A proposal for a certification scheme for the Italian Public Administration web sites quality

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Abstract

This paper describes an investigation that addresses an important and emerging area: quality in web sites of the public administration. The authors are persuaded that rendering quality services to communities could be substantially influenced by quality of web sites in public administration, because their increasing use as interface between Institution and users (enterprises or citizens). But large use of web sites by the citizens could be improved only enhancing citizens' trust in web sites security, efficiency and effectiveness. As demonstrated by different indipendent researches, trust could be improved by a quality certification performed by third part evaluators to attest quality of web sites, with a quality mark.

Depending on the specific characteristics of web sites, it's not easy to define which criteria are to be applied for web sites quality evaluation. The authors performed a preliminary investigation on web sites' quality by measuring some indicators which were considered representative of quality from user's point of view, in order to verify their adaptability as certification criteria. They applied not only the usual web usability indicators, but also others related to web content, security, availability, connectivity, standardization, quality assurance procedures. These criteria could be considered representative of the most significant satisfaction criteria from citizens standpoint.

The evaluation included an adequate number of sites, belonging to -central public administration, with different kind of users. PA's sites offering services offered by market have been investigated, too. In order to verify if changes in web sites' pages and structure are too frequent and relevant for the purpose of a quality certification process, we evaluated sites in the sample at two subsequent times, then comparing the evaluations.

Preliminary findings of the research would be a starting point for further refinements of quality indicators, which, in the authors opinion, could be the basis of a certification schema and already helpful to quality web designers, both in PA and other organisations.

Keywords

Web Sites of Public Administration, Services to the Citizen, Quality, Usability, Trust, Certification.

1 Introduction and motivation

Integration between process and technology is quickly increasing in the Italian Public Administration. Most of the main public organizations have crossed the *e-line*, that introduces in *internet era*. With some differences, the way followed is similar to what recently happened in e-commerce sector: after a first step of reciprocal study between public administration and

technology, during which internet and intranet have been introduced as resources to the internal users, the first *presences* appeared on the web, web sites offering information and transactional services to citizens. Mostly of the sites were only showcases, but, later, some interactive self service application has been developed and put on the web, some newsletter, forum and e-mail address has been published. Due to the specific context, with very different objectives than the e-commerce, steps are covered slowly, prudently. It's only starting the real revolution, that will be able to extend benefits of technology to a large number of citizens: the public administration processes re-engineering, based on a extended value chain, absolutely new, focused not on the administrative acts to produce, like now, but on user's needs and abilities. In this value chain, technology must be applied to reach interoperability and co-operation between administrations, with the aim to present the public administration to the citizens as an unique interlocutor, a unique service provider. New concepts have been introduced in public administration "on line", like portal, horizontal and vertical, and e-CRM (Customer Relationship Management).

In the e-commerce system, that is, after all, a fragile ecosystem, is now growing the web quality certification business, with the scope to preserve user's trust. Many quality marks have appeared on the web, sponsored by different organizations. Could this practice be helpful in public administration on-line, too?

Quality mark is a way to improve business, but also a way to distinguish organizations through serious business transactions and customer-friendliness. We are conscious of differences between e-commerce and public administration, but we believe that many principles can be similar. Services rendered by public administration are different from those from e-commerce organizations: these service are lead by ethic principles, there is no really need to mantain user's loyalty, competition between service providers is absent.

Recently, specific initiatives of European Commission have been taken to ensure full accessibility of public services to all citizens (i.e. the Action Plan for e-government). Many of these initiatives are based on internet. So, in the last year, Public Administration's web sites were increasingly used as interface between Public Administrations and citizens. Existing applications growth on web sites was very rapid, and chaotic. Actually, internet is often the first front end for the citizen's needs, and the first source for public services quality evaluation.

Otherwise, growth seems to be still not co-ordinated and homogeneous, and the different levels of quality rendered to citizens could reduce their trust in technology potentiality.

Could a quality mark enhance citizen's trust? To the citizen, a quality certification could be a third party testimony that the web site is under an effective quality control system and meets the requirements of an acceptable standard. We believe that this assurance could really improve quality of services rendered to citizens and improve their trust in public administration.

Otherwise, depending on the specific characteristics of web sites, it's not easy to find which criteria are to be applied for public administration web sites quality evaluation.

It's widely recognized that in the public administration context, software quality must be the result of several characteristics, not only technological, as usability, accessibility, significance of contents, availability of quality assurance procedures, effectiveness of services supported and rendered. These concepts are the guidance principles of the ISO new normative initiatives in IT, as ISO/IEC 9126-1.[1] As suggested by this normative reference, the best judge on this kind of quality must be the citizen end-user, according with the requirements of "quality in use" concept.

For these reasons, the Italian public administration (PA) represents an important *testbed* for fulfilment of software quality in real settings. The relevance of public administration context for quality research is due to the volume and importance of applications and services that the

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[1] ISO/IEC 9126-1 Software Engineering. Product Quality - Part 1 - Quality model, 2001

Italian government is putting on the web, and to the number and various types of potential users to whom applications and services are addressed.

This paper aims to investigate if a quality certification would be meaningful for public administration's web sites and which could be the most adequate indicators to be used in the evaluation process. Furthermore, this paper investigates about the topic question of a web sites evaluation, if changes in web sites' pages and structure are too frequent and relevant for the purpose of a quality certification process. In order to answer this question, we carried on two different surveys, at different times, for every site in the sample, and we have compared the two evaluations.

We consider the certification object includes the information given by the site, and the activity done by the web site and the related procedures, as they are perceived by citizens-users. So, we decided to define a model of characteristics that we believe influence web sites' quality from end user point of view, and we investigate the actual conditions that in Italian public administration's web sites limit full user's satisfaction, using this model.

We have had a government reference that helped us to define which indicators could be used for evaluation. Italian Government, last year, launched an action Plan in order to improve use of information technology in public administration. We derived the indicators from the main objectives defined in this plan.

The work reported in this paper describes results of the survey, performed on some of the PAs most significant web sites, in order to measure their actual quality level, as a user-citizen would experience. In order to evaluate the real state-of-art from user's standpoint, we have designed a set of tests, which observe web sites (similar to the "black-box" approach) in their responses to user's inputs and user's service requests. We adopted the use-case approach to define test occurrences. Most evaluations are in some way qualitative and subjective (at a limited extent), but at the same time this survey highlights significant keypoints to be noted by web site developers, in PA and in any other large organization, if they want to fully yield the promised benefits of the so-called e-government.

The model presented in this report, we believe, could be the nucleus of a web quality certification scheme in public administration context.

2   WEB sites role in e-government

The Italian Government launched (in June 2000) the "Action Plan for the information Society". The plan aims to spread to a large number of citizens the information technology advantages, making more direct and transparent the relationship between Public Administration and citizens. The plan is intended to create a baseline for e-government.

Main objectives are 1) enhancement of the operational efficiency within PAs, 2) computerization of services to citizens, implementing interoperability and integration among existing PA's networks, 3) provision of access of computerized service and government information to a large number of final users.

So far, Public Administrations have undertaken only the first objective, mostly by sector and with local initiatives.

The e-government plan is intended to quickly enhance the second and third objective, and it proposes to involve all central and local administrations and every agency and organization that performs some function in providing public services to citizens or corporations.

Every central or local government unit must carry out actions to achieve the objectives, and all the actions, taken as a whole, must result in the overall modernization of Italian Public Administration.

To achieve the Action Plan objectives, it's necessary to implement a network which links the information systems of all government units (i.e. a virtual extranet covering the entire national

territory). All limitations and constraints that make interaction with end users a difficult one are to be removed.

We believe that three main objectives of Action Plan are faces of the "effectiveness" of new technology in supporting end users to achieve their objectives.

Therefore, we envisaged to evaluate effectiveness of web sites, from user's point of view, analysing three main quality characteristics we consider as "influence factors" of actual value for citizen end-user.

We believe that these measures of effectiveness are indirect measures of the actual level of deployment of Action Plan.

3   Research definition

Research focus is on effectiveness of web sites from end user point of view. We have considered usefulness of information and services rendered by web sites to the citizen (or corporation) end-user as the first item in quality hierarchy. Efficiency and technical quality are instrumental to effectiveness. Quality assurance is considered as a mean to improve effectiveness.

The survey has been performed on web sites of central Public Administrations (PA): Ministries and Government Agencies. Neither Local/Regional Government and Health Care Institutions were included in this first phase of the survey, although we have planned to include them in future studies.

Among the 30 main candidate Institutions, sample definition has considered 8 PAs, 50% Ministries and 50% Government Agencies. Selection criteria have been: heavy interaction with citizens/customer, many lines of services rendered, large information systems (ICT maturity), and large investment in information technology in the last two years. The units selected are representative of the whole set, as they cover 64% of investment on Information Technology in Italy in last year.

The survey deployment took 4 weeks and was conducted by 3 people, working part time.

We have defined an assessment model, based on three main characteristics, 1) quality of web site contents, 2) usability and accessibility, 3) quality assurance. Each characteristic has a set of indicators associated with them. The survey was based on checklists, one for each indicator.

To evaluate indicators, we have defined a set of "use cases", to simulate the end user behaviour when looking for a service or information on a web site.

For the first characteristic (quality of web site contents), the investigation begins by visiting the home page of the selected site to be evaluated, and by analysing the site map (where available). Starting from the home page, navigation continues along different branches up to their final pages, according to site services selected (randomly chosen among available ones). We limited navigation at no more than 30 final page instances (use cases) explored per site, not including multiple outcome for (slightly different) requests of the same service.

For the remaining two characteristics (usability and accessibility, quality assurance) the evaluation of each site required to download at least additional 50-100 pages.

4   Evaluation model

4.1   Quality characteristics for PA web sites

As mentioned before, the evaluation model defines three main characteristics. Each characteristic has a set of indicators associated with them, except Quality Assurance. A set of measures is provided for each indicator. Quality Assurance has a set of measures associated, too.

Main characteristics and indicators are listed below.

1. Content Effectiveness
   – Type of services (info/comm./transaction)
   – Fulfilment of institution mission/objectives (and site purposes) [i.e. coverage of institution mission/objectives in site pages]
   – Coherence of site architecture (to site purposes)
   – Info update
   – Link correctness/adequacy
   – Usefulness of information / services rendered [i.e. significance to the user of the research/interaction, provided it were successful]

2. Usability/Accessibility
   – Navigability
   – Accessibility (to disabled people)
   – Interaction
   – Security
   – Connectivity
   – Ease of use
   – Reliability
   – Utilities
   – Standards (commonality)

3. Quality Assurance [i.e. evidence of QA process at work, included customer satisfaction survey]

To evaluate web site quality level, we have considered as the most significant one the quality of contents (weight 30), then usability (weight 20) and quality assurance (weight 10).
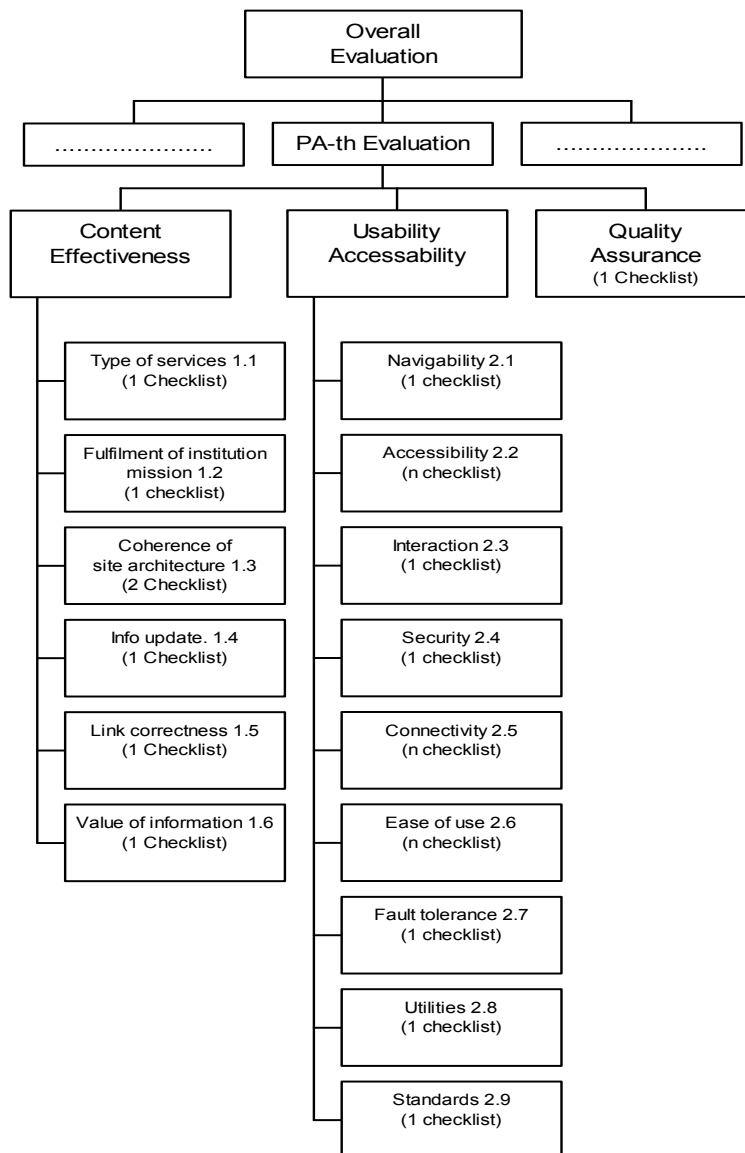
Each main characteristic has a set of indicators associated with them. Ranking and weights associated to indicators have been fixed with a preliminary investigation on a sample of the user.

Each indicator has a set of metrics associated with them, to measure its current level of implementation in web sites. We obtain the main characteristics value from the weighted average of indicators.

The model describes also the procedure to be used to measure each metric.

4.1 Evaluation model structure

The following Exhibit 4-1 shows hierarchy of quality characteristics and indicators

Overall Evaluation

.... | PA-th Evaluation | ....

Content Effectiveness | Usability Accessability | Quality Assurance (1 Checklist)

Content Effectiveness:
- Type of services 1.1 (1 Checklist)
- Fulfilment of institution mission 1.2 (1 checklist)
- Coherence of site architecture 1.3 (2 Checklist)
- Info update. 1.4 (1 Checklist)
- Link correctness 1.5 (1 Checklist)
- Value of information 1.6 (1 Checklist)

Usability Accessability:
- Navigability 2.1 (1 checklist)
- Accessibility 2.2 (n checklist)
- Interaction 2.3 (1 checklist)
- Security 2.4 (1 checklist)
- Connectivity 2.5 (n checklist)
- Ease of use 2.6 (n checklist)
- Fault tolerance 2.7 (1 checklist)
- Utilities 2.8 (1 checklist)
- Standards 2.9 (1 checklist)

Exhibit 4-1 Evaluation Model structure

We defined a checklist for each indicator or measure associated with an indicator (average 15 questions per each indicator or measure). Checklist provides for Yes/No answer or 4-value evaluation for each question.

Value range per each indicator is uniformed to 0-10. Each indicator has a weight. Each main characteristic has a weight.

To compute overall evaluation, first we compute, for each site, the average of measures taken for each indicator.

Then, we weighted average of relevant indicators for each characteristics. Weighting of indicators was obtained by allocating to indicators the weight given to each main characteristic (e.g. weights of indicators relevant to first characteristic sum up to 30). Finally, we compute the weighted average of indicators to obtain the evaluation for each characteristics of web site. Finally, to obtain overall evaluation, we compute the weighted average of all characteristics of web site.

We noted that, given the actual measures of the present survey, the evaluation model has a limited sensitivity to the weighting structure.

5 Results and analysis- First investigation

First investigation was performed in Feb. 2001, taking 4 weeks of 3 part time people.

Results based on more than 100 "final" investigated pages and 500 answered questions per each web site (derived from 35 checklists/site), summing up to about 4,000 answers.

Fundamental results, for each quality category, are outlined in the following Exhibit 5-1 and Exhibit 5-1 (0 – 10 scale):

from 12/02 to 02/03/2001	Ministry				Agency				
Overall results	M1	M2	M3	M4	A1	A2	A3	A4	Avg
A) Content Effectivene	5,4	5,8	7,4	6,0	7,6	6,3	7,0	7,3	6,6
B) Usability/Accessibil	4,5	5,6	5,5	5,7	5,4	5,9	3,2	4,9	5,1
C) Quality Assurance	0,0	1,7	0,0	3,3	3,3	1,7	1,7	3,3	1,9

Exhibit 5-1 Category evaluation figures - First investigation
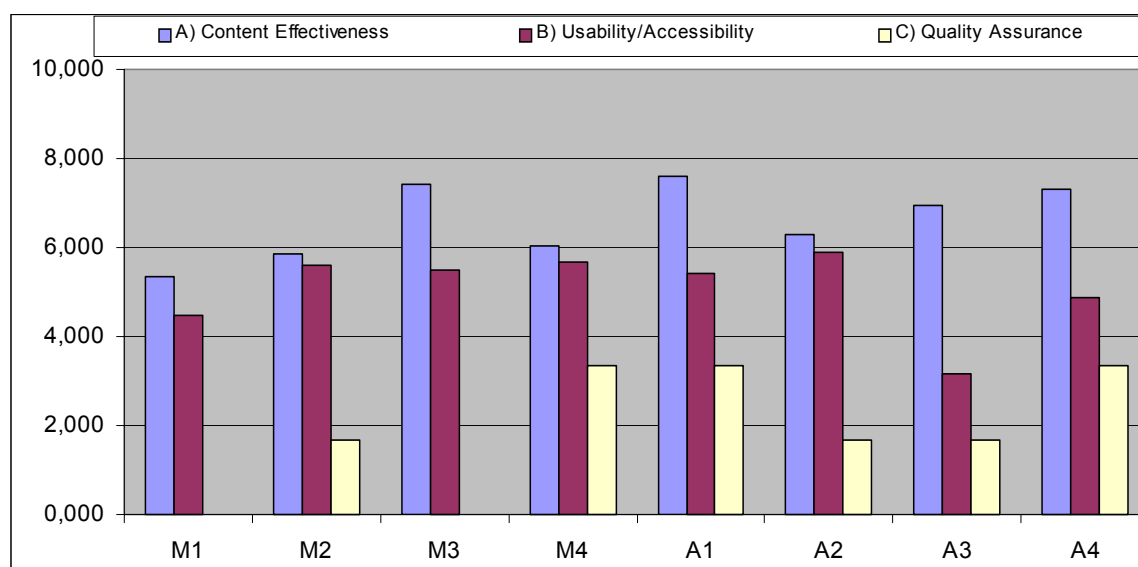
Exhibit 5-2 Category evaluation chart - First investigation

5.2 Overall evaluation

The overall evaluations are outlined in the following Exhibit 5-1. It has to be noted that, accordingly to the adopted weighting model (A=30, B=20, C=10) top theoretical evaluation would be 60:
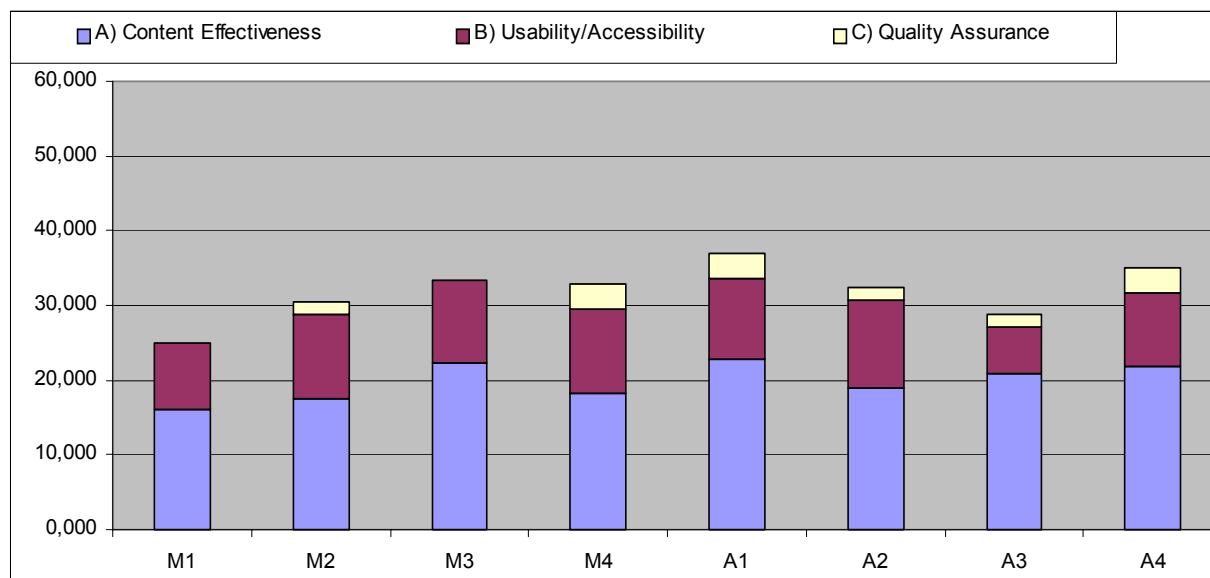
Exhibit 5-3 Overall evaluation

Overall evaluations ranges from unsatisfactory to slightly satisfactory:

– Highest - lowest values are 36 - 25/60 (which are equivalent to 6.1 – 4.2/10);

– Average value is on the border line (32/60, or 5.3/10);

– Improvement margin is significant, both for the lower tier (to equal the best in breed) either for the higher tier (to reach the maximum theoretical value);

– Each category has a narrow, (almost not-crossing) value band: A (7.4 - 5.4), B (5.7 - 3.2), C (3.3 - 0.0)

– Government Agencies are, as a sample group, in a slightly better position, in comparison to Ministries.

5.3   Content Effectiveness Characteristic

Content Effectiveness has consistently the best evaluations among 3 main characteristics:

– Highest - lowest values range from 7.4 to 5.4/10;

– Average value is barely satisfactory (6.6/10)

– Improvement margin is attainable, both for the lower and the higher tier;

– Although a limited number of transactional services are rendered, info are generally exhaustive and pertinent to the PAs objectives: a big step has been done by putting relevant info on the net;

– Anyway, a common task completion usually takes a long time (download of images overloaded pages, hierarchical navigation as usual search path) and communication allowed to users are mainly via email, where turn around time (with webmaster, service front-end, etc.) are longer than 24 hours.

– According to the following Exhibit 5-1 and Exhibit 5-1, only "Info update" indicator has an average value not satisfactory (5.0/10), while "Link correctness/adequacy" has the best evaluation (8.7/10): due to the relative weighting structure, both indicators have a limited impact on the characteristic evaluation;

– Due to their obvious importance in the evaluation model, values of indicators for "Fulfilment of institution mission/objectives (and site purposes)" and "Value of information / services rendered" have the larger impact on the characteristic evaluation.
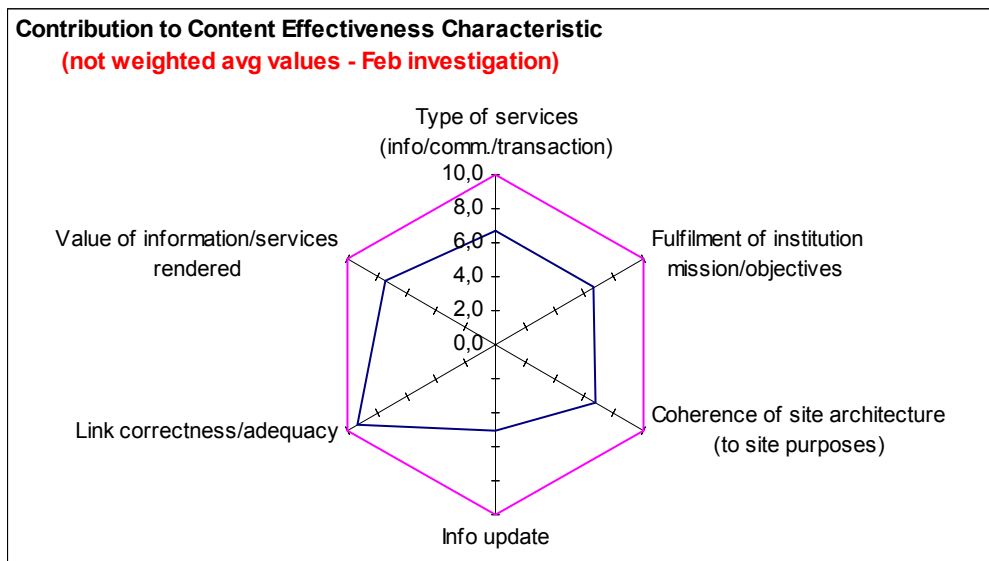
Exhibit 5-4 Indicators (unweighted) contribution to Content Effectiveness Characteristic
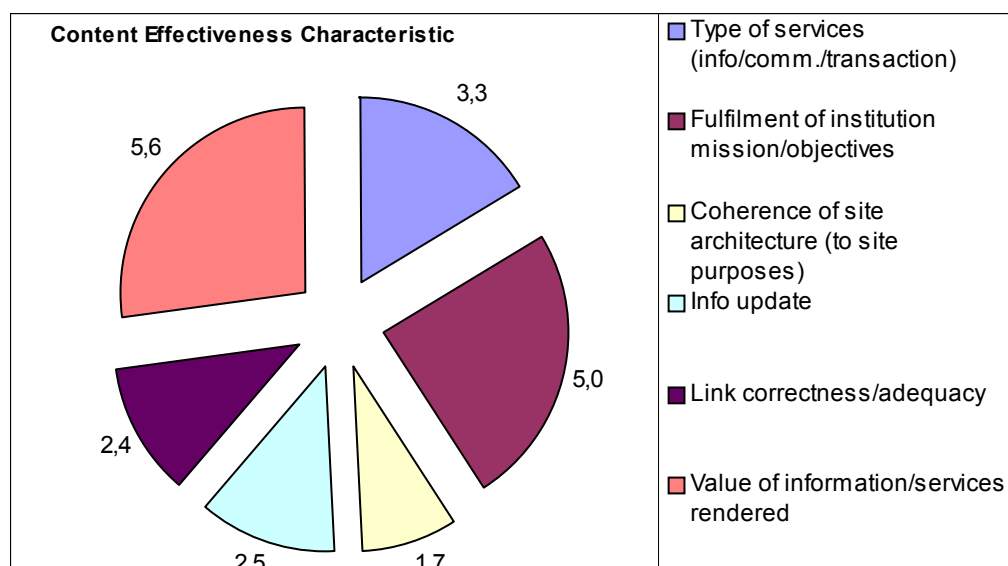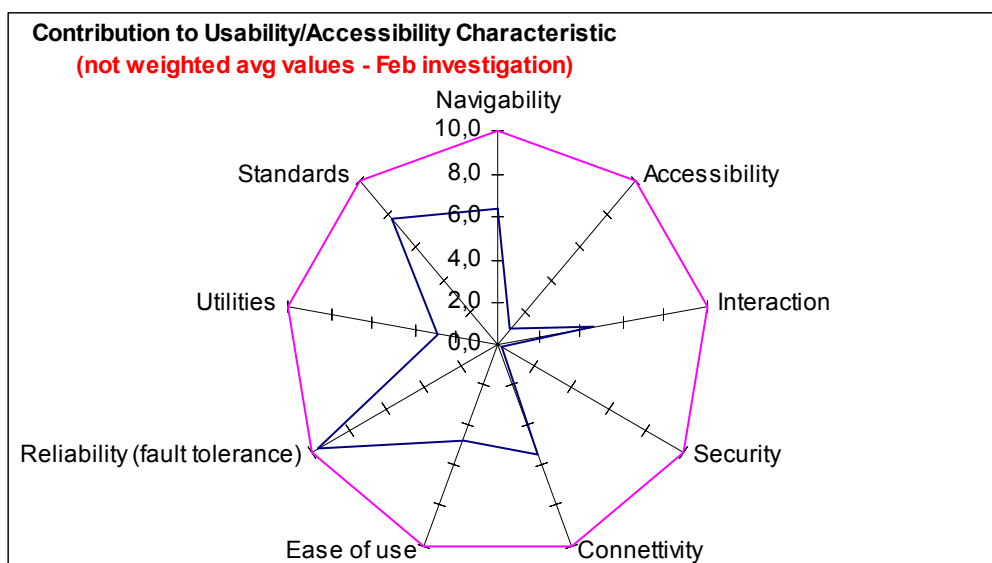

Exhibit 5-5 Indicators (weighted) contribution to Content Effectiveness Characteristic
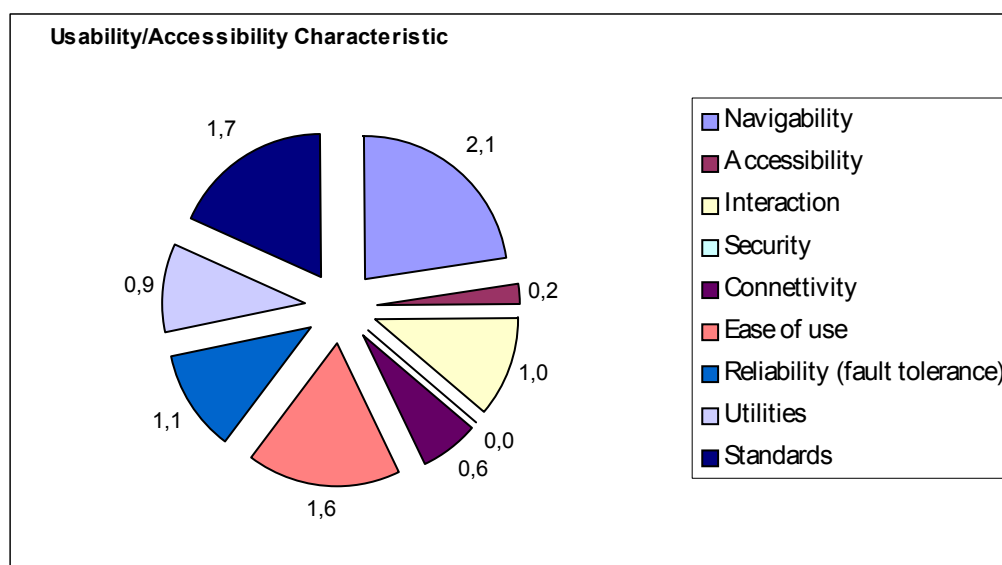
5.4 Usability/Accessibility Characteristic

According to the following Exhibit 5-1 and Exhibit 5-1, Usability/Accessibility has the wider range of evaluation among 3 main characteristics:

– Highest - lowest values range from 5.7 to 3.2/10;

– Average value is less than satisfactory level (5.1/10);

– Improvement margin is challenging, both for the lower tier either for the higher tier;

– "Reliability" (fault tolerance - especially to user errors) indicator has an average evaluation close to theoretical maximum (9.5/10);

– Second ranking indicators are "Site standardisation" (average evaluation 7.8/10), although the various sites have largely different values, and "Navigability" (6.6/10);

− Due to the relative weight structure, "Navigability" has the greater impact on the characteristic evaluation, followed by "Site standardisation" and "Ease of use";

− Lack of security features, accessibility (to disabled people) and utilities are a common pattern for all the investigated sites (average evaluations respectively 0.9, 1.2 and 3.8/10).

**Exhibit 5-6 Indicators (unweighted) contribution to Usability/Accessibility Characteristic**

Exhibit 5-7 Indicators (weighted) contribution to Usability/Accessibility Characteristic

5.5   Quality assurance Characteristic

Quality assurance (QA) processes are generally lacking or have a marginal visibility:

− Highest - lowest values range from 0.0 (no visibility at all) to 3.3/10 (something done/underway);

− Average value is on the bottom level (1.9/10);

− Improvement margin is consequently enormous, both for the lower and the higher tier;

− No site has a quality certification nor a last revision date, while only 50% (mainly Agencies) have performed a formal customer satisfaction survey;

- Most sites hopes (or are asking for) customer voluntary feedback via email (to webmaster or similar help-desk office), where useful hints for quality improvement would be mixed with other purposes messages (info requests, technical errors claims, etc.);

- Present data show, at a first glance, a likely correlation of QA values with values of the "Content Effectiveness" characteristic, according to the following Exhibit 5-1 (statistical significance to be explored in a larger sample).
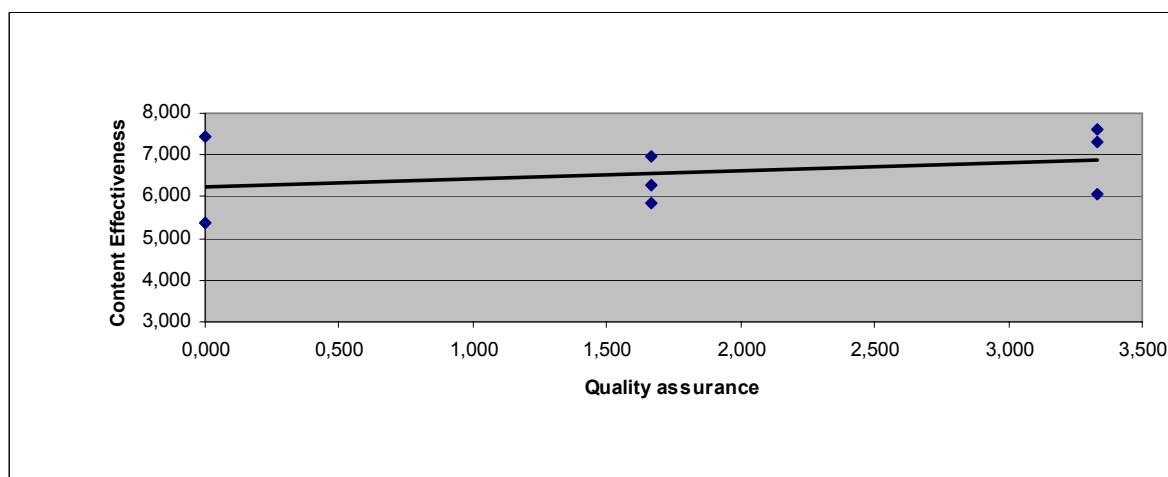
Exhibit 5-8 Correlation of characteristics (QA vs. Content Effectiveness)

6   Results and analysis- Second investigation

Second investigation was performed in Oct. 2001, taking 1 weeks of 1 part time person. As mentioned before, it was focused only on Usability/Accessibility, which in the first investigation has the wider range of evaluation among 3 main characteristics.

In addition, among the previous sample, only 50% of web sites were investigated, selecting the best and the worst for each Administration type: Ministries and Agencies (namely M3, M1, A1, A3).

Results are based on more than 50 "final" investigated pages and 400 answered questions per each web site (derived from 10 checklists/site), summing up to about 1,500 answers

Overall results and the comparison of the evaluations for the selected web sites in the 2 subsequent investigations are outlined in the following **Exhibit 6-1**, Exhibit 5-1.

B) Usability/Accessibility	M1	M3	A1	A3
Feb evaluation	4,5	5,5	5,4	3,2
Oct evaluation	4,3	5,6	6,3	5,5

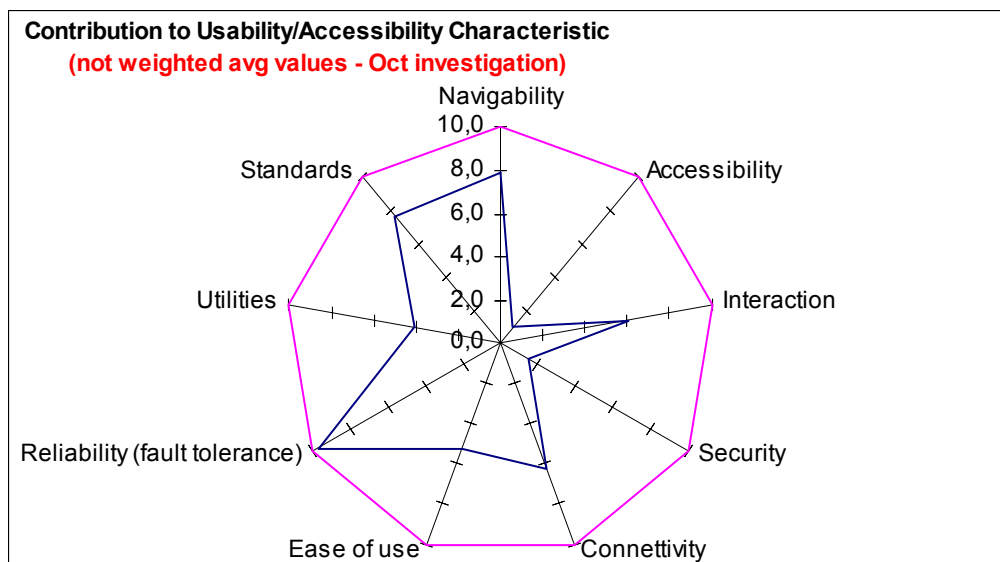**Exhibit 6-1 Overall results of 2 investigations (Usability/Accessibility characteristic)**
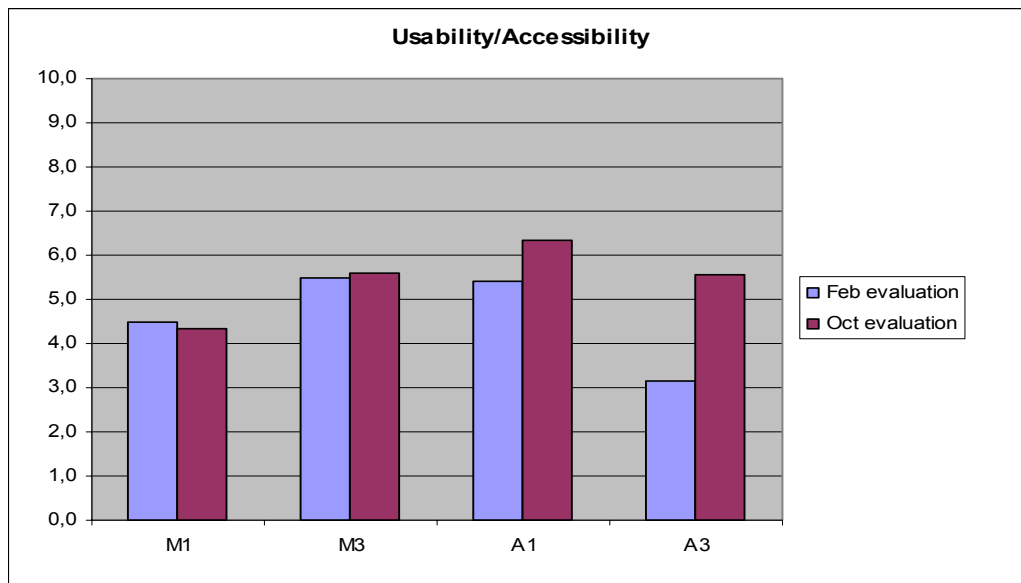
Exhibit 6-2 Comparison of Usability/Accessibility characteristic (2 investigations)
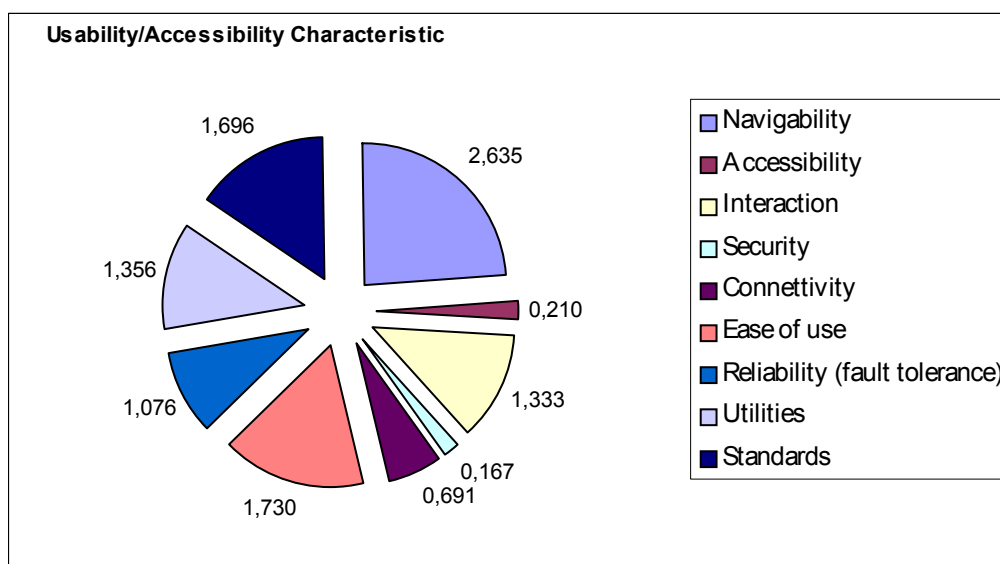
6.1 Evaluation of second investigation on Usability/Accessibility characteristic

According to the following Exhibit 6-3 and Exhibit 6-4, Usability/Accessibility characteristic has still a wide range of evaluation:

− Highest - lowest values of the sample range from 6.3 to 4.3/10, while average value of the sampled sites is still less than satisfactory (5.4/10);

− Improvement margin is still challenging, both for the worst either the best site in the sample;

− "Reliability" indicator has still an average evaluation close to theoretical maximum (9.7/10), while second ranking indicators are still "Navigability" (7.9/10) and "Site standardisation" (7.6/10), switching their relative position;

− Due to the relative weight structure, "Navigability" has still the greater impact on the characteristic evaluation, again followed by "Site standardisation" and "Ease of use";

− Lack of security features, accessibility (to disabled people) and utilities are still unsatisfactory in the sample average (evaluations respectively 1.5, 0.9 and 4.0/10), while the best of the investigated sites had a sharp improvement on these indicators (see next paragraph).
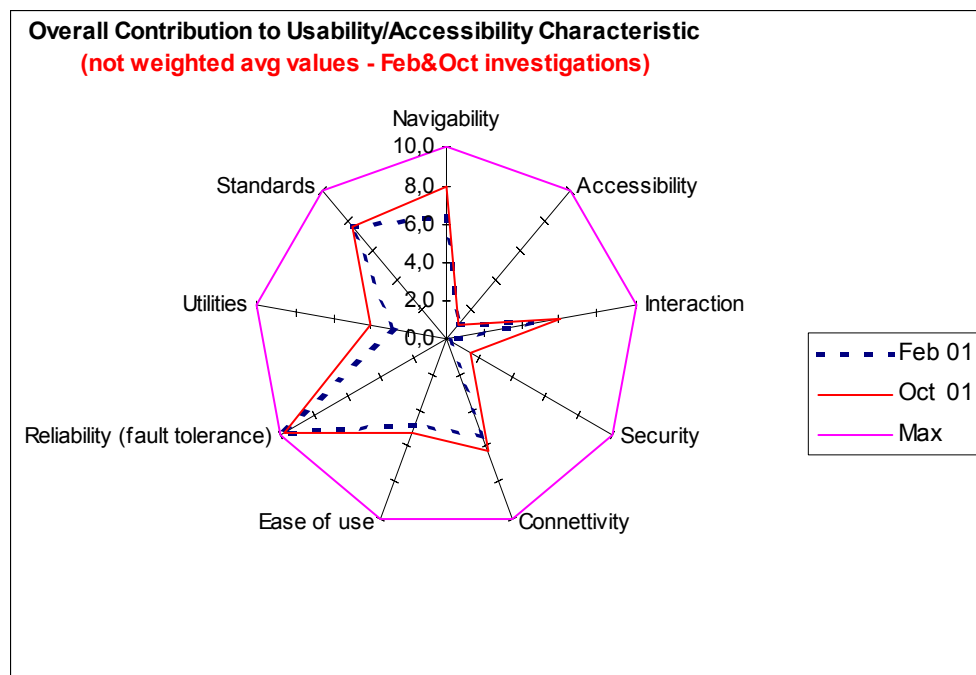
Exhibit 6-3 Indicators (unweighted) contribution to Usability/Accessibility Characteristic

Exhibit 6-4 Indicators (weighted) contribution to Usability/Accessibility Characteristic

6.2 Overall Comparison of 2 investigations on Usability/Accessibility characteristic

The overall comparison on the selected sample of web sites, according to the following exhibit, show a general slight improvement on most part of indicators, with valuable increase on Navigability, Interaction (indicators at satisfactory level) and on Security, Utilities (still unsatisfactory ones).

Overall Contribution to Usability/Accessibility Characteristic
(not weighted avg values - Feb&Oct investigations)

Exhibit 6-5 Indicators (unweighted) contribution to Usability/Accessibility Characteristic

The sample size prevents to elaborate a trend analysis with acceptable statistical significance; anyway it looks comfortable that no indicator shows a decreased value. It would mean that all Administration in the sample are working to improve (or at least not to downgrade) the quality of their web sites.

## 7 Comparison of 2 investigations on Usability/Accessibility characteristic for specific sites

As an example of the performed analysis, comparisons for specific sites follow, limited to the selected Government Agencies, which include the "best" evaluated web site.

Purpose of the comparison would be: to verify the feasibility (time & resources) of periodic repeated investigations, in order to obtain (statistically significant) trend analysis on quality characteristic evaluation, for any site subject to (or candidate for) quality certification.

7.2 Analysis for the "best" evaluated web site (A1)

Analysis of the 2 subsequent investigations on the "best" evaluated web site (A1), according to the following Exhibit 7-, show a dramatic increase on Navigability indicator (at very satisfactory level) and on Security one (still slightly unsatisfactory). The slight decrease for some indicators could be included in the "noise effect" of the sampling approach.

The volume of web pages included in the evaluation gives statistical significance to the limited, but positive trend of this characteristic (from 5,4 to 6,3), therefore crossing the "satisfactory threshold". It would mean that the considered Administration is working effectively in order to improve the quality of its web site.
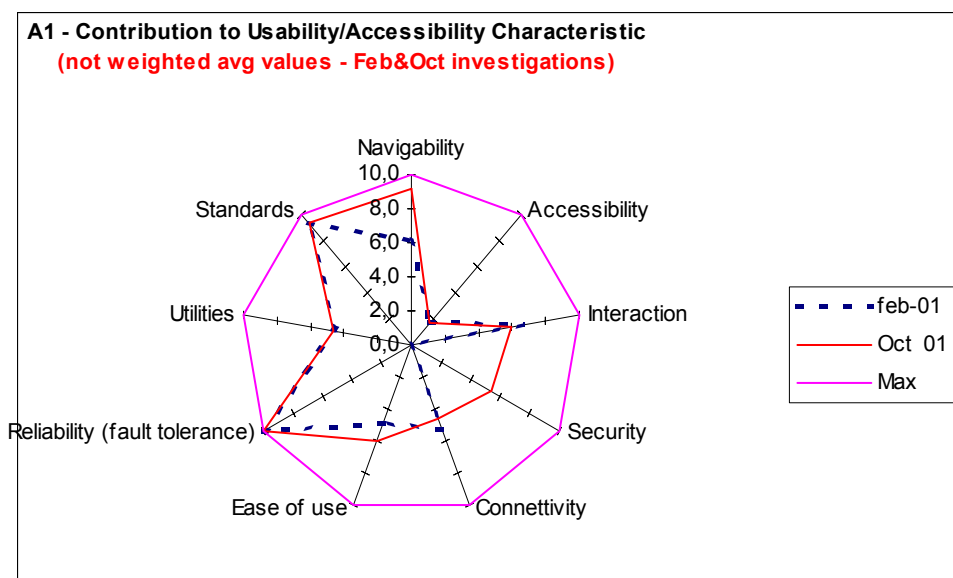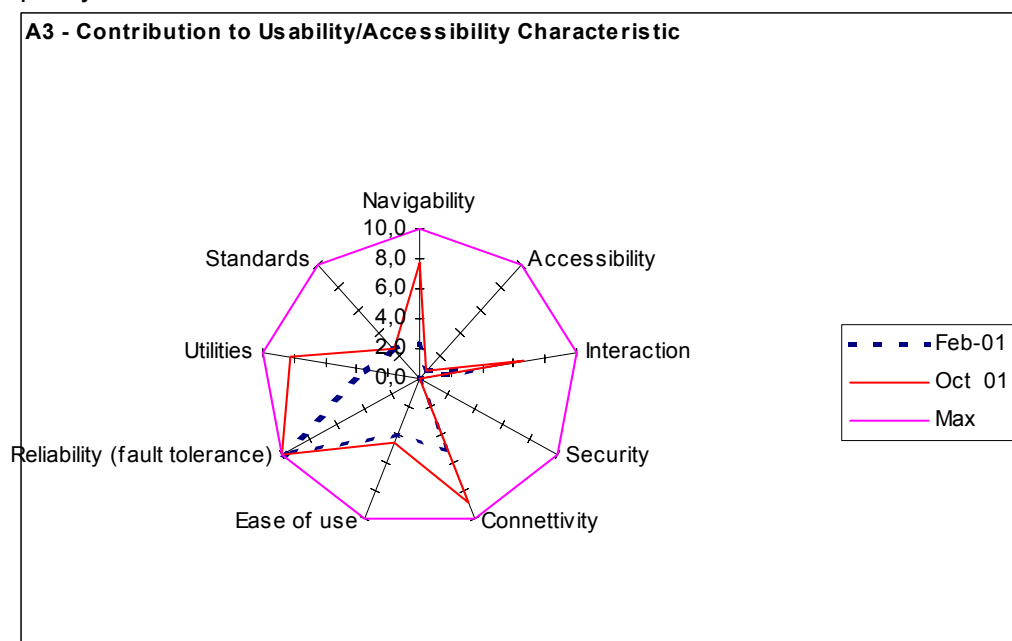
Exhibit 7-1 Site A1 - Indicators contribution to Usability/Accessibility Characteristic

7.3 Analysis for the " second best" evaluated web site (A3)

Analysis of the 2 subsequent investigations on the "second best" web site evaluated (A3), according to the following Exhibit 7-, show a dramatic increase on Navigability, Connectivity and Utilities indicators (moving from unsatisfactory to very satisfactory level), while other indicators remain unchanged, still largely unsatisfactory.

As mentioned above, the positive trend of this characteristic (from 3.5 to 5.5) has statistical significance, but not crosses the "satisfactory threshold". It would mean that the considered Administration is working, but it has still to work harder, in order to improve satisfactorily the quality of its web site.

Exhibit 7-2 Site A3 - Indicators contribution to Usability/Accessibility Characteristic

8   Conclusions

The adopted model for web site evaluation looks to be a promising one, being focused on effectiveness to the citizen (or corporation) end-user. The developed characteristic/indicator/measure structure adheres to standard approach in quality evaluation (e.g. ISO9126 for software) and checklist questions give an adequate and unbiased insight on information/services rendered by web sites. In addition, checklist recorded answers are a documented "audit trail" to confirm web site evaluation trends, due to repetitive periodical surveys.

The effort to thoroughly investigate a specific site varies according to its structure complexity and size. Substantial help would be given by site map (seldom available) and by other common utilities: anyway one person-day per site was the minimum required effort, not only to navigate and get proper pages, but also to preliminarily find out the PA mission/objectives and relevant site branches to browse.

Repetitive, periodical surveys require additional limited effort, as experienced in the second evaluation, although it was focused on a selected sample. Therefore, we consider (both technically and financially) feasible to periodically update the evaluation, in order to obtain (statistically significant) trend analysis on quality characteristic, for any site subject to (or candidate for) quality certification.

Then, we learned from the first investigation that Italian public administration's web sites development had not yet been based on a "human centred" design. Anyway, from the second one we understand that the considered Administrations are working in order to improve the quality characteristics of their web sites (although most of them have still to work harder):

– Readability of info is not a standard, because most informative pages show official documents in a "as is" format (without typical segmentation of web pages);

– Search engines/utilities are to be improved, to get the best from available info and data bases;

– Accessibility (to disabled people) is still to be approached by PAs, but even usability (for common people) has to be drastically improved: guidelines and standards are available for both items;

– Customized "newsletter" service is an exception (implemented by some Agencies): at present a "info pull" approach is adopted by PAs, while a push approach is going to be widely applied in the info/communication business (e.g. mobile phones);

– Two-way communication is not yet a common mindset: web sites have been mainly conceived as a "bulletin board" from PA to citizen or Corporation end-user (and not in the counter direction);

– When two-way communication is available, usually customer are allowed to contact only anonymous staff offices, instead of front-end officers in charge of relevant operational processes;

– Transactional services would be increased, in order to improve effectiveness and efficiency both for citizen and PA, by exploiting available technological opportunities (identification tools, as ID-smart card/public key are going to be widely implemented);

– Feedback of citizen-users are required (quality assurance procedures/customer satisfaction surveys) and a formal/structured approach to record users input should become a "must", in order to progressively improve/refine web site features/services and to routinely monitor the "return" of PAs investments in that area.

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