Digital Agenda and E-learning in Italian Public Administration

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Abstract— In this paper we present a long experimentation conducted by the Trento Chamber of Commerce in the usage of e-learning and SCORM-based material in order to introduce companies to innovative practices, specifically the use of the Digital Signature and the Certified Electronic email. These two tools have become now mandatory in the Italian Public Administration, thus forcing not only this component of the society to pursue innovation through dematerialization processes. It also, and mostly, involves millions of citizens and companies that, from now on, will have the opportunity to interact with public bodies in a more efficient and effective way, through the use of these innovation. Neither the Public Administration nor most of the companies (especially SMEs) were ready to this radical change of using electronic communication. Thus an enormous effort of training will be needed to allow everyone to be aligned with concepts, tools, modalities and procedures to be used in order to take advantage of the enormous potential of citizen-to-government and business-to-government communication. In this paper we present our experience in the design, creation and delivery of distance learning material designed with the Chamber of Commerce of Trento, through the description of the project started in 2011 regarding the issues of dematerialization and digitalization of the relations between business and Public Administration.

Keywords— e-learning, Public Administration, dematerialization, learning objects

I. INTRODUCTION

In 2005, many relevant and radical changes have been introduced by the Digital Administration Code (CAD) in Italian Public Administrations (PAs), with the precise objective of changing processes through dematerialization and ICT innovation. Consequently, most of the Italian citizens and organizations that have to deal with Italian PA, will have an impact on their own processes, not only because of the constant interaction with the PA itself for different reasons (from tax payments to requests). This revolution in Italian society will influence also the way citizens and companies will exchange information in the future.

The Italian Government, since 2005, is working on the “Codice dell’Amministrazione Digitale” (CAD - The Digital Administration Code), in order to modernize and digitalize processes of our Public Administrations (PA). Subsequently integrated and amended, the CAD is now fully operational, and recently (December 2012) a new version with important novelties has been emanated. Despite its name, CAD applies to both private and public bodies, and it states a completely new scenario for the usage of ICT, in such a way that PAs can be more efficient and reactive in the relationship with their stakeholders. Among the many novelties, four are particularly relevant:

a) the use of electronic signature for signing electronic documents;

b) the use of certified emails;

c) the use of digital protocol to track in/out movements of documents;

d) rules about digital preservation.

Moreover, in the very near future (March 2015), any invoice sent to Italian PA will have to be an “electronic invoice”, following a precise XML schema and sent through specific, certified channels. The timing of implementation are certainly not instantaneous, but the change of mentality and especially organizational as well as technological and regulatory environment, will have a tremendous impact on Italian society. The Italian PA is so moving in this direction, where digital signature and PEC have already made a relevant progress in terms of implementation, while the other two themes are taking off. It is certain that the administrative procedures will be exclusively managed in the future through electronic transmission; interaction with citizens and businesses will be turning more and more in this mode, and this will profoundly change the Italian PA on one side, but will also have a deep impact on the lives of citizens and businesses. These elements radically change the scenario for ICT usage inside organizations, in particular for PAs. Besides a design, realization and reengineering of information systems and applications supporting such new modalities, reengineering of business processes and procedures will be needed. Nevertheless, public servants are used to perform their working processes without technologies. In case of inefficiencies, they are requested to contribute with their knowledge through the use of CAD prescriptions. These people are normally expert in their field, but probably not so expert in the specific domain of the CAD. The main expertise is hidden, not shared, not formalized, not
clarified: from tacit knowledge, PAs will have to extract this information and transform it into explicit knowledge. Finally, the Italian legislation stimulates the sharing and reuse of any educational resource produced by/for the PAs, in order to optimize investments and maximize uniformity of view about the topics.

In order to face this situation, an obvious need of training for millions of citizens, public and private employees or organizations is needed. Often, companies are reluctant to adopt innovative solutions, stopped by the cliché of new technologies capable only to create complex and critical processes, especially if this innovation stimulus comes from the PA. The question now is no longer in these terms: companies have to adapt to what the CAD indirectly requires them, or they risk not only to stay out of a process of modernization that paradoxically involves and is generated by the PA, but that is likely to have consequences in terms of fines and sanctions.

Real problems related to the impact of the CAD over the Italian society have always been clearly identified as a training problem. Organizational and technological solutions outlined by CAD (just think about the problems and technologies needed for the qualified digital signature) have clearly demonstrated the backwardness of large digital layers of Italian society. On the other side, most of the organizations were convinced that this innovation process is part of the Italian habit of proposing innovation and not realize it, thus ignoring the innovation coming.

Together with this initial approaches, it is clear that the processes of dematerializing documents is irreversible, and the best has yet to come.

One of the points of reference in dealing with this issue of the relationship between CAD and businesses is certainly the Chamber of Commerce. The problem that we set in 2011 with the group work of the Chamber of Commerce of Trento, when it became clear the state of maturation of the CAD (which in the meantime, after the initial formulation of 2005, was consolidated and gave clear indications of the direction taken) was pretty simple. We wanted to help companies to improve certain processes without distorting them, bringing advantages in terms of speed, efficiency and cost containment through the application of CAD dictates.

The Chamber of Commerce of Trento, together with trade associations and the Province of Trento, used until 2011 some tools to raise awareness on the topic; sending printed material and newsletters, organizing dedicated events, publishing articles in newspapers or on magazines with dedicated spaces, opening specific spaces in the respective website, launching various initiatives and seminars. All these initiatives have reached, over two years, about 300 companies in our region. It seemed clear, however, the impracticability of reaching a larger number of organizations on schedule for the CAD deadline, and thus e-learning has naturally become the instrument in order to achieve:

- low costs and at appropriate times,
- a broad audience [8][6][3].

In this article we present experiment carried out by the research group of the Laboratory of Maieutics University of Trento, together with the Chamber of Commerce of Trento and the Province of Trento, for the realization of a wide range of learning objects [4][12] available for companies of Trentino and accessible through the e-learning platform developed by our group.

II. LEARNING SOLUTIONS IN THE PA

Looking at the results presented in the European Digital Agenda (EDA) Scoreboard 2012, the needs of e-government seem to be very clear in Europe, keeping into consideration all the stakeholders involved. The European Digital Agenda (EDA) has the target of increasing regular internet use to 75% of the population, the confident projections of last year’s scoreboard have been reviewed -- the 75% target will most likely be reached in 2014 and not in 2013, although still ahead of the EDA target year of 2015.

Even though the usage of eGovernment by citizens is stable at 41% with some significant progress in smaller countries, the main reasons of resistance for non-use of online public services by citizens are:

- a) lack of need
- b) lack of trust
- c) lack of skills.

Nevertheless, digital agenda is pushing towards the adoption of ICT-related procedures and process re-engineering, citizens and firms will steadily increase to require eGovernment services (usage by firms has increased steadily from 76% in 2010 to 84% in 2011), and civil servants will be forced to adopt ICT not only for their ordinary work, but also to improve their processes according to ICT availability. This is a great effort, as the incomplete digitalisation of public services is an important barrier to an increasing eGovernment take-up. The initiative “EPSA Trends in Practice-Driving Public Sector Excellence to Shape Europe for 2020” demonstrated the need of integration, contacts and networks to be established among those Public Administrations that are able to showcase their achievements in terms modernisation, innovation and smart solutions for the Public Administrations facing with budget constraints, increasing demands from citizens and the need to at least maintain if not increase and improve their service delivery; the milestone for this is the availability of the EPSA learning platform.

Some market researches demonstrated that almost 90% of public sector Learning Departments plan to increase the use of TEL in order to meet cost reduction targets set in the Comprehensive Spending Review (CSR) (http://www.brightwave.co.uk/). While at the beginning of 2009 only 50% of L&D managers expected to increase their use of e-learning, 88% currently anticipate an increase, and more trainers expect to use collaborative learning techniques. In this sense, the current economic period of austerity is clearly having a deep impact on these considerations, with no much distinction between private and public sector.

The examples reported in market research are very clear in this sense. The City of Edinburgh Council Interactive Learning (CECIL) started four years ago providing online learning for all citizens to access e-learning content and achieve their learning goals at their own pace and location. Some of these examples are the following:

- Scenarios: These are the main ones in which citizens can access e-learning materials, such as "Learning from Home", "Learning from Work" and "Learning from Leisure".
- Communities: These are the communities of practice that citizens can join, such as "Adults", "Students" and "Businesses".
- Content: This is the main part of e-learning, which can be categorized as "Core" and "Supplementary".
- Activities: These are the main activities that citizens can participate in, such as "Self-paced" and "Guided".
- Assessment: This is the main way of assessing the learning goals of citizens, which can be categorized as "Formative" and "Summative".
employees, reducing training costs by more than £800,000. The conditions under which to provide these savings are well known: high volume training to be delivered in a short period of time.

Learning solutions for public sector have been promoted in the past in many different ways, with results that do not meet expectations. During recession periods like the one we are living, Technology-enhanced learning (TEL) has been indicated as a panacea for future learning and as a sort of “killer” of training in a classroom, but at the same time, many times in its history TEL has not been living up to the hype. The public sector expects to use e-learning to improve the level of service delivered to organizations despite budget cuts. This seducing metaphor attracted the public sector, fitting well with the push towards e-government. Reality showed a different picture. TEL has a lot of researches and application studies in the public sector, if we consider as “public sector” the educational institutions from primary schools to master degrees. However, if we exclude this relevant part of use cases, the traditional Public Administrations have not been investigated too much as possible application field of TEL-based training programs. There are many examples of training employees with TEL that seem to be pushed by the idea of cost saving, or by the idea of substituting missing educational paths (like for example, qualification of civil servants that have no degree in their curriculum).

Most of use cases are concentrated in year 2000-2006: different experiences coming from different countries, but not a unique vision of the specificity of public sector. So, in terms of state-of-the-art of TEL in public sector, the situation is not so clearly identified like in the private sector, or in the traditional educational system. Many researchers and many studies have concentrated their attention to the application of TEL to institutional training, supporting traditional training with technologies, methodologies and tools. On the contrary, little attention has been devoted in the past to the specificity of TEL inside Public Administrations and their employees, with their specificity and needs.

Public Administrations have been involved, together with their employees, in TEL applications mainly for lifelong learning projects, considering the public servants as persons that will averagely stay for a long period of time in the same workplace, and therefore as interesting case studies for lifelong learning researches and applications. Nevertheless, even if we exclude educational institutions from the application field, the public sector is a place where all theories, methodologies and tools studied and implemented in TEL could be profitably applied. Most of the new approaches and tendencies in TEL, like story-telling, MOOCs, gamification etc. could be applied to the large ecosystem of public bodies’ stakeholders. Public Administrations are particularly interested in TEL because they have recognized e-learning and web-based learning resources as fundamental elements of their training processes, mainly for the capabilities of delivering educational contents to participants over the Internet anytime and anywhere at competitive costs.

Nevertheless, most of these well-known problems have now been overcome: it therefore seems that the hesitant progress of TEL – always on the point of spreading extensively and then for some reason never really succeeding - should not have to continue any longer, given the disappearance of most of the technological barriers. Other obstacles have been cleared, i.e., standardization and reuse of learning material. Almost any public institution has at least considered using one of the different available approaches, blended or full online, and tools available today can guarantee the service level required by Public Administrations: platforms like Learning Management Systems-LMS, technologies like videoconference, standards for learning metadata or objects like SCORM or LOM [11], LTSC [12]. Another effect of the maturity of TEL for the public sector regards the large amount of educational material that has been produced and that is now available under various forms. Several Learning Objects (LOs) have been created by various institutions, mostly available for free. These elements combined with reusability, cost reduction, optimization of time spent away from the workplace and a more modern view of the public body, all these elements have contributed to the creation of relevant expectation about TEL in public sector. In terms of factors that influence TEL adoption inside public bodies, some researches conducted in Public Administrations indicate that civil servants’ behavior respect to the application of e-learning was significantly influenced by the satisfaction, this in turn being affected by:

- job relevance;
- expectation confirmation;
- perceived ease of use;
- perceived usefulness;
- computer self-efficacy.

Other studies show that adult learners perceive positively the effectiveness of e-learning in the workplace.

III. DIGITAL AGENDA AND THE ITALIAN DIGITAL ACT

Nowadays, resources wasting prevention is a must for every Public Administration, and the digitization of processes in order to replace (among the others) traditional paper-based procedures is an opportunity to contribute to this prevention. The need for process digitization, especially in Public Administrations, was recognized since the ’80 and under different labels is one of the areas where ICT can produce evident advantages. In this field, the term “dematerialization” has been used to identify the progressive elimination of paper-based processes in favor of their digitization. Following this direction, since 1997 the Italian PA has undertaken the complex task of creating a legal and normative framework that facilitates digitization of processes through the modernization of the PA information systems. In 2005, the “Digital Administration Code”, (CAD - Codice dell’amministrazione digitale, D. lgs. 7.3. 2005, n. 82 as modified by D. Lgs. 30.12.2010, n. 23), defined very clearly and extensively what should have been done in order to create a “digital Public Administration”. It states a completely new scenario for the usage of ICT, in such a way that PAs can be more efficient and reactive in the relationship with their stakeholders. The CAD became effective for all Italian PA, but despite its name, it involves both private and public bodies, in the end all Italian citizens and organizations. It is intended to reestablish tidiness in addressing and setting rules for every aspect of the technological innovation introduced in the Italian
There is a strong commitment inside CAD towards dematerialization, and this is the point where our use case wants to intervene through e-learning. More specifically, the CAD provides legal validity to digital documents involved in processes and procedures conducted through the usage of ICT. Among the many novelties, four are particularly relevant:

a) the use of electronic signature for signing digital documents. This graduates the probatory effectiveness of the different type of electronic signature, specifically the “advanced electronic signature”, that plays a leading role on the Italian market today in certifying the identity of document’s subscriber/s;

b) the use of certified emails. The certified email (Italian acronym PEC) provides citizens and organizations with legally valid electronic documentation of the sending and delivery of electronic documents to certified receivers, and conversely, receivers have legal evidence about who is the sender of a certified email;

c) the use of digital protocol to track in/out movements of documents, thus allowing not only the certification of these movements across the Information System, but also providing a way to centralize the storage of documents officially sent and received by the organization;

d) rules about digital preservation of electronic documents. The topic is a specific instance of the larger problem that today worldwide organizations are facing. According to one of the many well-known definitions (http://www.ala.org/alcts/resources/preserv/defdigpres0408), digital preservation “combines policies, strategies and actions that ensure access to digital content over time”. In the Italian CAD, this problem regards every single organization that undertakes the CAD prescriptions. It is the logical and inevitable closing item of the full, automated process of digital communication. Nevertheless, it introduces a lot of technical issues that heavily impact the day-by-day activities of the organizations: ICT infrastructure to preserve contents, methods to search and retrieve digital objects etc., but most of all, competencies and people specifically devoted to and skilled on digital preservation.

These four elements are clearly revolutionizing the Italian Public Administrations’ processes, allowing new scenarios for the interaction between PAs (G2G), PAs and citizens (G2C), and PAs and companies (G2B). Specifically, these innovations have an enormous, unexplored (so far) potential in the re-engineering of the PAs processes, thus allowing obvious but crucial advantages, like relevant savings, flexibility in managing processes and relationships, velocity in fulfilling requests for services, openness respect to a procedure (especially in front of citizens), measurability of results and performances of individuals and public organizations (KPIs).

Besides a design and realization of applications supporting such new modalities, a deep learning intervention should be performed in order to take advantage of the opportunities created by the CAD:

- new rules, new systems and new procedures must be acquired by all civil servants acting inside PAs;

- reengineering of business processes and procedures will be needed.

Notoriously, the problem for the Italian PAs is not in the lack of people able to optimize and improve processes. The lack is in the capabilities of Italian PAs and citizens to metabolize the innovations that digitization and dematerialization offer, because of an endemic resistance to changes. The following table presents the situation of PEC adoption in some of the most “efficient” Italian provinces, where PAT is in the top positions (source: DIGITPA, 2013)

<table>
<thead>
<tr>
<th>Chamber of Commerce</th>
<th>N. Of companies</th>
<th>With PEC</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cuneo</td>
<td>24.843</td>
<td>22.559</td>
<td>91%</td>
</tr>
<tr>
<td>Sorrento</td>
<td>6.543</td>
<td>5.920</td>
<td>90%</td>
</tr>
<tr>
<td>Bolzano</td>
<td>21.498</td>
<td>19.351</td>
<td>90%</td>
</tr>
<tr>
<td>Forlì</td>
<td>19.834</td>
<td>17.526</td>
<td>88%</td>
</tr>
<tr>
<td>Trento</td>
<td>22.297</td>
<td>19.632</td>
<td>88%</td>
</tr>
<tr>
<td>Pordenone</td>
<td>12.054</td>
<td>10.544</td>
<td>87%</td>
</tr>
<tr>
<td>Prato</td>
<td>16.644</td>
<td>14.461</td>
<td>87%</td>
</tr>
<tr>
<td>Bergamo</td>
<td>47.626</td>
<td>41.036</td>
<td>86%</td>
</tr>
<tr>
<td>Belluno</td>
<td>6.992</td>
<td>6.023</td>
<td>86%</td>
</tr>
<tr>
<td>Mantova</td>
<td>17.649</td>
<td>15.170</td>
<td>86%</td>
</tr>
</tbody>
</table>

Figure 1. Table 1: adoption of Italian certified emails among large corporations and SME

Over a national average of 74% of adoption of certified email, PAT has the 88% of organizations that formally adopted this tool. But if we look at individual companies, the situation radically changes (Table 2).

<table>
<thead>
<tr>
<th>Chamber of Commerce</th>
<th>Individual Enterprises</th>
<th>With PEC</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florence</td>
<td>53.509</td>
<td>2.399</td>
<td>4%</td>
</tr>
<tr>
<td>Prato</td>
<td>16.506</td>
<td>704</td>
<td>4%</td>
</tr>
<tr>
<td>Livorno</td>
<td>18.458</td>
<td>781</td>
<td>4%</td>
</tr>
<tr>
<td>Arezzo</td>
<td>15.944</td>
<td>854</td>
<td>4%</td>
</tr>
<tr>
<td>Taranto</td>
<td>21.683</td>
<td>853</td>
<td>4%</td>
</tr>
<tr>
<td>Turin</td>
<td>12.276</td>
<td>482</td>
<td>4%</td>
</tr>
<tr>
<td>Ancona</td>
<td>26.485</td>
<td>1,047</td>
<td>4%</td>
</tr>
<tr>
<td>Pescia</td>
<td>18.227</td>
<td>609</td>
<td>4%</td>
</tr>
<tr>
<td>Orbassano</td>
<td>17.655</td>
<td>604</td>
<td>4%</td>
</tr>
<tr>
<td>Trento (PAT ranked #1)</td>
<td>---</td>
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<td>---</td>
</tr>
</tbody>
</table>

Figure 2. Table 2: adoption of Italian certified emails among individual enterprises

Considering that individual enterprises most of the times correspond to individual citizens, it is clear that Italy has a serious problem in the diffusion of CAD digital agenda. Besides, PEC is for sure the easiest of the four elements promoted by CAD, because of the similarities with a traditional e-mail box management.

Another interesting element of analysis regards the situation of the traffic of certified email during the last six years (source: DIGITPA, 2013). This clearly shows an increasing adoption of CAD tools, that could be a sign that few organizations/individuals are using these tools, but they are using in progressive and extensive ways. Interesting to note that from 2007, PEC domains and mailboxes have increased respectively of 27 and 45 times, but the number of PEC messages have increased of just 4 times. This is a clear effect of the compulsoriness of CAD prescription, but not representing an intimate and convinced adoption.
Italy has now the legal framework, and ICT provides the technological tools for a take-off in the adoption of CAD prescriptions. The missing link now is a pervasive training initiative devoted to individual users and organizations about the tools introduced by CAD. The promotion of this cultural growth of Italian citizens and organizations is clearly in charge of the PAs.

The promotion of this cultural growth initiative devoted to individual users and organizations about the prescriptions. The missing link now is a pervasive training technological tools for a take-off in the adoption of CAD.

a) a common methodology for gathering, formalization and distribution of requisites, avoiding their uncontrolled production;

b) a different approach respect to traditional F2F interaction with teachers/experts, less formal and “boring” respect to PowerPoint-like presentations;

c) a virtual place with a strong collaborative connotation, where to share ideas and results with other colleagues, in order to compare different views and interpretation of the process/procedure, especially from a legal point of view;

d) the availability of consultants on legal topics, able to provide straight-to-the-point suggestions: what is needed is more a consultant than a teacher;

e) a way to see their activities recognized and rewarded, at least in terms of reputations: trivially, a formal way to recognize the work done in e-learning material production.

Many learning packages and training initiatives have been started after the advent of the CAD, but no tangible results are visible yet. As a direct experience, we decided to specifically develop e-learning SCORM packages regarding all the CAD topics, together with the Chamber of Commerce. We have produced 14 hours of learning objects explaining in details the two tools that are mandatory for companies today, i.e., digital signature and certified email. We launched this initiative in 2011, together with PAT over the Trentino territory, also involving the various professional associations. In PAT, over approx. 55,000 enterprises (public and private large corporations, SME, individual companies), approximately 700 participated to this joint initiative PAT-Chamber of Commerce-University of Trento, with the fruition of this e-learning material completely free-of-charge. In order to interpret this data correctly, consider that most of public servants are used to use our platform for e-learning activities, and most of the professional associations delivered courses to their companies using this modality: e-learning could not, therefore, be considered the responsible of these results.

After this, we tried to change the approach: in the last months of 2012 we experimented a prototypical approach to e-learning creation, for some associations related to the local Chamber of commerce, regarding three processes:

- authorizations to the opening of new hotels in touristic areas;
- registration of a new company to the Local Registry of Enterprises;
- cancellation of a company from the Local Registry of Enterprises.

The material, this time, has been created by our experts, but with a deep interaction with the public servants that are in charge (and know very well) the above processes. Preliminary results are clearly showing that this change of gear, is producing significant appreciation from end-users. After having tested other methods, like the creation of learning objects by academic experts, it is clear from our empirical evidences that learning objects created by people taken from the inside of the organization with a high reputation, are by far more appreciated and trusted, most of all for their capabilities in proposing a re-engineering of the whole process.

We are therefore injecting a new paradigm of delivering training to public servants, citizens and companies by radically changing the subjects that produce, and the methods of production, sharing and use of the e-learning material. Nevertheless, it is clear that the level of complexity in process re-engineering caused by CAD is perfectly manageable by these “prosumers” when supported on purpose by experts that act more as consultants than teachers.

The biggest obstacle has of course occurred in the design phase, when turning materials provided by experts into learning objects, both in terms of estimating the effort of our development group to be shared with the Chamber of Commerce of Trento, and for the quantification of the rewarding to be recognized to authors of the materials and the learning objects. This is the typical case of industrial production of learning objects where a “teacher” should be recognized a number of hours by far superior to the total duration of the learning objects produced. We solved this issue by adopting the cost for creation of online learning objects presented in [5][10]. The two themes “Digital Signature” and “Certified Electronic Mail” were treated separately, to give different ways to adapt the training needs to any pre-existing knowledge or skills already present in the organization. For each item we provided three distinct levels of learning, adaptable to the needs and to specific questions. The material is in fact accessible either by following a sequential
approach proposed to the user, and in terms of an application-driven approach that allows the user to immediately identify topics of interest.

The levels of meta-organization of content are three:

1) "informative" level, aimed at disseminating the knowledge base on the issues, and then answer the questions with respect to the sense and meaning of the two instruments in acting professionally, by clearly expressing the benefits and points of attention resulting from its use (as well as a stimulus in the questions raised during the training sessions prior to the draft e-learning and during telephone follow-up triggered by the Chamber of Commerce on a sample of 50 firms).

2) "usage" level, designed to provide practical tools for the two topics, with the use of tutorials that guide you step by step in the activation of the instrument, in its use, in the verification of correctness of the operations. At this level, we used recorded sessions of interaction with the software tools to digitally sign and send certified emails;

3) "in-depth" level, devoted to users or potential users of the two instruments who wish to become more aware of the implications deriving from their usage, particularly in normative terms. The normative part was in fact reduced in scope during the design of learning objects described above.

V. CONCLUSIONS

Up to now, more than 700 companies have benefited from the material made available on the platform and have gradually reported needs compared to having other types of content available. For this reason, from 2012-2013, the Chamber of Commerce has decided to make available to other communities some specific topics, content related to the aspects that collected more questions or more errors. The Chamber of Commerce, due to the very positive feedbacks received both for the approach and the contents, has decided to invest in e-learning by enhancing the evaluation (teachers, content experts, e-tutor) using a cost model specifically designed for e-learning by enhancing the evaluation of the time spent in producing learning objects effort;

e) we enabled a perspective of lifelong learning, imagining a path that includes the migration of many of the training activities, information and update of the Chamber of Commerce of Trento towards these tools. This clarified the benefits that have always been professed by e-learning researchers, but which now seems even more indispensable for any Public Administration involved in the digital modernization

REFERENCES