE PARENT/GUARDIAN OF THIS CHILD AND AGREE THAT THEY CAN RECEIVE EMAILS GIVING INFORMATION ON CHILDREN'S ACTIVITIES ORGANISED BY BHAM CITY COUNCIL ☐ NAME ……………………………………………………………………………………......

If you wish to receive regular updates on activities and events for children, please write your child's email address here:
……

Please tick this box to indicate your agreement. ☐

Thank you for taking the time to fill out our questionnaire. When complete, please hand it to a member of staff.

Registration and Accreditation as Ways of Raising Quality in Museums. An European Overview

Margherita Sani[13]

The use of Total Quality Management Models, such as the EFQM Model illustrated in this publication, is the exception rather than the rule in European museums.

Quality Models indeed tend to thrive in situations where standards in museum work have already raised to an acceptable – often called minimum – level, and excellence can therefore set in.

The United Kingdom

Overall in Europe, museums have been improving their performances and raising the quality of their work mostly under the drive of the so called “Registration/Accreditation schemes”.

Such systems were first introduced in the UK in 1988 with the objective of setting minimum standards each museum in the country could achieve. The importance of defining minimum standards for the operation of museums was first recognised by museums themselves in the early 1980s. The value of a standard scheme was supported by the Museums Association and the - at the time - Committee of Area Museum Councils. It was, in other words, something which came from the profession and was developed and refined over a considerably long time of consultation and piloting.

Since 1988 the Registration Scheme has supported over 1860 museums to improve the quality of their work. In 2004, it was renamed “Accreditation Scheme” and reviewed, on the one hand to improve the process by which museums are assessed against the standards, and on the other to give greater relevance to areas such as public services, education, documentation, the museum environment, etc.

The requirements for registering in the UK consist in having:

- An acceptable constitution for the governing body
- Proper management arrangements
- Satisfactory arrangements for the ownership of the collections
- Secure arrangements for occupancy of premises
- A sound financial basis
- A forward plan, including statement of purpose, key aims, specific objectives and spending plan
- Emergency planning
- Staff appropriate in numbers and experience to fulfil the museum’s responsibilities
- Staff employment and management procedures
- Access to professional advice
- Professional input to policy development and decision making
- Compliance with relevant legal, safety and planning regulations

The Accreditation Scheme in the UK is administered by the Museums, Libraries and Archives Council in collaboration with the Regional Agencies for museums, libraries and archives in England, the Scottish Museums Council, the Northern Ireland Museum Council and in Wales. Museums are invited to make

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written applications which demonstrate how far the requirements set out in the Accreditation Standard have been met. Each application is assessed by the relevant Regional Agency for museums, libraries and archives and, following assessment, final decisions on Accreditation are made by an independent panel of senior museum professionals.

The Netherlands

The UK scheme has been used as a model and source of inspiration in other European countries and was imported basically unchanged both in the content and in the procedures, by countries such as the Netherlands, which adopted it in 1999.

In the Netherlands there are nine basic requirements to achieve registration and be incorporated in the Museum Register:

1. *Having an institutional basis* – Museums that are governed by a government (central, provincial or municipal) have a statutory basis and can be registered because of that. Other museums should be incorporated in a private-law legal body (usually a foundation or an association), which guarantees the continuity of the museum. The core collection of the museum (the collection vital to the image of the museum) should , moreover, also be in the possession of, or on long-term loan (minimum of 25 years) to the museum.
2. *Having a stable financial basis* – The museum should have a financial basis that guarantees continuity. The financial stability may be shown from annual accounts, budgets and financial guarantees.
3. *Having a written policy plan* – The museum should have a written policy plan in which its mission and target groups have been clearly formulated. The policy plan should be determined by the board and brought up-to-date at least once every five years.
4. *Having a collection* – The basis of a museum is its collection. When applying for incorporation in the Museum Register a museum should give an idea of its collection, based on a general description of the collection in its collection policy. This should include also the policy for selection and de-accessioning of museum objects.
5. *Having a documentation of its collection* – The museum should have a catalogue of its collection which complies with the minimum requirements in the Netherlands. If there are considerable backlogs in the documentation, it is sufficient for the museum to have a plan showing that backlog will be cleared within a certain period of time.
6. *Taking care of the preservation of the collection* – The measures that are necessary for the preventative conservation of the collection in view of the nature of the collection and the building, should be taken adequately and within the museum's power.
7. *Having the collection researched* – It is also the museum's responsibility to use the collection to obtain new knowledge.
8. *Having basic public amenities* – To qualify for registration a museum should be at least open to the public on 104 day sections per year. Moreover, information about the collection should be made available to the public in various forms, while the museum should have public amenities (cloakroom, toilets, café, etc.) appropriate to the nature and scale of the museum.
9. *Having qualified museum staff* – The museum should have qualified personnel (which might also be working in a voluntary capacity, but with the appropriate qualifications). Here, too, the nature and scale of the museum is taken into consideration.

Finally, since the basic requirements for museum registration are building on the Code of Ethics, registered museums are expected to apply the rules of conduct formulated in it as the basis of their conduct. They are also expected to adhere to all relevant legislation.

As in the United Kingdom, the process of registration involves the submission of an application by the museum, which is first assessed by the Provincial Consultant and then by the Museum Register Foundation, which is the independent body granting museums the registered status. Registration, as in the UK, can be:

- *full*, if the museum conforms to all basic requirements and is incorporated in the Museum Register.
- *provisional*: the museum does not conform to all basic requirements, but has a plan to make up for its shortcomings within a reasonable period of time.

In any case, and again like in the UK, museums have to re-register every five years.

Ireland

Having addressed the issue of standards some years later, Ireland has developed a not too different, but in some respects, innovative and effective accreditation system.

Based on the schemes used in other countries, among which the United States and New Zealand, Ireland has developed a Museum Standards Programme consisting of a series of detailed and rigorous, minimum standards and objectives that recognise international best practice in museums.

There are thirty-four agreed minimum standards, twenty-five of which are required to meet interim accreditation, and the remaining nine standards are full accreditation standards.

They are divided up into seven main areas:

A. Policies and Museum Management

1. CONSTITUTION AND POLICIES

Mission Statement (interim standard) – Applicants must submit the mission statement of the museum, giving evidence of its formal approval by the governing body.

Collection Policy (interim standard) – Applicants must submit a Collection Policy for the museum, which must be discussed annually by the governing body, with a detailed review of the Policy conducted every five years.

Disposal Policy (interim standard) – Applicants must submit a Disposal Policy for the museum and ensure that actions pertaining to the disposal of objects are fully documented. Object records for disposal of items and/or de-accessioned items must be maintained.

Loan Policy (full standard) – Applicants must submit a Loan Policy for the museum. This Policy must include the terms of both grant and receipt of loans. The Loan Policy must be discussed annually by the governing body, with a detailed review of the Policy conducted every five years.

2. MUSEUM MANAGEMENT

Building Ownership and/or Lease Agreement (interim standard) – Applicants must give details of building ownership or submit lease agreements, if applicable.

Formal Written Agreement if the Collection is owned and managed by two Organisations (interim standard) – If the museum collection is owned and managed by two separate organisations, applicants must submit a copy of the formal written management agreement between both bodies. Applicants must submit a copy of the Constitution/Terms of Reference for both organisations.

Strategic Management Plan and 1 Year Implementation Plan (interim standard) – Applicants must submit a Strategic Management Plan and a 1-Year Implementation Plan for the museum. It must be a a medium to long-term plan usually covering a three to five year period. These Plans focus on the museum as a whole, not individual sections within it. The Plan also considers external factors that may influence any proposals.

Financial Plan/Procedures and Estimate (interim standard) – Applicants must submit a copy of the museum's Financial Plan and/or Procedures and Estimates. The Financial Plan should include the projections for income and expenditure for 2 years, including the current year and disaggregated figures, at least in summary form, if the museum's figures are usually presented as part of a larger corporate financial report.

Audited Accounts/Certified Statement of Accounts (interim standard) – Applicants must submit a copy of the audited accounts or certified statement of accounts from the most recent 2-year period.

B. Collections Management

3. CARING FOR THE COLLECTION

Evidence of Monitoring and Controlling the Museum Environment (interim standard) – With regard to temperature, relative humidity, light, pollutants and pests.

Safeguarding the Condition of the Collection (interim standard) – With regard to the building, the objects, the storage and the display areas.

Training in Care of Collections (interim standard) – The museum must have a conservator or a conservation technician as a member of staff.

Disaster Response Procedures (interim standard) – Applicants must submit a copy of the Disaster Response Procedures, identifying alternative storage locations in the event of a disaster.

Disaster Plan (full standard) – Applicants must submit a Disaster Plan for the museum, which must be reviewed every three years.

Care of Collections Strategy (full standard) – The Care of Collections Strategy is a plan of action which has been prompted by an evaluation of the museum's activities in each of the following areas: Exterior and interior condition of the building and maintenance schedule; Environmental conditions; Environmental monitoring; Objects; Handling and Access; Storage; Display; Disaster Planning; Training.

4. DOCUMENTING THE COLLECTION

Entry Record System (interim standard) – Applicants must have an object entry system and procedures defining the system.

Exit Records (interim standard) – Applicants must be able to account for the exit of each object from the Museum premises for whatever reason and whether or not the object belongs to the permanent collections.

Object Location and Movement Control (interim standard) – Object location and movement control provides an audit trail for all objects in the collection. Applicants must have an object location and movement record system and procedures defining the system.

Accessions Register and Secure Copy (interim standard) – The Accessions Register is the permanent record of all the objects in the collection, past or present. Applicants must have a procedure to accession acquisitions (whether by gift, purchase or bequest) to the permanent collection. Applicants must have a system in place for marking objects. Each object must be assigned a unique identifier and this identifier should be attached to or marked on the object.

Plan for Documentation Backlog (full standard) – Applicants must have a plan to deal with any documentation backlog e.g. object entry, accessioning, unmarked objects or cataloguing. The timescale to deal with the backlog must be stated.

Loan Agreements and Records (full standard) – Applicants must have procedures for borrowing (loans in) and lending (loans out) objects. All objects on loan must be recorded. Recording can be in the Master database or Loans Register. Files for loans should be created to contain all relevant information, e.g., relevant correspondence, loan agreements, receipts, etc.

Catalogue (full standard) – Applicants must have a system for recording the primary information relating to each object or group of objects. Museums are not required to have this level of information for all objects, but should have a system in place which can be developed and added to. Applicants must define a data standard to ensure continuity and consistency detailing how and what data should be recorded and have a procedure supporting that standard.

C. Public Services

5. EXHIBITION (Long Term and Temporary)

Consistent Approach to Labelling (interim standard) – Applicants must develop a consistent house-style with a labelling system that works on two levels: interpretation and presentation. If Labels are not used, alternative methods of interpretation are acceptable.

Budget for Exhibitions (interim standard) – Applicants must include a budget for exhibitions in their annual museum budget.

Maintenance Schedule (interim standard) – Applicants must demonstrate that there is a regular, written maintenance schedule in operation, including details of the person responsible, the frequency of its operation, and information about seasonal closure where applicable.

Visitor Survey and Evaluation of Exhibitions (full standard) **–** Applicants must have methods (e.g. surveys) to record visitors' responses to the exhibitions and the museum in general. Applicants must conduct regular analysis of visitors' responses to the exhibitions and any surveys conducted.

Exhibition Policy (full standard) – The Exhibition Policy should outline the museum's position on long-term and temporary exhibitions. The Policy should include an emphasis on active exhibition management, e.g. rotation of objects from the museum's collection.

6. EDUCATION

Outline of Education Activities/Programmes (interim standard) – Applicants must provide details of the education activities/programmes provided by the museum.

Education Policy (full standard) – Applicants must submit a copy of the museum's Education Policy. The Education Policy should contain the following information:

- Introduction and Context - Brief History of Education Provision in Museum
- Education Mission Statement
- Aims and Objectives
- Identification of Target Audiences
- Type of Provision
- One-year Action Plan including details on Staffing and Resources
- Performance Indicators
- Periodic review of the Education Policy

7. VISITOR CARE AND ACCESS

Receipting System if Admission Charged (interim standard) – Applicants must have a receipting system if there is an admission charge payable.

Clear External Signage with opening hours displayed (interim standard) – Applicants must have clear external signs with opening hours displayed.

Telephone with Answering Service (interim standard) – Applicants must have a telephone system with an answering service.

Toilet (interim standard) – Applicants must have a toilet on the museum premises.

Visitor Statistics (interim standard) – Applicants must have a system to record the number of visitors to the museum. Visitor numbers and other basic data should be collected regularly. Results of the visitor survey must be analysed monthly and annually and the most recent analysis submitted.

The interesting and new aspect of accreditation in Ireland is the Programme of Training which forms an integral part of the Museum Standards Programme. Throughout the accreditation period all participants are encouraged to attend workshops on topics such as Strategic Planning, Writing a Collection Policy, and Disaster Planning among others. Accreditation is a phased process and when a museum meets Full Accreditation applicants will be expected to have undertaken training in all relevant matters relating to collections care, where required.

Belgium–Flanders

The "Decree for the recognition and subsidisation of museums" of December 1996 introduced a quality system in Flanders, which, again was inspired by the British system.

In order to be recognised, museums had to meet the following conditions:

- comply with the ICOM definition of "museums";
- have cultural and scientific aims, these aims being defined in a written policy paper.
- hold acquiring, conserving, scientific and public-oriented functions, the so called " basic functions";
- have a collection worthy of a museum;
- offer sufficient guarantees that the collection and the museum destination thereof will continue to exist (be established or taken over and administered by a public authority, own or be entitled to use the building; have sufficient own means for primarily financing the basic functions);
- have a suitable staff establishment with a sufficient training level;
- approach the public in a dynamic manner and be accessible for visitors – also for individual visitors – at fixed times spread over the whole year;
- respect the generally accepted 'code of ethics' for the museum profession.

One particular characteristic of the Flemish system is that it is coupled with a classification of recognised museums into three levels:

- local level: museums are principle responsibility of the local administrations
- regional level: museums are principle responsibility of the provinces
- national level: museums are principle responsibility of the Flemish government

The amount of subsidy one museum receives depends on the level at which it has been accredited. Since recognition is coupled with subsidies, this has brought to a significant increase in the Flemish Community budget for museums: from ca. 1,300,000 Euro in 1995 to 7,100,000 Euro in 2001.

The new Act of 2004 has slightly changed and widened the scope of the standards, but has basically left the system of public funding closely connected with recognition unchanged.

Germany, Italy, Austria

The concept of "cultural supremacy" of the Laender, which is stated in the German Constitution, has prevented German museums from having an all encompassing system of quality standards for many years.

Traditionally, the individual Laender set certain requirements museums should comply with, in order to receive subsidy. In 2004 the situation changed and the German Museums Association together with ICOM Germany agreed to develop guidelines for good practice which could be accepted by all German museums. The document, which appeared at the end of 2005, identifies eight areas in which standards should be developed in more detail at regional level:

- Legal status and finances
- Mission and action plan
- Management and organisation
- Personnel
- Collections management
- Conservation
- Research and documentation
- Exhibitions and communication

It is now up to the Laender to put what is contained in the guidelines into practice by setting up mechanisms of accreditation. This has already happened in Lower Saxony-Bremen, where the Museums Association and the Ministry, after piloting an accreditation scheme in 2006, have now opened it up to all museums in the region.

The same happened in Italy, regardless the fact that it is no federal state. A policy document containing guidelines for quality was developed by the Ministry of Cultural Heritage with the collaboration of the Regions, Professional organisations, experts and so on, and issued in 2001.

Since then, several regional governments have introduced quality standards also to orientate the distribution of public funds. However, it is only in the Region Lombardy that a true accreditation system has been put into place.

In Austria, a federal state like Germany, quality standards have been developed at national level by the Museums Association and ICOM Austria and made into a “Quality mark” scheme. The scheme is voluntary but has not attracted many museums so far.

Finland

The Finnish legislation on museums dating 1992 (then reviewed in 1996 and 1998) contains requirements – concerning the collections, the number and qualification of staff, etc. - which rule public subsidy to Finnish museums.

In addition to these minimum standards, an accreditation system based on self-evaluation and inspired by the Total Quality Management – EFQM Model was introduced in 2005.

Developed in close cooperation with the museum profession, the model was tested in 2005-2006 and later opened up to all institutions in the country.

The model is made of two main components:

- *management, administration and supporting processes*: including strategic planning, staff management, resources, partnerships, communication, marketing;
- *core activities of the museum*: collection management, research, documentation, dissemination of information and outcomes.

In identifying the 239 criteria for assessing a museum (90 of which pertaining to the management area and 149 to the museum’s core activities), particular attention has been paid to the context in which the museum operates, its social role and the benefits it produces for the community, in order to assess its impact in cultural, educational, social and economic terms.

Museums standards vs. Total Quality Models?

In most of the countries mentioned, accreditation systems were introduced primarily to provide funding bodies with elements to decide which museums should be worth public monies.
In other words, the introduction of registration/accreditation schemes was almost always linked to the economic factor and happened, even though in consultation with the profession and after long periods of testing and piloting, in a top-down mode.

Total Quality systems, on the other hand, (and the American Accreditation Scheme proves it) exist “for quality’s sake” and are voluntarily employed by organisations in order to improve their performances.

The Finnish case is quite self-evident and demonstrates that, even though standards linked to the subsidisation of museums already existed in the national legislation, a need was felt to provide museums with a tool for self evaluation and to support continuous improvement.

But apart from these considerations, what are the differences between standards/accreditation schemes, as they exist in the European museum landscape, and Total Quality Models like EFQM?

Giving a well documented answer would require a close scrutiny of the two systems and a comparison of the respective features, ones against the others.

Generally speaking, one could say that they take a snapshot of an organisation from different angles and in a different way: accreditation systems tend to obtain a still image of an organisation, whereas Total Quality Systems can offer more of a moving picture.

If we take the criteria making up the EFQM Model, "Leadership" and "Satisfaction of staff", for example, we are asked to give evidence of the leader's behaviour, or of the perceptions of staff with regard to the organisation, their expectations and needs, etc., whereas standards simply aim at registering the number and qualification of staff, giving therefore a rather static account of what the organisation is in terms of human resources.

Accreditation systems are very well detailed when it comes to typical museum issues, such as conservation, documentation, etc., but, on the other hand, rather poor when it comes to identifying outcomes with regard to the audience and the community the museum serves. To put it very simply, standard systems are more concerned with the WHAT and Total Quality Models with the HOW.

Both perspectives are very important however, and, as the Birmingham case study shows, an accredited museum in the UK, relies also on other tools or schemes (Charter Mark, Investors in People, etc.), very often developed in the business world, to round out its activities in an effective way.

Museum accreditation systems and Total Quality Models, indeed, should be seen as complementary and, where possible, should be used jointly to bring museums' performances to their full potential.

Web sites

United Kingdom
http://www.mla.gov.uk/programmes/accreditation

The Netherlands
www.museumvereniging.nl under "Kwaliteitszorg"

Ireland
http://www.heritagecouncil.ie/mspi/

Flanders
http://www.wvg.vlaanderen.be/erfgoed/regelgeving/erfgoeddecreet.htm

Germany
http://www.museumsbund.de/ under "Das Museum" „Ethik & Standards "

Italy
www.beniculturali.it
http://www.lombardiacultura.it/scheda.cfm?id=5611

Austria
http://www.icom-oesterreich.at/guetesiegel.html

Finland
http://www.nba.fi/fi/museovirasto

Quality in Digital Applications for Museums

Franco Niccolucci[14]

1. Introduction

Computers and digital media nowadays play a substantial role in museum organization and operations, as they do in society. The rapid and pervasive diffusion of computers has perhaps left behind a necessary reflection on requirements and directions for proper usage, which only recently have received the attention they deserve. Topics such as visitors' satisfaction, usability, impact and advantages of computer communication compared to investment, although studied, are not yet systematized. Also activities having only internal effects, as collections data management, have by now shown the necessity of regulations going well beyond the national ambit. Standardization in this area is currently the subject of international research activities, newly motivated by EU promoted initiatives such as Europeana, the European digital library. Therefore, it is not easy to describe universally accepted quality procedures in the museum domain as far as computer practice and digital applications are concerned, both for internal management and for outward communication.

Nevertheless, some interesting and useful guidelines are available. This paper will provide an overview and motivate the necessity of adopting such available good practices recommendations in the museum activity.

2. The pipeline of computer use

The steps of the digital production chain do not substantially differ too much from the traditional pipeline of museum activity: collecting, storing, preserving, studying and displaying to the public. Thus, computer-related activities comprise digital data acquisition – also called digitization; storage and management of the digital data; long term preservation and provision for re-use; and creation of digital displays to accompany, integrate or substitute real exhibits. The latter includes also providing information that can be accessed remotely, typically through the Internet but also using different telecommunication systems, such as wireless broadcast or cellular phones.

Although only the final steps of the chain are visible to the public, the conditions for a good communication are often established at the beginning, in the same way as the quality of a museum guide depends on the images archived – possibly years before – in the museum photographic archive.

The increasing international interaction among cultural institutions pushes interoperability and standardization on the top of the checklist. Even if it trans-national compatibility may appear irrelevant when some digitization activity is undertaken, recent experience has proven that a careful planning must take international standards into serious account, to avoid a waste of resources or being left out from useful and important international initiatives.

Finally, most of the considerations about digital activities necessarily involve technical aspects. On this regard, it is perhaps difficult for professionals for whom computing is a mean, and not the goal, to appreciate the importance of caring of technicalities and not leaving them entirely to technicians. It may require developing additional skills through training and experience. It is a laborious exercise that well repays the effort, and avoids the risk of adopting ineffective solutions, driven only by technology. This would lead to consider the issue of the training of museum personnel, including permanent and vocational training of present staff and the education of future professionals, a problem that goes well beyond the goals of this publication.

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3. Digitization

Digitization is the process of converting something into digital form that can be processed by a computer, i.e. producing computer data for further processing. The process may be manual, as typing information on a keyboard; or avail of equipment to obtain the result in an automatic or semi-automatic way, as taking a picture with a digital camera. If just a few years ago digitization mainly concerned the production of texts, it is progressively including audio, video, still images and tri-dimensional objects.

All the activities relating to digitization in a cultural context have been thoroughly considered by the Minerva project (http://www.minervaeurope.org/), a EU-funded project on digitization joining representatives of all the EU member states, which produced a set of valuable guidelines.

Concerning digitization, Minerva has recently published the update of the "Technical Guidelines for Digital Cultural Content Creation Programmes". The document is freely available in print or may be downloaded from the Minerva web site (http://www.minervaeurope.org/interoperability/technicalguidelines.htm). The "Minerva Guidelines" gives a series of directions for all the steps of the digitization process. Its content is summarized below, but it is strongly recommended to refer to the full text when implementing a digitization project. It must be also noted that technical specifications are given here, and in the guidelines, only as a guide, valid generically and at the time of writing. Each project must adapt them to its goals and available resources, and update them to current technological achievements. The Minerva document contains also all the necessary references and links to the sources.

i. Planning and costing.

Accurate project management is recommended, following well-known good practices. This includes a clear statement of the goal of the digitization and the selection criteria to be used.

As far as the choice of hardware and software is concerned, projects must be aware of the features of different equipment and software and check them against the project goals and the characteristics of the material to be digitized availing if necessary of independent expert advise. Open source software should always be considered as a priority option.

ii. Data formats.

The choice of data formats has implications that go beyond simple data storage. Firstly, the format should of course satisfy the project requirements. Many data formats use compression algorithms that in some cases may lead to a loss of data incompatible with the project goals. Thus, if a so-called lossy format is used, the level of compression must be chosen appropriately. Other factors influence the choice of the data format: maintainability, for long-term preservation, leading to prefer open formats instead of proprietary ones; standardization, facilitating maintainability and data interchange; and finally the availability of software for processing data stored in the chosen format. The importance of using open standards must be stressed: it is not infrequent the case of datasets created in the past using a proprietary data format that are no more accessible because the software used to create them is no more available or cannot be used on current equipment. In sum, the suggested formats for different data types are the following.

Text: XML, according to some chosen document schema, referring to text encoding standards (e.g. TEI). If the project adopts a different encoding, mapping to some recognised standards should be made available. In some instances, PDF is acceptable as well.

Still images (raster): images should be stored as raw binary data, i.e. as produced by the digitization equipment (scanner or digital camera), or in TIFF format. This will produce a master copy, from which low-resolution compressed images may be easily drawn for uses that do not require a great level of accuracy (e.g. web use). The choice of the two relevant parameters, i.e. spatial resolution (number of pixel per inch) and colour depth (number of colours available) should be based on the intended use and the nature of the original. For example, images used for printing should have a resolution of 600 dpi and a colour depth of 24-bit colour at least. Compressed derived formats are JPEG and PNG.

Still images (vector): these are usually the outcome of a drawing made with some drawing software or CAD. The proposed data format is SVG, an open very flexible standard. Using the proprietary DXF format for CAD objects is also acceptable.

Video: similar recommendations hold as for images. The suggested uncompressed format is AVI. As a guide, video should be stored without the use of any codec, at a frame size of 720x576 pixels, a frame rate of 25 frames per second, using 24-bit colour and PAL colour encoding. Compressed acceptable formats are MPEGs and Quicktime.

Audio: Audio should be created and stored as an uncompressed format such as Microsoft WAV or Apple AIFF. 24-bit stereo sound at 48/96 KHz sample rate is suggested for master copies. Popular compressed formats, such as MP3, may be used as derivatives.

Multimedia: here the suggestion is a widely used proprietary format, Macromedia's SWF, used for Flash animations. Being a proprietary format, migration strategies to future open standards should be considered.

GIS: these data are an integration of text, raster and vector images, used when location is relevant so that data are spatially referenced. They are usually managed with specialized software that stores data in proprietary formats. The suggested format is an international standard, GML. If data are stored in a proprietary format, for example one used by the most popular GIS software, migration/conversion strategies should be available. In fact, most GIS packages allow saving data in GML format.

3D and Virtual Reality: such data are the result of 3D scanning of real objects (3D equivalent of raster 2D images) or of 3D modelling using CAD software. They are increasingly used to obtain more complete documentation of such objects, to virtually perform activities such as investigation of conservation status or possible restoration, and to recreate hypothesized reconstructions of past appearance of monuments, buildings and sites. The datasets produced are usually very large. Due to the demanding nature of processing such huge files, proprietary binary formats are generally preferred and no widely accepted standards are available. Good candidates for such a role are X3D, a standard for virtual reality suitable also for web use, and COLLADA, for generic 3D applications. Also here, future migration to widely accepted standards should be kept into account.

iii. Media

Media used for storing data are subject to obsolescence due to physical deterioration and changes in technology that may make unavailable the equipment or the software used to read them. A refreshing strategy, i.e. copy of data stored on them to another medium of the same nature or a newly introduced one (e.g. from video cassette to DVD), should be regularly scheduled. Also backup current good practices (e.g. the periodic production of additional copies stored in a safe, different location) should be in place.

iv. Long-term preservation

Preservation activities aim at using and re-using data in the future with the same (or better) functionalities as presently. This may require preserving the present technology, hardware and software, or migrating data to a form that is suitable to current technology, for instance copying data to a new medium or converting them to different format.

v. Metadata

A good set of metadata is necessary to keep the memory of what has been recorded, when and how. Metadata describe what kind of information is stored in records and how this information was produced. Thus metadata concerning a digital image should include any information relative to the digitization process as well as the link to the record of the object being digitized. Actually, a digital image may be part of the record, so its metadata are part of the record metadata.

Any set of metadata should include a minimal set of information as described in the so-called Dublin Core Metadata Element Set (DCMES) specifications: Title, Creator, Subject, Description, Publisher, Contributor, Date, Type, Format, Identifier, Source, Language, Relation, Coverage and Rights. In no way this means that metadata should include ONLY these elements: in fact, limiting to these data would probably generate a dataset of a very limited utility, if any, in a museum environment. Metadata information must be well structured, for example when a complex object (e.g. a monument) is digitized in parts that are components of the same item.

The concept of metadata applies also to entire collections, which must have a specific metadata set. Work in this area has been done by the Michael EU project.

4. Documenting museum collections

The creation of digital records of museum collections is a part of museum curatorship where the use of computing is natural. Computer application started from catalogues. Initially these were databases of text-only information, progressively enriched with digital images and now starting to include also 3D scans of objects (as, for example, in the digital catalogues of some Louvre collections where 3D information is particularly relevant).

Digital catalogues have primarily an administrative goal. Knowing what is owned by the museum, where it is stored and how it can be identified is a duty for museums: “Museum collections should be documented according to accepted professional standards. Such documentation should include a full identification and description of each item, its associations, provenance, condition, treatment and present location. Such data should be kept in a secure environment and be supported by retrieval systems providing access to the information by the museum personnel and other legitimate users.” (ICOM Code of Ethics, 2006, art.2.20). Nevertheless, there still exist museums where this elementary activity has not yet been carried out according to good practices. Some examples include numismatic collections where the only available information is the total number of pieces, archaeological artefacts deposited in bulk storage with no cataloguing and – perhaps – more. Such examples are more frequent in small and remote institutions but a few important and large ones with similar problems (at least, concerning some of their collections) might be named as well.

The presence of significant information in an organized way – as already mentioned, at least the 15 DCMES fields – offers the opportunity of processing it for search and research, one of the goals of museum activities according to the ICOM definition. For this reason museum data hardly ever limit to the bare administrative or core DC elements. Usually they include additional information that allows to perform various research work, with little additional effort to collect it.

This opportunity acquires new significance in the framework of the interconnectivity provided by the broadband Internet and the so-called digital libraries initiatives, in particular the one named i2010. The latter is a European strategy aiming at creating a vast number of cultural objects directly accessible online. Initially starting from texts (books, journals, in general library content), it aims at covering any kind of cultural content including museum collections. In this way, it is anticipated that digital replicas will be accessible to anybody and from everywhere, developing a new framework for museum visits. The relationship between virtual and real visits, the impact on museums by these new opportunities and the new ways of interpreting curatorship to make the best out of the possibilities offered by the information and telecommunications technologies, are still open fields for research and debate. However, a provident approach should care now of how data collection and organization will influence future activities. Since it appears that digital archive interconnection is a clear priority, great attention must be paid to standardization issues. An approach ignoring that museum will be called shortly to virtually share their collections would be short-sighted and have potentially disastrous effects on the mission of “communicating and exhibiting the [...] heritage of humanity” in a way appropriate to modern lifestyles and society.

The museum community has developed standards for structuring cataloguing information. Among others, the UK SPECTRUM system must be quoted for its completeness and effectiveness. However, often local regulations impose the adoption of a specific system. Tradition and history have led to a diversity of approaches and there is a large base of pre-existing legacy systems that cannot be ignored.

A significant problem in legacy systems, relating also to standardization, comes to the proprietary data format used by most DBMS (Data Base Management System) to optimize data management. For example, one of the most popular systems for small archives, Microsoft Access, has changed the data format in every new release, with major changes in Access 7, 2000, 2003 and 2007. Most of these formats are cross-compatible (not so for 2007 with previous ones) and they are all backwards-compatible with previous versions, but it is not guaranteed that they will be so forever. In other words, it may happen that a database created with a DBMS will not be accessible when the software is no more supported by the provider. This is not a hypothetical case: for example, Apple has discontinued in 2004 the maintenance of Hypercard, a software launched in the nineties and used to create hypertexts and databases, and old versions of it do not work on current Macintosh operating systems. Hypercard was at the base of Syslat, an archaeological data management systems, so Syslat archives are no more accessible (or need a complex conversion procedure that requires the use of old, "museum" computers). For this reason, as already mentioned a refresh strategy should be in place and migrate data to newer formats from obsolete ones as soon as they become so.

The main standardization issue, however, concerns the way data are structured. For legacy systems, there may be very good reasons to keep the data structure chosen when the system was created. In this case, curators should support the study and production of mappings to international standards, i.e. of systems that establish a correspondence between their database structure and a internationally acknowledged standard schema. It is often the case that a one-to-one correspondence cannot be established between all their fields and the standard's ones. However, experience has shown that since curatorial practices are widely standardized most of the fields can be identified as corresponding, and the remaining ones are related to local issues, mostly irrelevant in an international context, or to peculiar aspects with little impact on sharing potential. If such a mapping is established, the information technology has created tools that enable data sharing between databases of different structures but mapped to a common standard. Thus local practice will not be affected, but data interoperability will be provided. Mapping creation is a perhaps tedious exercise, which is not repaying immediately and needs patience and commitment. It gives, however, a substantial advantage to institutions that have undertaken it, because they are ready for international collaboration and may join immediately any international co-operation project, benefiting from participation in terms of visibility, finance and success.

For newly created systems, compliance to a standard would be a shortcut. Sometimes the standard does not fulfil all the local needs, for example on administrative issues, or because it is little known by the involved people, or looks unnecessarily complicate. The latter may not be an excuse – complication is never introduced without some reason – but there may be legal reasons enforcing a non-standard solution. In this case, a provident approach will adopt the compulsory system and add the mapping to it, as it is suggested for legacy data. If/when the national/compulsory data structure will be mapped to an international standard, interoperability will be automatically guaranteed.

Thesauri play a significant role in facilitating interoperability and overcoming, at least in part, the problems deriving from the usage of different languages. Adopting a thesaurus for the relevant language will facilitate interoperability with same language archives, and through the use of multilingual thesauri cross-language searching. Unfortunately, multilingual thesauri for culture are still limited or unavailable, but compliance to one – preferably widely adopted at national level – will simplify the future integration in a multilingual environment.

In conclusion, the simple rules for storing and managing museum databases may be summarized as follows:

- Regard interoperability as a requirement: if it is not now, it will become soon, and having considered it now will benefit you in the future;
- When there is the opportunity, map your data structure to a widely accepted standard, for example provide by some reputed international standardization body or by ICOM;

- When creating a new archive, try to be compliant with such standards, or at least include mapping to standards in your work plan;
- Adopt the same approach for the thesaurus;
- Don't adopt a dismissive approach regarding interoperability, for example being content with the core one provided by DCMES: Dublin Core is a last resource when nothing else works, but does not guarantee that the "new" digital distributed museum model extends and complements the one we already know, because it so limited that it allows very little research, education and enjoyment.

5. Communication: multimedia, 3D modelling and reconstructions

The most visible applications of information technology concern communication to the public. In this area, multimedia are often used to improve visitors' comprehension.

A separate domain concerns web sites. Guidelines for the creation of cultural web sites have been developed by Minerva and are available in print or from the Minerva site quoted above (http://www.minervaeurope.org/qau/qualityprinciples.htm). They have published an extensive design guide, whose principles are summarized as follows:

According to the Parma Charter, created by Minerva in 2004, good quality cultural website must:

- be transparent, clearly stating the identity and purpose of the website, as well as the organisation responsible for its management
- select, digitise, author, present and validate content to create an effective website for users
- implement quality of service policy guidelines to ensure that the website is maintained and updated at an appropriate level
- be accessible to all users, irrespective of the technology they use or their disabilities, including navigation, content, and interactive elements
- be user-centred, taking into account the needs of users, ensuring relevance and ease of use through responding to evaluation and feedback
- be responsive, enabling users to contact the site and receive an appropriate reply. Where appropriate, encourage questions, information sharing and discussions with and between users
- be aware of the importance of multi-linguality by providing a minimum level of access in more than one language
- be committed to being interoperable within cultural networks to enable users to easily locate the content and services that meet their needs
- be managed to respect legal issues such as IPR and privacy and clearly state the terms and conditions on which the website and its contents may be used
- adopt strategies and standards to ensure that the website and its content can be preserved for the long-term

Multimedia and other visual aids as 3D models and virtual reality reconstructions are used in a museum environment to contextualize the exhibits. As such, most of their applications occur in archaeological and historical museums, where items acquire significance and are explained providing the user with background information: where were the objects found, which was their supposed use, how they contribute to explain and understand the past, which interpretation they altogether suggest. In fact, the story told by them is probably more interesting and evocative than the actual finds, usually appreciated for their appearance or intrinsic value (jewels, for example) than for their archaeological or historical importance. Communication tools are therefore a powerful and dangerous instrument, because they can easily turn into propaganda or distorted understanding.

To prevent this risk, the scientific community has developed guidelines to apply computer visualization in a heritage context.

The first broad set of principles is listed in the Ename Charter, an official ICOMOS charter since October 2008. The Charter (http://www.enamecharter.org/) enounces seven basic principles for the interpretation of cultural heritage sites, and although it is more relevant in a site/monument context, it may find important application in museums as well. The basic principles concern Access and Understanding; Information Sources; Context and Setting; Authenticity; Sustainability; Inclusiveness; and Research, Evaluation and Training. Although the principles are rather general and do not concern only multimedia communication, applications are taken into account in the so-called "Illustrated Ename Charter Project" to serve as practical guidelines. The Ename Charter website may be consulted for further details.

A more specific Charter for the use of 3D visualization in the research and communication of cultural heritage has been proposed by a group of scholars and is progressively gaining the consensus of the scientific community. It is named the London Charter (http://www.londoncharter.org/) and it aims at establishing internationally recognised principles for the use of three-dimensional visualisation by researchers, educators and cultural heritage organisations. As such, it should be applied also in museum kiosks, multimedia, virtual reconstructions and any other communication instrument using computer visualization.

The goals of the London Charter are to

- Provide a benchmark having widespread recognition among stakeholders.
- Promote intellectual and technical rigour in such uses.
- Enable appropriate evaluative criteria and methods to be determined and applied.
- Stimulate debate on methodological issues.
- Offer a robust foundation upon which specialist subject communities can build detailed standards and guides.
- Ensure appropriate access and sustainability strategies to be determined and applied.
- Enable 3d visualisation authoritatively to contribute to the study, interpretation and management of cultural heritage assets.

The London Charter consists of eight principles:

1. Subject Communities – The aims and objectives of the Charter are valid across all domains in which 3D visualisation can be applied to cultural heritage.
2. Aims and Methods – Numerous types of 3D visualization methods and outcomes exist, and can be used to address a wide range of research and communication aims. A 3D visualization method should normally only be used to address an aim when it is the most appropriate available method for that purpose.
3. Sources – In order to ensure the intellectual integrity of 3D visualisation methods and outcomes, relevant sources should be identified and evaluated in a structured way.
4. Transparency Requirements – Sufficient information should be provided to allow 3D visualization methods and outcomes to be understood and evaluated appropriately in relation to the contexts in which they are used and disseminated.
5. Documentation – The process and outcomes of 3D visualization creation should be sufficiently documented to enable the creation of accurate transparency records, potential reuse of the research conducted and its outcomes in new contexts, enhanced resource discovery and access, and to promote understanding beyond the original subject community.
6. Standards – Appropriate standards and ontologies should be identified, at subject community level, systematically to document 3d visualisation methods and outcomes to be documented, to enable optimum inter- and intra-subject and domain interoperability and comparability
7. Sustainability – 3D visualization outcomes pertaining to cultural heritage and created in accordance with the principles established by the Charter, constitute, in themselves, a growing part of our intellectual, social, economic and cultural heritage. If this heritage is not to be squandered, strategies to ensure its long-term sustainability should be planned and implemented.
8. Access – Consideration should be given to the ways in which the outcomes of 3D visualization work could contribute to the wider study, understanding, interpretation and management of cultural heritage assets.

The full text of the Charter, available from the web site for download in several languages, includes explanations of the above quoted principles. Work on implementation of the Charter principles in practical cases is in progress, and will be documented on the web site.

In sum:

- When using multimedia and computer visualization, care that the spectacular aspects do not prevail on cultural content.
- Rely on evidence and sources, documenting the interpretation process.
- Always distinguish interpretation, reconstructions and guesses from facts and actual information.
- Provide information about this in a way appropriate for the intended audience and used medium.
- Document all the interpretation/communication process for scientific scrutiny and future re-use.

6. The impact of digital technologies

Scientific studies on the socio-economic impact of new implements in museum collections are still scarcely diffused. Some technological appliances are indispensable, e.g. for security reasons, or to control the environment. Others – for example a new multimedia system – are an optional feature and it is debatable whether the return on the investment justifies their cost. The commonest decision criteria are in fact subjective, i.e. the decision relies on experts' advice. Nevertheless, there is a number of studies trying to apply a micro-economic approach to such issues, and to determine the consequence of the introduction of a particular device or application in a museum both in financial terms (highest revenues from the larger number of visitors attracted by the innovation), sometimes considering also the indirect economic effects on the regional economy, and in terms of improvement of the visitors' experience. Evaluating the latter relies on interviews and questionnaires, which are feasible only ex post, after the equipment is implemented, what is of little utility in the planning stage. It has been attempted to evaluate the potential customer satisfaction by asking visitors which additional fee they would accept to pay to have the new application installed. This figure provides an approximate measure of the (forecast) appreciation by visitors of the new application, and their feedback is an indication of the expected return on investment.

As far as the quality of applications is concerned, there are so far neither design criteria nor benchmarks to test the quality of the product. Apart from the already mentioned Charters and the associated very general guidelines, research in this field is still in its infancy and currently limits to the analysis of a number of case studies that may provide guidance only if very similar, by chance, to the problem under consideration. As yet, no systematic approach is unfortunately available.

While waiting that research progresses and makes eventually available guidelines for digital heritage applications, it is good practice to apply also to these decisions the standard analysis management tools as SWOT and similar techniques. In any case they will force the decision team to analyze in detail such important aspects as the obsolescence of the application, its hidden costs, as maintenance and training, and so on.

7. Conclusions

Although a systematic approach to digital applications in museums is as yet unavailable, it is hoped that the above references may provide guidance in most practical cases. If it is not possible to provide a cookbook with ready-made recipes, at least these considerations should instil the idea that computer use in museums is not just a technical matter. Quality results require museum expertise as in any other museum-related activity. Applications that withstand the test of time are usually the joint result of sound technological knowledge accompanied by no compromise on the fundamental principles of culture.

Total Quality Management Models

1. Total Quality

Total Quality Management is a body of concepts, of administration methods and techniques, aiming to create and sustain the organizational and cultural conditions needed in order to obtain excellent "business" results within the enterprise, i.e. those pertaining to the organization's mission. This is achieved through complete customer satisfaction, maximum rationalization of internal resources and satisfaction of those having an interest in the organization: investors, clients, personnel, the community in which the organization operates (stakeholders).

Its application requires on the one hand an internal cultural change, causing a modification in the relations with employees, suppliers, and clients; on the other, the adoption and diffusion of new methodologies, such as those pertaining to communication, strategic planning, constant improvement and so on.

Quality Systems began to spread in the 1950s and 1960s. It was only at the beginning of the 1980s, following experiments undertaken in the preceding years by the more advanced companies, that Western businesses understood the importance of quality, in particular of those aspects tied to the administration of the entire enterprise.

The more widely distributed and well-known models, by reason of the awards associated to them, are the Deming, adopted by Japan since 1951, the Malcolm Baldrige in the United States and the EFQM model in Europe.

The European Foundation for Quality Management (EFQM) was created in 1988 to assist European business managers in the process of acquiring and distributing Total Quality Management, considered a decisive factor in gaining a global competitive advantage. This objective is obtained through a series of activities, such as the development of a specific European model of Total Quality Management (EFQM Model) and the organization of the annual European Quality Award given to European businesses.

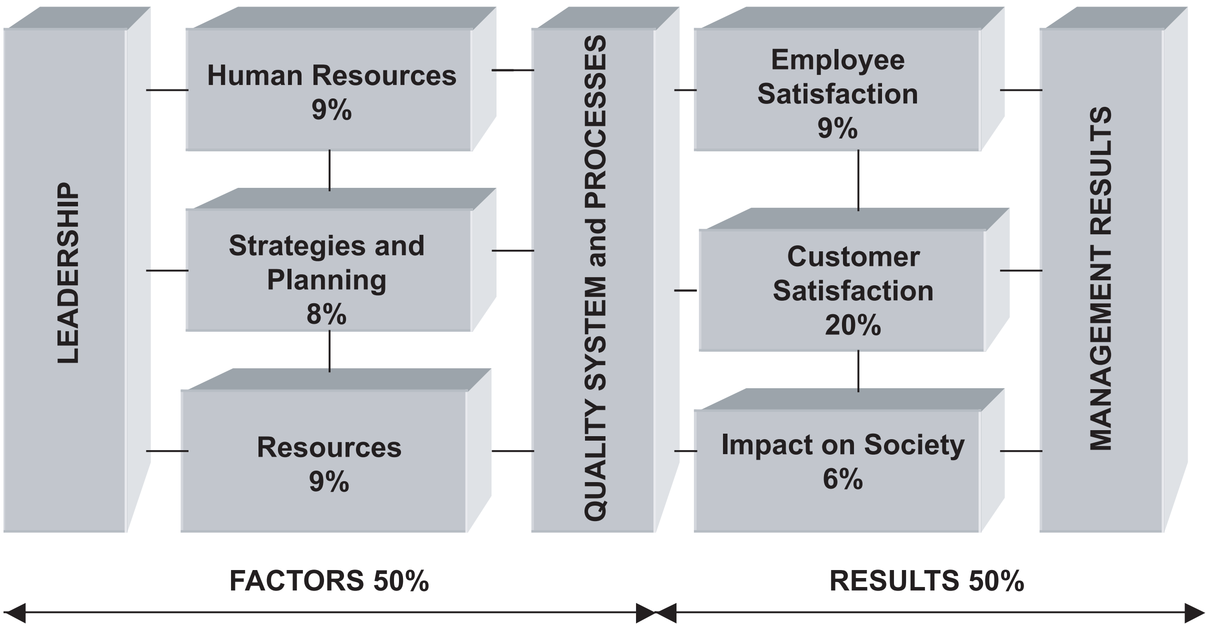
2. Total Quality Management Models

A model can be defined as a "schematic representation of reality", or as a "paradigm", an example to follow. In this specific case, Total Quality Management Models are management tools containing all the elements needed to administer an organization: they represent its functioning in a schematic way. At the same time they express the best operational practices and should be considered as examples in the paradigmatic sense. According to this logic, Total Quality Management (TQM) Models are schema that take into consideration all the operational components of an organization. They promote a process of evaluation and auto-evaluation of performances aiming for its improvement.

TQM models constitute non-prescriptive benchmarks (i.e. they do not define rules for implementation), which acknowledge the many ways to achieve excellence. They are valid for any type of organization, as they provide a set of general criteria, which can be applied to large and small private businesses, Public administration structures, non-profit organizations, etc.

As these models can be applied to so many structures, they need to be personalized. Therefore each organization should adapt the contents of the model to its own culture, nature, type of product/service, market, user-needs. The organization should analyze the various elements of the model to see whether they can be applied, i.e. if they are able to add value to its performance, but most of all to see how to apply them without adding more bureaucracy to the organization.

3. Total Quality Management Reference Model: criteria and principles



The nine elements of the Model represent the Criteria used to measure an organization's progress towards excellence and are subdivided into two groups: Factors and Results.

Factors, or approaches, are the actions and resources that the organization enacts in order to achieve its objectives. Results highlight the achievements obtained through the application of these approaches.

In essence, the Model indicates that Client Satisfaction, Employee Satisfaction and Impact on Society are the results of an act of Leadership, expressed through Strategies and Planning, Human Resources, Quality System and Procedures, elements leading to excellence of Business Results, both economic and non-economic.

Each criterion is given a percentage representing its importance in relation to the model in its entirety. It is interesting to note that the total value of the factors (50%) is equivalent to that of the results (50%), confirming the importance that the model assigns to the results achieved by the enterprise. This is completely shareable as an organization exists because it sets objectives and obtains results, which are consistent with the same objectives.

Each criterion is subdivided into sub-criteria (for a total of 22); each sub-criteria consist of a series of exemplifying elements (about 90). The various criteria, sub-criteria and elements are closely interconnected to each other.

Further, Total Quality Management Models refer to certain fundamental principles, identfied as the generalization of management methodologies developed or adopted by succesful businesses.

The fundamental principles of the TQM are illustrated below. Please note that the principles are not in order of importance and that the list does not intend to be exhaustive or unchangeable.

The fundamental principles of the TQM Model developed for businesses are:

- *Focus on the client*
- *Partnership with suppliers*
- *Staff development and participation*
- *Procedures and facts*
- *Constant improvement and innovation*
- *Leadership and coherence with objectives*
- *Public responsability*
- *Result-oriented*

4. Applying the TQM Model to Museums

The application of the model to museums follows the procedure illustrated:

- *The museum undergoes a moment of auto-evaluation (using the Auto-evaluation Guide);*
- *Drafting of the Auto-evaluation document;*
- *Evaluation committee assesses the document;*
- *Evaluation committee visits the museum;*
- *Consensus meeting (evaluation committee);*
- *Drafting of the Evaluation Report (evaluation committee).*

*The first result obtained with the application of the Model to Museums was the redrafting of the **Fundamental Principles**, in order to better suit them to the characteristics and finalities of the museum's organization.*

Focus on the client

There are many types of museum goers, as far as typology and connection to the service supplied are involved. Museum *stakeholders* are also museum consumers, but the museum's social/public responsibility must answer to non-users, i.e. to the community on the whole.

Customer of this service is the single visitor, but also the scientific community, schools, social organizations, etc. All these subjects are arbiters of the service's quality. It is hard to say who the ultimate arbiter is. The needs and requirements of these users are varied and can be conflicting.

Partnership with suppliers and end-users

Partnerships with suppliers are based on trust and on adequate integration mechanisms, which produce improvements and added value to both suppliers and end-users.

Staff development and participation

Every employee's potential is fully exploited, thanks to a set of shared values and to a culture based on trust and responsibility. There are common forms of participation and communication, supported by many opportunities to learn and develop new skills. In public museums, however, making career is difficult. More often than not, the conditions for providing incentives/economic-functional gratification are lacking. Motivational factors deriving from symbolic awards, from learning opportunities and the development of new skills (for example the amount of time set aside for meeting with foreign colleagues, for updates and training) must be stressed.

Procedures and facts

Activities are systematically managed as procedures.

There is a person in charge of each process, a manager, manifest and common to everyone. There is room for improvement in the course of each person's daily occupation. Facts, measures and information are fundamental for the management of museum activities and these can be ascribed to the following fundamental areas:

Management of: research and documentation programs; collections and heritage entrusted to the museum; permanent exhibitions, preparation of temporary exhibitions, events and services; teaching methods and training events; administrative procedures; human resources; promotion and communication programs.

Constant Improvement and Innovation

Constant learning is fundamental for each person's improvement. Inventiveness and innovation are encouraged.

Comparative studies and *benchmarking* against other similar organizations are used to direct innovation and improvement.

(This is more important than it might seem. The idea of uniqueness – uniqueness of a collection – is deeply-rooted in Italian museums, thus they are "incomparable" to other museums which do not have the similar contents.)

Leadership and coherence to objectives

Managers should develop their sense of belonging to an organization. They should direct their organization's resources and efforts towards the achievement of objectives, which are consistent with the museum's mission and are clearly and univocally declared. Strategies are articulated in a structured and systematic way throughout the organization. Every activity is aligned with the mission and the objectives. The behavior of the employees is consistent with the values and strategies of the enterprise.

Public Responsibility

Ethic conduct.

The organization should adopt a moral code of conduct, which makes reference to ethical codes of conduct elaborated by international professional organizations and to those principles established in International Treaties and Conventions pertaining to cultural actions and cultural heritage.

Result-oriented

Maintaining a consistent position with the museum's mission, tuned in with the ever-changing demands of society, depends on the ability to steadily satisfy the interests of *stakeholders*: customers, suppliers, employees, income bonds or shareholders (in the case of foundations or special companies), and society in general.

5. The Importance of Auto-evaluation

As mentioned previously, Total Quality Management Models act as diagnostic tools aiding in the evaluation of an organization's performance. The act of Auto-evaluation is very important within this procedure.

Auto-evaluation consists of an exhaustive, systematic and periodic analysis of the activities carried out, of the procedures and the results obtained by the organization, which is then compared to an "excellent" managerial model.

Auto-evaluation thus is an instrument which favors the growth and improvement of the organization utilizing it. It is also a tool to measure progress through time, as the qualitative diagnosis is integrated to the quantitative data.

We can say that Auto-evaluation is:

- a diagnosis of the state of the organization, highlighting the strong points and the weaker ones;
- a tool for improvement;
- a tool to measure progress through time;
- a way to involve the collaboration amongst employees in the pursuit of excellence;
- an opportunity to compare with other businesses and organizations.

There are different ways to conduct an Auto-evaluation: by comparing against the model and answering a questionnaire, or by compiling a report, in which each criterion is addressed, thus identifying the strong points and the weak ones.

6. Auto-evaluation Guide for Museums

Note for the reader

The "Museum Auto-evaluation Guide" is the result of the activity carried out by a group of people operating in the museum sector within state, region or local structures throughout Italy. It was achieved in the year 2000, after the TQM Model was applied to the Museo Etnografico di Santarcangelo di Romagna (Ethnographic Museum of Santarcangelo di Romagna) in the region of Emilia-Romagna.

This guide, based on a version originally conceived for businesses, was rewritten for museums keeping certain principles in mind. In the writer's views, these principles must be shared in order to comprehend the way the work was carried out and to correctly interpret and use the tool offered:

a) all organizations, whether public or private, non-profit or for profit, have similar characteristics, which allow to valorize the analogies, rather than concentrate attention on their specificities;
b) the need to improve the managerial tools within these cultural organizations is widespread, thus allowing improvement in the service provided to financing institutions, to the hierarchical bodies in charge and to the end-consumers;
c) the Total Quality Management model, constituting the conceptual reference point, reflects the best practices used by real organizations and proposes approaches, which have actually been applied, sometimes only in part, by existing organizations. It won't be easy to find a real-life organization which embodies the Model in its entirety, nonetheless it represents an example of excellence - or of total quality - to comply with in order to constantly improve. The best practices we refer to for the museum sector might seem to excessively anticipate reality. However we decided to include them, hoping they become an indispensable managerial reference not only for museums, but also for the administration offices they depend on;
d) the drafting of this Guide highlighted certain critical points, which impede the optimal administration of a museum and which can be summarized as follows:
   – administration of human resources (impossibility to select, difficulty in motivating in the absence of economic incentives, etc.);
   – management of suppliers (linked to current bureaucratic and administrative procedures and practices);
   – administration of economic resources (in the absence of financial autonomy).

   Criteria and examples were developed keeping the existing limits in mind, in the event that changes at the institutional level will make these feasible and applicable. It is up to the sensibility and competence of those leading the operation of Auto-evaluation/Evaluation to consider the organization's performance not in the abstract, but in relation to the existing constraints and problems.
e) The Guide must be considered a work-in-progress aimed at introducing the Total Quality Management Model in the museum sector, the first steps towards tool refinement and experimentation. We offer this Guide to the reader as a tool for auto-analysis and as an open document destined to generate questions and to stimulate debate.

For the purpose of this publication, only three of the nine criteria adapted to museums in the original Guide in Italian, are presented in the English translation.

Criterion 1: Leadership

How the behavior and actions of the managers inspire, sustain and promote Total Quality Management.

- This criterion deeply analyses how those in charge[15], within and without the museum, share quality awareness with all the operators involved and in what measure the proposals and needs highlighted by the person responsible for each single activity are observed and assembled; with the administration manager they elaborate proposals consistent with the objectives and general direction of their administration. The proposals are then submitted to the hierarchical bodies in charge.

[15] In the museum sector, for "manager/person in charge" we intend, besides the director, those who have an effective guiding function (vice-director, highest ranking area representative, etc.)

- The success of a museum is strictly correlated to the way it is administrated. The objective of this criterion is to draw attention on how the managers collaborate in the formulation of proposals and how the director stimulates responsibilities and solutions, which take into account the requests and needs of all employees.

1a Proving how the managers are involved in Total Quality Management

◘ ***By pointing out, for example, how they develop clear values for the museum and how they behave in their respective roles, setting a good example.***

- In order to achieve the expected results, managers must pursue common objectives by working together consistently, having that is specific reference points.
- Managers are called upon in first person to define these reference points, which can be of diverse nature, depending on the museum's purpose.
  For example:
  - *Those contained in its regulations, mission statement, Services Charter, etc.*
  - *Behavioral values (group work, respect for others, integrity, rigor,…)*
  - *Guiding principles (codes of conduct and ethical codes, sharing of institutional finalities, customer satisfaction, on-going improvement...)*
  - *Strategic objectives (pursuing the mission and key objectives of the museum, increasing the number of consumers, qualification of cultural initiatives)*
- These reference points should be easy to comprehend and, expressed clearly, synthetically. They should be widely circulated in every sector of the museum's activity.
- The reference points and objectives, linked directly to the general strategies defined by the Soprintendenza (in the case of state-run museums) or according to the direction given by local government bodies to their cultural plans, are by no means unalterable. They should however be reviewed and updated according to internal and external changes.
- Employees will have a greater perception of the importance of these factors if the people in charge show they firmly believe in them, constantly demonstrating they are committed to spreading these values and behaving coherently according to them.

◘ ***By proving, for example, how the principles of Total Quality are clearly presented and communicated by the managers.***

- If the TQM model has been consciously adopted by the managers as a tool to manage the museum, its principles and practices must be clearly understood and accepted by all staff members, (and by external collaborators), thus allowing their integration into the daily routine.
  For example: managers should not limit the propagation of plans and programs to memos, internal documents, publications or the like. Instead they should spend a great deal of their time communicating directly with their employees during meetings or in personal conversations, in order to demonstrate they share the same finalities.

◘ ***By showing, for example, how managers receive and provide training opportunities***

- In order to be credible, those in charge must show a deep understanding of the concepts and procedures they wish to disseminate in their museum.
  This can be achieved through:
  - *Internal and external practical experiences*
  - *Participation in workshops, seminars and meetings*
  - *In-depth studies*

- Managers should guarantee their presence during training/education sessions, in order to contextualize what is being taught in the framework of the museum's values.
- They must be present during educational activities. They should program periodic meetings with the staff for short training sessions, during which initiatives and their finalities are tackled. Other themes to discuss could be the security of collections or security of the collection conservation sites.

◘ ***By showing, for example, how managers are willing to listen to and provide answers to their staff.***

- A direct relationship with the members of their staff, either through groups or on a one-to-one level, is the most efficient way to understand the expectations and the problems they might have.
- Such initiatives should not be casual, but structured and systematic.
- Managers define how to discuss with their collaborators and/or colleagues without formalities or intermediate barriers whenever there is need for it.
- They must be available to confront themselves with their collaborators and/or colleagues both on the work-level and on a personal level. They should be able to give answers and offer support, if any problems arise .

1b Proving how those responsible actively work to bring about improvements both inside the museum and in their relationship with users, suppliers and other external organizations

The qualifying aspect of this sub-criterion is the personal involvement of all those in charge, not only in the decision-making process, but also in the active participation in the initiatives. They may, for example, participate as reference points for specific projects (exhibitions, training sessions and more), as representatives of the museum during exhibitions in other institutions, research projects, concerted scheduling, etc.

◘ ***By pointing out how those responsible assign priorities, resources, organizational commitments and support to activities aiming to bring improvements to field of museums.***

- Relational and environmental conditions alone are not enough to bring about improvements to the museum. Significant changes, the ones which give the most interesting results, require human, technological and managerial resources.
- These resources must be planned in advance during the revision and strategic planning phase (see Criterion 2).
- The more important projects require the direct participation of those in charge. They must actively contribute with their specific competences, in order to ensure a favorable outcome of the initiatives, and with a better employment of human resources.

◘ ***By pointing out how managers recognize and appreciate the performance of single individuals, groups, external collaborators, researchers, and of those who offer services, the financial backers of single activities.***

- Staff motivation is strictly linked to the timely identification of their commitment and of the results they achieve.
- Managers must therefore develop a procedure, more or less structured, to award the more noteworthy collaborators .

- Awards can either be:
  Tangible:
  – *Proposals for economic incentives*
  – *Proposals for participation in courses or conferences*
  Symbolic:
  – *commendation letters or letters of thanks*
  – *Assignments with a certain degree of importance or responsibility*
  – *Occasions for the public recognition of the work accomplished*
- In order to ensure the impartiality of these acknowledgements, to comprehend their significance and motivate the employees even more, those in charge must personally be involved in the definition and communication of the rewards.

◘ ***By pointing out, for example, how museum managers employ the commitment to improve as a criterion when deciding how to reward their collaborators.***

- In order to decide who to reward, the managers should keep in mind the recommendations given by their collaborators.
- If those in charge believe that the commitment to improve is a key-value for the museum, they must ensure that responsibility jobs are managed by people who have demonstrated many times their will to constantly improve.
- The same concept is true for other values and characteristics. Whoever is in charge of identifying the people to reward must define a set of criteria, amongst which the commitment to bring about improvements will play a major role. They must also accurately verify whether this set of criteria are constantly and correctly employed.

◘ ***By pointing out how those in charge handle their relationship with consumers, collaborators, schools, local governments, service providers and with other institutions present in the region.***
One of the museum's tasks consists of giving back to society the means to comprehend the cultural and historical reality it originated from. The community has invested and invests in the museum (human and financial resources). The relationship and collaboration with the scientific community, educational institutions, local governments and with consumers as a whole is a way to contribute to the growth of the entire collectivity.

The fulfillment of the museum's finalities, inasmuch as being a subject which contributes to the progress of a community, occurs through its collaboration with consumers, with private and public agencies (schools, cultural institutes, associations...), with the region's financial players, etc.

- It is necessary to:
  – define the roles and responsibilities of those in direct contact with the consumers and in general with those outside the museum environment
  – guarantee that return information is formalized and discussed
  – guarantee, when necessary, a well-timed answer (for example, complaints must be analyzed and resolved in a timely fashion and the results communicated to the person who generated them).
- Furthermore it is necessary to establish procedures for answering any requests, information, etc., to monitor the effectiveness of the informative, educational or explanatory level of the collections, their history and, generally speaking, of the museum itself.
- Relations with the outside, not only with the general public, collaborators and service providers, will be more effective if the managers are involved in first person, because of their authoritative role, of what they represent, of their competence and their ability to communicate.

◘ ***By pointing out how managers propagate the best emerging managerial procedures, both inside and outside the museum environment.***

- The best procedures are the best modalities used to perform the activities, compared to those commonly used.
  For example, they can be relative to:
  – *the computerization of the collections inventories needed for administrative purposes (necessary to respond rapidly to requests for information on single items, the relevant documentation, provenance, restorations carried out, etc.);*
  – *the educational methodology adopted to program itineraries suitable for different age groups;*
  – *thematic itineraries for adults;*
  – *managing promotion and communication;*
  – *controlling the procedures and results achieved.*
- The museum must be able to identify the best procedures through careful exchanges with other similar institutions. It must also be able to evaluate how to apply these procedures, adapting them to the museum's own situation.
  This can be achieved by participating in conventions, workgroups and/or committees, by elaborating projects with other - even European - partners, by collaborating with associations operating in the cultural heritage sector in general and, in particular, with museums.

Criterion 4: Resources

How the museum manages resources in an effective and efficient way

- This criterion examines how financial resources, information and the application of technology are administered, utilized and maintained in order to support strategies, objectives and the constant improvement of results.

4a Proving how a museum manages economical and financial resources

◘ ***By pointing out, for example, how the museum:***
- ***efficiently finances activities and projects in the short and in the long run***
- ***allocates and uses economical resources to sustain operational strategies and plans***
- ***evaluates investment options***
- ***manages risks.***

- It is necessary to predispose the necessary material resources, such as buildings, equipment, computer systems, etc. in order to allow museum staff members to carry out their activities and to implement the procedures.
- The museum must therefore administer their financial resources in a way to sustain their plans and strategies through required investments.
- *In order to administer its financial resources, the museum must define and use an ordinate and complete system, which includes, for example, the following aspects:*
  - *Definition of the criteria to employ in order to organize the administration of financial resources and to set the key-parameters for analyzing and controlling:*
    – *consistency with the finalities and the objectives;*
    – *consistency with the agenda;*
    – *cost/benefit ratio.*
  - *Definition of the criteria on which to base the decisions regarding the allocation of resources.*

   - *Definition of the specific requisites needed to justify and approve investments, which are consistent with the strategic objectives of the museum and with the financial situation in general.*
   - *Definition of the criteria needed to introduce corrections during the fiscal year, if required.*
   - *Controls performed by external authorities.*
   - *Periodical revision of financial strategies, necessary to introduce possible corrections and to decide initiatives aimed at making improvements.*
- Employing the cost of excellence and of non-excellence as instruments for financial administration provides a significant opportunity to contain and reduce costs.
   - *For "cost of excellence" we intend the set of costs relative to the prevention of problems, to the tools and/or operative modalities put to use in order to guarantee that operations have a successful conclusion, to analysis/control (funding of monitoring activities, equipment and machinery maintenance, employee safety). Instead for "cost of non-excellence" we intend the pure costs incurred due to malfunctioning and subsequent corrections (rejects and re-processing of the productive procedures, unplanned interventions of service and product assistance, rethinking of the administrative procedures, etc.).*
     Example: In the case of the production of printed matter, cost of excellence may be understood as the required verification of its content carried out by more than one person, which produces costs, but which ultimately compensates possible costs arising from errors, rewriting, issue delays, damage to the institution's image, etc.
   - the museum should organize itself to quantify and analyze these costs in order to introduce improvements.

4b Proving how the museum manages information resources

◘ ***By pointing out, for example, how the museum:***
- ***guarantees that everyone has the information needed to perform their duties and that the indicators are well-defined and visible;***
- ***guarantees that significant information (regarding products, procedures, employees, service providers, consumers, etc.) is readily available whenever required;***
- ***guarantees the accessibility to and the security, privacy and accuracy of information, in keeping with the current regulations.***

- Data and information are essential for managing the museum's activities.
- The museum must define what data and information are needed by every employee to perform his/her assigned duties, in particular what is needed by those in charge to control, to manage procedures and to make decisions.
- Information and data must be chosen in view of the museum's strategic objectives in order to develop and reach the strategies and operative plans.
- *Data management is costly, therefore only the information that is indispensable, that is required and will really be used by staff at all levels, must be chosen. This information will allow museum personnel to perform their duties in a more efficient manner.*
- The museum must:
   – recognize that data and information are a resource;
   – identify the important data and information;
   – decide what is most important and how it should be managed;
   – identify the data/information provenance and what they are used;
   – verify that the data/information are correct, accurate and up-to-date;
   – aggregate them in markers;
   – specify the data, information, markers handlers: who's task is it to gather, manage and make them available to the customers within and without the organization;

– elaborate an ordered data management system, which identifies the means necessary to offer everyone the data and information required to perform the duties assigned;
– guarantee data protection, confidentiality and security.

Examples of data or information management:

- *address book*
- *data regarding users' needs*
- *markers regarding customer satisfaction*
- *information regarding culture consumed in the area of reference*
- *data regarding tourist flow to the region.*

- The dissemination methods used should guarantee that every employee has easy and prompt access to data and information.

◘ ***By pointing out, for example, how the museum ensures accessibility, security, confidentiality and accuracy of the information, in keeping with the current regulations.***

- Using a computerized system throughout the museum and providing access to every member of staff is the best way to guarantee:
  - Prompt access to information,
  - A way to make available in real time all the changes ,
  - Security and privacy: data and information must be classified according to the needs of employees, by assigning each member of staff with appropriate access keys, and to confidentiality.
- In any case, managers must guarantee that the data made available through the computerized system is accurate and reliable.

4c Proving how the museum handles service providers and materials

◘ ***By pointing out, for example, how:***

- ***contacts with suppliers are managed, consistently with the strategies and operative plans;***
- ***the museum selects and measures the quality of supplies and services provided by the providers chosen.***

- The capabilities and potential of the service and materials providers constitute an integral part of the strategies and operational plans of the museum, as their efficiency is a key factor in satisfying customer needs and in containing costs.
- The definition of a clear procedure to manage suppliers, based on precise contractual requisites, on system and performance checks and on collaboration, is understandably necessary.
  These guidelines for managing suppliers are very efficient, but costly. It might be useful to apply them strategically only to those providers who will enable the museum to attain its goals.
- The museum might therefore establish partnership bonds with certain service providers, while with others they will have only relations of a contractual nature.
  The selection of service providers should be based on criteria that take into consideration the strategic objectives, operative plans, the museum's requirements and the level of efficiency of the same providers.

  It is necessary to elaborate a procedure for the management of service providers, articulated according to the following main phases:
- *Selection* based on:
  - current regulations
  - general requisites (organization, financial solidity)
  - technical-qualitative requisites (planning and innovation capabilities, checking the procedures, etc.), logistic requisites (capability to react to variations in demand, delivery times, etc.)

- *documentation* emphasizing the ability of the service provider to reach the museum's qualifications
- definition of clear, accurate *contracts*, consistent with the museum's plans
- *managing relationships* in view of collaboration, partnerships which share risks and profits.

Partnership initiatives are, for example:

- *involvement of external experts in the planning of new products and services (museum's own magazine, website)*
- *long-term contracts, open orders*
- *joint projects aimed at improvements (benchmarking – networking, etc.)*
- *involvement of suppliers in the planning and manufacture of products (book series, etc.)*
    - analysis and evaluation of the performance of service providers; the museum must identify the significant markers (see Criterion 9b), update and periodically review them in order to evaluate the provider's performance and ask for potential actions.
    - checking providers through examination of the consultations given.
- The list of providers must be reviewed periodically to ensure consistency with the museum's plans.

◘ ***By highlighting, for example, how the materials in stock are handled and optimized.***

- A museum may have three types of materials in stock:
    - *artifacts, works of art* (which should be managed according to national and international standards and regulations, regarding conservation, etc.);
    - *exhibition structures* (to be handled accordingly in order to avoid deterioration and to guarantee reuse);
    - *consumables* (to be accurately handled, in the case of degradable materials or ones with an expiration date).

◘ ***By pointing out, for example, how the use of raw materials is optimized, thus reducing environmental impact.***

- Optimization of raw materials usage allows to reduce costs and the environmental impact.
- The museum should take great care in handling those materials which may harm the environment (chemical substances used in the labs – photocopier cartridges, etc.).

◘ ***By pointing out, for example, how non-renewable natural resources are protected and recycled, thus reducing waste.***

- Museums, as all service enterprises, must not only reduce consumption of power, water and paper, providing the means to recycle, but also popularize this culture amongst its employees.
- Reduction of costs and waste allows to contain costs, sometimes even significantly. It is necessary to evaluate the possible investment returns.
  For example:
    - *use of photosensitive light switches*
    - *use of time-activated light switches in service areas*
    - *making staff aware of energy saving initiatives and using appropriate notices*
    - *museums could pool together to order consumables, thus minimizing costs*
    - *recycled paper should be used to reduce waste*
- In order to achieve significant results, these initiatives and programs must be organized and continuous, rather than sporadic and occasional.

4d Proving how the museum manages other resources:

◘ ***By pointing out how the collections are handled***

For example by:
- *organization (inventory, cataloguing according to current regulations and standards unanimously accepted and developed by the national and international community);*
- *conservation (according to current regulations and standards unanimously accepted and developed by the national and international community and through the employment of alarm systems – burglary, fire detection, etc. – that guarantee the safekeeping of collections);*
- *valorization (through research, development of educational and explanatory apparatus, through exhibitions, education, lending etc.).*

◘ ***By pointing out how the museum runs its buildings and spaces***

For example by:
- *ordinary maintenance*
- *extraordinary maintenance*
- *monitoring deterioration caused by environmental pollution*
- *preventive conservation*
- *plant design and installation …*
- *adaptation to support accessibility*
- *organization of internal spaces that adequately reflects the functions and activities of the museum (eg. Spaces for temporary exhibitions or events, conference rooms with independent access, restaurant accessible from the outside, etc.)*
- *adequate use of external spaces (courtyard, garden, other spaces in the open)*

◘ ***By pointing out, for example, how the museum employs its installations and equipment.***

- The museum must optimize the use of its installations, tools and equipment of any type through ordinary and extraordinary maintenance and through the refurbishment of the same.

◘ ***By pointing out, for example, how the museum:***
- ***best identifies and evaluates the new, emerging technologies it's directly interested in***
- ***best maximizes and handles new technologies***

- The employment of advanced technologies represents a decisive factor in improving internal management, in valorizing museum's knowledge assets, in increasing the number of consumers, even with remote access, in promoting the placement of information online. The following technologies should be considered:
  - *Technological tools that support access, knowledge and documentation of collections,*
  - *Computer systems that manage human resources, accounting, etc.,*
  - *Innovative technologies whose final aim is to conserve or exhibit the museum's collections.*
- Managers therefore must take into account the resources necessary to develop new technologies during the planning phase (see Criterion 2a). They must also identify emerging technologies and evaluate their potential impact on consumers' expectations. In case of a positive evaluation, these must be employed extensively.
- The museum must guarantee that the development of the competences and capabilities of their staff is consistent with the evolution of these technologies (*for example by organizing suitable training courses for their employees).*

- ***By pointing out, for example, how the museum manages, at the best of its capacities, intellectual properties, knowledge and innovation***

- Through ordinary study, research and publication activities the museum develops knowledge and innovation. These intellectual assets must be protected, safeguarded and exploited, also according to the current regulations on rights of authorship, through:
    - *Initiatives allowing creative collaborators to express themselves completely*
    - *Stipulation of appropriate contracts with the suppliers of intellectual works, allowing museums to fully utilize the materials commissioned on the outside (texts, photographic images, videos, etc.)*
    - *Charging fees for reproduction rights of the artifacts belonging to the museum or for the use of texts and other materials developed by the museum, whatever type of support is used (paper, photographic, digital, etc.).*
- *It is complicated to implement communication strategies so that the more significant information, new methodologies and updates are readily available when required and that they are protected when it is necessary to evaluate their propagation.*
- *Accessibility and accurateness of information must be guaranteed in keeping with current regulations by providing an effective and efficient organization of multimedia communication, without giving up altogether verbal, and - when necessary – also written and visual, communication.*

Criterion 6: Customer satisfaction

What results are obtained by the museum in terms of customer satisfaction

6a Present results linked to managerial activities and to the cultural politics adopted by the museum in order to improve both their services and their relationship with the public in compliance with the Regulations or, hopefully, with the Service Charter.

- ***By highlighting the results achieved regarding, for example:***

Access to the museum
How the museum favors physical, intellectual and cultural accessibility
Examples of indicators:

- *Physical accessibility: number of days and hours reserved for the prolongation of the seasonal calendar and of the opening times, analysis of the connection between these data and the noticeable increase of admissions compared with regular opening times; number of adjustments made to the hours of operation to respect particular customer requirements; number of extra exhibition halls without architectural barriers/general renovation projects; number of tours designed for the seeing- and hearing-impaired; accessibility/expansion of parking spaces close to the museum;*
- *Intellectual and cultural accessibility: quantity of informative materials regarding the museum and its activities in relation to different foreign languages, to the type of communication used (paper or digital communication), to the selection of specific or general interest themes; number of interventions used to make the concept of the permanent collection explicit; quantitative and qualitative analysis of the teaching aids created;*
- *Democratic and social accessibility: facilitation for economically or socially underprivileged categories (what proposals were made for and what answers received from the chosen target groups and the public/private subjects, such as social services, associations), partners of the actions.*

- **Communication**
  The museum presents an image which corresponds to the mission explicitly made public in its statute. The museum – not only through its statute, but also through any means for giving information (explanation placards at the museum's entrance, website, advertising material) – should give detailed information regarding the history of the institution, the exhibited collections and those in storage, the services offered with the relevant differentiated costs and any inefficiencies, the composition of its staff, the conditions for visiting and the identification of exhibited works; it should display the orientation map and the suggested or age-appropriate itineraries; show the active safety systems. The idea is to be able to convey messages, which are calibrated on the decoding capacities of the different types of visitors (age, social standing, culture).
  Examples of indicators:
  - *number of contacts with the managerial staff (eg.: how many requests are received for access to the depositories; for consultations with experts; for educational activities, how many complaints) and subsequent analysis of the positive/negative answers and of the causes.*
  - *number of scientific and popular publications (schools, universities, travel agencies, display stands, etc.)*
  - *number of times the website has been accessed (quantitative indicator, rough estimate of positive perception)*
  - *quantification of the museum's promotional actions, carried out directly by the managerial staff.*
- **Ability to foresee users' demands**
  The museum must be able to anticipate the requirements of the public, keeping their requests and needs in mind (through analyses, informal meetings, etc.).
  For example:
  - *creation of regulations for information harvesting, for analysis and data elaboration in order to anticipate the demands;*
  - *documentation of the requests made by the public during the meetings with the managerial staff; subsequent analysis of the forecasted needs: information harvesting, handing out questionnaires to potential users.*
- **Ability to respond to users' needs**
- A reliable and timely answer must be given to users' needs according to different levels of request (from information, to being involved in initiatives). Furthermore, an adequate answer must neither be uniform nor unambiguous, in order to respect the different social sectors of the public and the different levels of requests.
  For example:
  - *identification and quantification of the corrective actions taken by the museum services in order to fulfill the requirements pointed out by the users in the survey;*
  - *definition of a memorandum book for visitor surveys and of an administration program, differentiated according to the various areas of interest;*
  - *programming meetings for museum operators in order to analyze the results of the survey.*
- **Ability to respond to emerging problems in general**
  How the museum works to absolve its educational function, becoming a resource for the entire community of reference in terms of promotional activities in the fields of culture, tourism, society and education:
  For example:
  - *identification of initiatives and programs, which favor both an awareness of the local community's identity and social/multi-ethnical integration;*
  - *ability to aggregate social forces to work on these initiatives and programs;*
  - *number of actions undertaken on a yearly or multi-yearly schedule.*

The whole spectrum of actions, explained above, contribute to measure how the museum has **invested in customer satisfaction** in order to enact a policy for the public. Analysis of the results obtained must clearly define the policy for the public , therefore it must also take into consideration investments in terms of economical, human and professional resources employed to guarantee the quantity and quality of the themes handled.

Products and services

- **Quality of the content and presentation**
  The museum publicizes its program of activities on a yearly or half-yearly basis, promoting it by means of public gatherings, widely-spread bulletins, communications to the media. The program must clearly state the topics, operators and partners involved, how to participate, etc. The results of research and surveys carried out amongst the public to demonstrate the correspondence between the consumers' wishes and the museum's response to them, can be made known through this instrument.
  For example:
  - *Identification and analysis of forms and conditions of communication, which can be differentiated according to the number and type of users reached*
- **Customer Assistance**
  The attention given to the public must be considered a priority by the entire staff and Management. Employees must be willing to give information and assistance in the various activities of the museum (from visits to services). Employees must be recognizable (from the custodians to the director) and the customer must know how to meet with the staff who work with the public(including the Director and Conservators).
  For example:
  - *number of staff specifically trained for interacting with the public (or: how many hours are dedicated to employee training);*
  - *number of multi-lingual translations available at the ticket counter and/or in the exhibition halls;*
  - *explaining how to use the regulated services and survey of reported inefficiencies*
  - *what efforts have been carried out to make employees recognizable by the public (besides the uniforms)*

Supply differentiation

The museum must be aware that different types of public/different ways to visit/different motives for visiting exist. The museum must provide different interpretations, approaches and cultural mediations.
For example:
- *differently priced tickets*
- *availability of personalized reservations*
- *identification of itineraries reserved for personalized visits*

- **Level of scientific collaborations**
  The comparison to, exchange and collaboration with the scientific community constitutes one of the basic functions of the museum and is, for the public, a guarantee of quality, of keeping the cultural and service contributions up-to-date.
  For example:
  - *number of times the museum is consulted and participates in university theses and researches;*
  - *number of contacts and collaborations in Italy and of projects in partnership;*
  - *quality and quantity of collaborations and partnerships abroad.*
- **Innovative contents in the museum's programs**
  In order to change the idea that museums are only places for preserving collections , Management should intensify their study and valorization, even through new means of communication, of

educational experimentation and through new topics. When the conditions are favorable, the contents of innovation are simply linked to the "rotation" of the collections exhibited.

For example:

- *which new themes and how many were favored in the museum's exhibition and educational activities calendar;*
- *how many artifacts were brought out from storage for the exhibitions;*
- *how many new forms of communication and/or educational techniques were experimented;*
- *which new professional figures were employed, other than traditional staff members, to enhance the museum's activities (actors, musicians, entertainers, etc.).*

- **Cost of services offered**

  Where there is no free entry, the types of tickets and the tariffs should be differentiated and provide facilitations for certain types of customer. Sometimes it is desirable to make plans favoring large-scale access to a certain number of services. These services should have a specific list of fees which should be communicated to customers with particular care.

  For example:

  - *explanation of the list of fees for the services offered (from access to the museum to photocopies);*
  - *indicators quantifying the overall trend of visitors/customers who use the services only partially;*
  - *surveys on quality to define the level of willingness to pay for the services.*

- **Credibility of the structure and the organization**

  The museum must acquire organizational and scientific credibility through its cultural and managerial politics.

  For example:

  - *number of projects in partnership and evaluation of the quality of the collaborations;*
  - *number of times the museum is present in agreements regarding the programs promoted by the Administration it depends from.*

Service supply

- **Professionalism of the staff**

  It is the first real factor perceived by the visitor to evaluate the museum. Employees must be able to offer their professional services in a competent manner (it is necessary to invest in all levels of training) by using a new and effective organization (professional training, use of new languages).

  For example:

  - *respecting a code of conduct;*
  - *ability to answer the customers' questions in the exhibition halls and at the front office;*
  - *visibility of the scientific staff during public seminars and specific fields of research;*
  - *number of publications by the scientific staff and credibility.*

- **Documentation services**
- Even in the absence of a true library, the customer should have access to the basic bibliographical documentation regarding the collections exhibited. The managerial staff must be able to show the user where to find the information. When more structured documentation services are present, they will offer scholars and the interested public, possibly free of charge, the scientific and/or popular editorial and multimedia production pertaining to the museum and its collections.

  For example:

  - *-quality and quantity of the consultations;*
  - *-number of loans;*
  - *-predisposition of web-based documentation services and analysis of the replies given to users.*

- **Complaint management and customer satisfaction services**
  The primary source used to verify the minimum level of customer satisfaction is the guest book, commonly found in our museums. The museum must invest in a customer satisfaction monitoring system in order to handle the complaints.
  For example:
  - *preparation of customer satisfaction questionnaires to hand out to visitors directly;*
  - *preparation of pages on the website dedicated to survey customer satisfaction;*
  - *analysis of formalized complaints;*
  - *analysis of response time;*
  - *visibility of the solutions applied;*
  - *ability to offer replies appropriate for the complaints.*
- **Technical support**
  Conformity to what has been declared herein constitutes a requisite of quality and a guarantee of service. The museum must clearly explain which services it has to offer and the conditions through publicly available documentation, such as:
  - Statutes, Regulations, Service Charters and informative materials
  - preparation of a system for the circulation of documentation pertaining to the services offered;
  - preparation of complaint forms and the consumer's bill of rights.

Customer loyalty

- **Intention and/or effective return to the museum**
  It is the primary indicator of loyalty, therefore of satisfaction. Quantitative (attendance to the museum and the initiatives) and qualitative data (public surveys) may be available.
  For example:
  - *number of repeat customers, detectable through registration to specific events and/or seasonal tickets (adult and student educational activities, cyclic initiatives reserved for specific categories of clients);*
  - *number of multiple/seasonal tickets sold;*
  - *analysis of the results obtained through specific agreements with groups/associations.*
- **Willingness to buy other products and services**
  Use of the museum through additional services allows to detect its acquired role as public service provider.
  For example:
  - *quantification of the services activated during the year: library, archive and photographic archives, photocopy services, expert consultations, educational materials renting, bookshop and café/restaurant;*
  - *quantification of services used by customers through observation of the flow of visitor preference.*
- **Recommending the organization to others**
  For example:
  - *Public surveys (the incidence of "word-of-mouth" when choosing a museum can be verified)*
  - *Evaluation of the importance of adhesion to promotional formulas (presence of the museum's website on a thematic portal/insertion of the museum in a ticketing system which encompasses several institutes)*

  «Return» information is normally obtained through surveys (prepared to understand the views and perceptions of customers regarding the products and services offered by the organization) or other sources ("friends of the museum" associations or operators in the field, social voluntary associations, visitor listening groups).

- Survey results must be compared both with the objectives of customer satisfaction, which the museum proposes annually, and with past survey results, in order to verify whether the service is constantly improving.
- Managers must systematically examine the results by keeping in mind, for example:
  - the trend over several years
  - comparison with annual objectives
  - comparison with other similar museums (variance between the average and the best result obtained) especially if the museum is part of a system
- When the results are not satisfactory it is indispensable to identify the causes and to intervene in good time in order to modify the approaches, the procedures and, if necessary, to start new initiatives

6b Produce results regarding other measures relative to customer satisfaction.

◘ ***By pointing out the surveys carried out by the institution to understand, anticipate and improve customer satisfaction and loyalty.***

Overall impression of the museum

- **Number of reviews and awards at the local and/or national/European level**
  For example:
  - *Seal of quality given by the Region of Lazio;*
  - *Participation in initiatives of national relevance and of prestigious patronage*
- **Presence in the media (newspaper articles, television programs)**
  We hope that the museum or Administration it refers to has a good press agency collecting attestations of the museum's media coverage. Management must frequently – besides the opportunities given by exhibitions and temporary events – issue press releases regarding its current initiatives (restorations, new accessions, temporary closings) and its educational programs.
  For example:
  - *number of articles/services/contacts;*
  - *number of press conferences/releases;*
  - *analysis of the effect produced by the presence of the media.*

Products and services:

- **Comparison to other museums**
  Comparison can be included in employee training and refresher courses. It can be useful to steer the institution to exchange views with similar museum realities in order to find common ground.
  For example:
  - *quantification of projects aimed at refresher training and study opportunities for employees;*
  - *quantification of projects in partnership with other museums (organization of seminars for mixed groups and with a common course of training;*
  - *number of trips abroad to become acquainted with other museums.*

Customer loyalty

- **Investing in customer satisfaction**
  It should be considered as a structural indicator to measure the focus on the museum's public. It deals with measuring the investment from the viewpoint of the economical, human and professional resources employed; with considering the number of surveys carried out, as well as the quantity and quality of the topics tackled.

For example:
- *qualitative evaluation of the programmed objectives made with the public in mind;*
- *quantification of the economical obligations dedicated to each programmed service;*
- *annual analysis of the increase in percentage of the total budget;*
- *identification of the services privileged during the year/over the years;*
- *cross-analysis with data pertaining to the frequency of loyal customers.*

- Managers must systematically – by establishing surveying times – review the results of the indicators regarding the critical procedures for customer satisfaction, defined in Criteria 5a, 5c, 5d.
- When the results are not satisfactory, it is indispensable to identify the causes and to intervene in good time in order to modify the approaches, the procedures and, if necessary, to start new initiatives.
- If the museum does not dispose of data regarding client perception (see preceding Criterion), it may use these indicators to evaluate indirectly the level of customer satisfaction, keeping in mind however that the effectiveness of this kind of evaluation is definitely inferior.

About the Editors and the supporting Institutions

Massimo Negri is the Director of the European Museum Forum.

The European Museum Forum is an independent and non-profit organisation committed to raising the standard of museums throughout Europe, it runs under the auspices of the Council of Europe and organises the annual European Museum of the Year Award for newly built or improved museums. Other activities include international workshops, lectures and publications including a quarterly Bulletin. The highlight of the year is the Annual Meeting, an international conference which culminates in the announcement of the Winner of the European Museum of the Year Award title. The European Museum Forum is under the patronage of Queen Fabiola of Belgium.

EMF web site: http://www.europeanmuseumforum.eu/

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EPOCH is a Network of Excellence funded by the European Commission under the Community's Sixth Framework Programme. The EPOCH project was active from 2004 to 2008 and dealt with the applications of Information and Communication Technology, notably computer visualization, to tangible Cultural Heritage. The Network included more than a hundred partners, was led by the University of Brighton, and produced a large number of results, still accessible through the Epoch web site. EPOCH published a number of books and other printed material as well as a very large number of scientific papers. All the EPOCH publications are available for download from the above-mentioned site in electronic format, under a Creative Commons, Attribution, Non-Commercial, Share-Alike license. The site has also a full list of the scientific papers, with links to those available on-line. EPOCH web site: http://www.epoch.eu

The Cyprus Institute is a non-profit educational and research institution based in Cyprus. Research activity is carried out through the Institute's Research Centers, of which the Science and Technology in Archaeology Research Center (STARC) is the one that supported the present publication. STARC develops research in the field of technology applications to cultural heritage, such as monuments, historic buildings, archaeological sites and museum collections, with a focus on Information and Communication Technology as well as Chemistry and Physics analyses for research, conservation and preservation of archaeological and artistic objects. STARC web site: http://starc.cyi.ac.cy

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The Istituto per i beni artistici, culturali e naturali (IBC, Institute for artistic, cultural and natural heritage) of the Regione Emilia-Romagna was founded in 1974 to support and advise the Regional Government in policy making and to act as an advisory body to local authorities in the field of artistic, cultural and environmental heritage, incorporating in 1983 the Soprintendenza regionale per i beni librari e documentari (Superintendence for libraries and archives) with the specific task of co-ordinating the regional policy on libraries and archives. As such, IBC "promotes and carries out research projects for the enhancement, the restoration and the protection of cultural objects, historical cities and cultural heritage at large, advising both the Regional Government and local authorities" and "enforcing the legislation addressed to local authority museums and libraries, within the framework of regional policies and regulations". The activities carried out by the Istituto Beni Culturali over the years and the important role played with respect to the Regional Government, have made it a unique organisation in Italy, with an unrivalled experience in its field.

IBC web site: http://www.ibc.regione.emilia-romagna.it/wcm/ibc/pagine/01chi_inglese.htm

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