

Piedmont Region: perspectives for the development of digital business ecosystems

Abstract

This paper aims to introduce the strategy and the approach adopted by CSP in DIADI 2000 Project (years 2004-2006), a regional technology transfer initiative addressed to the world of SMEs.

The document analyses some key reflections on which the strategy is based, in order to illustrate the technology transfer model that will be followed by CSP.

Introduction

Financed with Structural Funds by the Piedmont Region Industry Directorate, DIADI 2000 is an example of regional initiative addressed to support the development of the entrepreneurial sector, with a specific focus on SMEs and their access to research, innovation and ICTs.

In order to work in line with the innovation steps covered within the European context and the objectives identified by the Commission, CSP is representing Piedmont as Associated Region within the DBE Project, of which it shares aims and principles.

In DIADI 2000, CSP makes its competencies available to support the system of Piedmont small and medium enterprises located in objective2 areas (industrial decline). Through analysis, research, dissemination and development coordination activities, CSP intends to run some Pilot Sub-Projects in the Region.

Those Sub-Projects will be experimental activities with the direct involvement of SMEs, with the aim of giving evidence to local development opportunities that can derive from the application of ICTs to traditional processes.

The approach adopted by CSP within the Project moves from some key reflections based on previous analysis and studies:

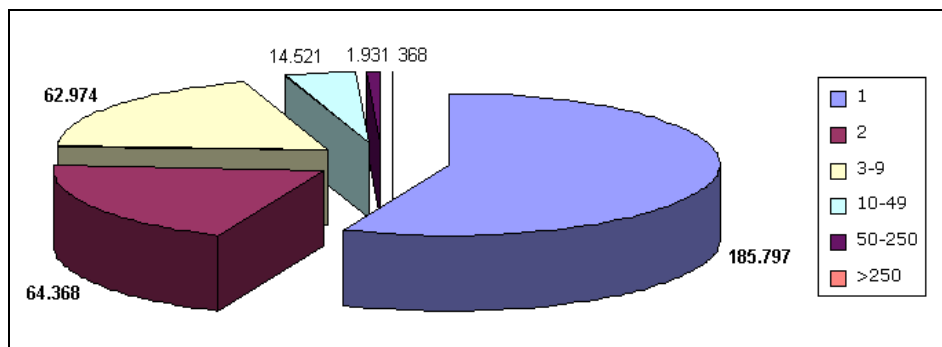
- ▶ Strong presence of micro-enterprises in Piedmont;
- ▶ Marked correlation between enterprise size and ICT investment;
- ▶ Growing need to identify new ICT adoption steps with a “lower impact” on SMEs in terms of requirements;
- ▶ Wide introduction of IT standard solutions to medium-large enterprise processes, that generates a growing need for interoperability;
- ▶ Progressive evolution of enterprises towards collaborative and network dynamics.
- ▶ Need to contextualize technology transfer action within regional policies.

The above reflections will be analyzed with the aim of providing an exhaustive illustration of the model adopted by CSP in DIADI 2000.

Key reflections

SMEs and micro-enterprises in Piedmont

From the analysis of data reported in the 8th ISTAT Census of Industry and Services, emerges that 95% of the almost 400.000 enterprises located in Piedmont has less than 9 employees.



Distribution of employees in Piedmont enterprises.

In Piedmont, micro-enterprises cover more than the 40% of the overall occupation and are the charactering element of the industrial world.

SMEs and ICT investments

As concerns ICT-adoption, a clear difference between medium and small enterprises is remarkable: small enterprises rarely consider ICT investments as prior, the expense capability is extremely limited, and skilled resources to grant ICT full exploitation are normally not available.

Even though ICTs are widely perceived as an adequate instrument for small enterprises to recover an advantage on large ones, a *digital divide* depending on the company size is evident.

New steps towards the ICT-adoption

The adoption of internet-based technologies for eBusiness is a continuous and progressive process which, according to the e-Adoption ladder shared at a European level, is structured in sequential steps of evolution.

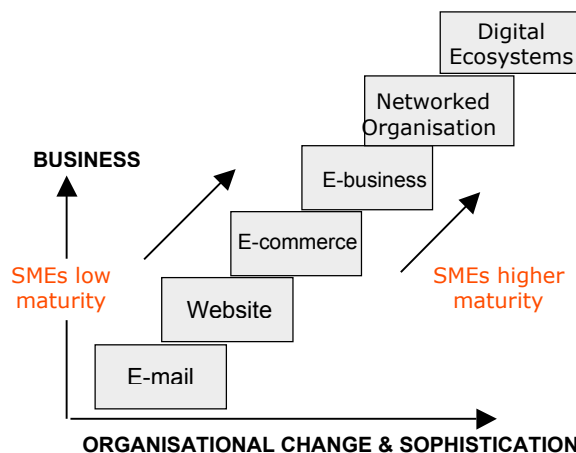
Nevertheless, considering the fragmentation of Piedmont entrepreneurial sector as well as the correlation between ICT investments and enterprise size, the need to identify and experiment new ICT adoption steps, alternative and more suitable to small and micro-enterprises, is getting evident in order to produce a lower impact in terms of investment and company process formalization.

It is thus extremely important to hold into consideration the contribution that can derive from emerging technologies to extend and simplify on-line services access opportunities also to minor companies.

Thus, for instance, multichannel solutions can offer the possibility to access the net without requiring specific equipments and rather employing widely common devices (such as mobile phones, television, voice ...).

Multichannel solutions, together with a focused use of personalization and profiling, can offer interesting opportunities for the development of simple, adaptive and ubiquitous services.

Furthermore, the convergence of voice, video and data networks on the IP protocol will make available a new environment, potentially very rich of personalized added value services.



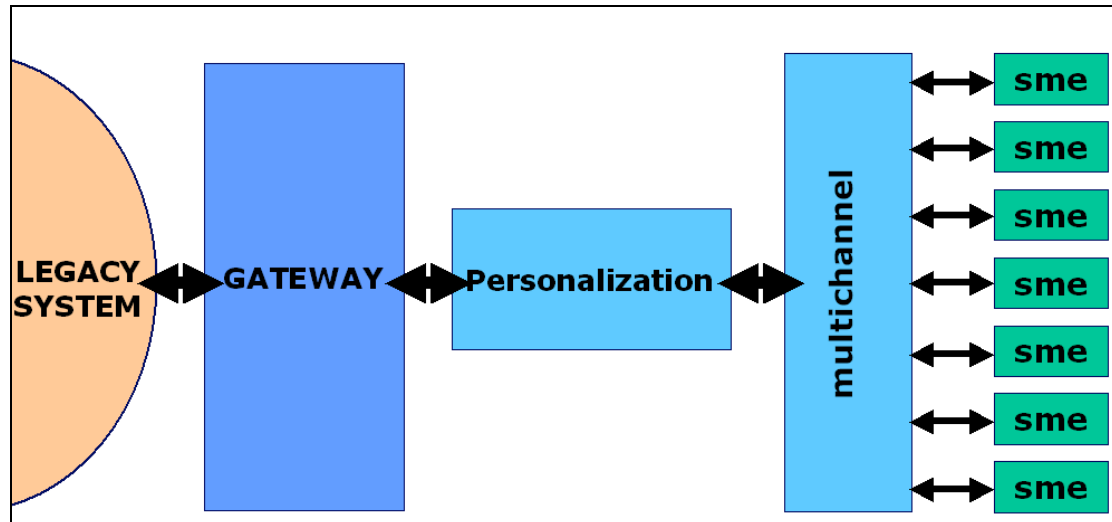
Large enterprises, standard systems and SMEs

Large companies have widely integrated software standard solutions in their processes (CRM, SCM, ERP, ...) and make regular use of interoperability standards in vertical sectors (Odette, Rosettanet, ...). They represent therefore a consolidated and mature IT market, with limited growth projections.

The major opportunities for new services development and introduction rather concern minor companies. Small and micro-enterprise, particularly, are characterized by a strong need of personalization and verticalization of the IT offer, as to effectively meet the specific expectation of niche users.

Such a context opens new business opportunities for IT solutions promoting interoperability among processes and pre-existing systems. So, for instance, promoting and facilitating the interaction among micro-enterprises and medium-large

companies IT systems could generate new opportunities for small companies to access big players circuits in their sector.



Enterprises toward collaborative networks

The evolution towards eBusiness practices introduces gradual changes in companies organizational and management approaches, as well as in markets and company processes, giving space to new opportunities and challenges.

Companies are more and more led to set-up partnerships and alliances with the aim of optimizing processes, developing new products and added value services, sharing knowledge and experiences, in order to profit of opportunities emerging from the market (the so called “e-cooperative business”).

To SMEs as well, eBusiness applications can offer new possibilities to create collaborative networks, and put a strong accent on the added value that can be generated through an efficient and affective management of the relations among all the various components of a value chain (customers, suppliers, institutions, ...).

EBusiness represents then a key instrument for the development of networks among enterprises, to be seen as advanced model of company management in order to be competitive, to survive and to develop in the actual global market.

Technology transfer and regional policies

A coherent technology transfer action cannot leave out of consideration the context of regional policies; it should rather act in synergy with them, with the aim of generating fruitful spin-offs for the whole local system.

Many obstacles to the ICT diffusion in Piedmont have been faced also thank to the public intervention.

Several projects during the last decades have fruitfully supported the development of the Information Society for the benefit of local enterprises and citizens.

Above all, the political choice of putting in place in the late '70s a consortium, CSI-Piemonte, dedicated to the management of local development policies and to the provisioning of IT services to all local public bodies represented, and is still representing today, a strategic advantage and an important opportunity for the Region.

As concerns infrastructures, several actions have been addressed to provide the Region with a technology infrastructure as to increase the local competitiveness. In 1998 the Unitary Network of Public Administration was set-up, and it is now evolving towards a multiservice and multicarrier network also addressed to the entrepreneurial and research worlds.

RUPAR2, that is the acronym of the initiative, also includes actions addressed to spread BroadBand in Piedmont marginal areas through satellite technologies and wireless connectivity.

Objectives and theoretical approaches

CSP participates in DIADI 2000 Project with the double objective to support local SMEs providing IT services and solutions, as well as to promote ICT adoption by Piedmont SMEs.

With those aims and following the Digital Business Ecosystem project, CSP intends to experiment a new approach supporting eAdoption processes within small and micro-enterprises.

More specifically:

- ▶ To support local SMEs providing IT solutions, CSP intends to study, experiment and transfer a new development and provisioning model for ICT-based services. The actions is addressed to explore new market opportunities and new revenue models for personalized IT solutions and services, focused on niche users and on interaction and cooperation dynamics among enterprises.
- ▶ To promote ICT adoption within Piedmont SMEs, CSP intends to support the introduction of ICT-based collaborative practices as to aggregate, in specific sectors, specialized enterprises from different parts of the production chain, with a consequent optimization of processes, introduction of economies of scale and increase of efficiency.

The economical approach

CSP will consider some sector case studies with the aim to point out a hidden need in terms of ICT adoption to support collaborative practices, with the double objective to evaluate new business opportunities and to motivate the introduction of ICT for the optimization of traditional processes.

After a first phase of study, prototype implementation and experimentation, CSP will make available to all Piedmont SMEs a replicable model, functionally tested and detailed, and some open source technology primitives for the implementation of innovative services.

CSP will also concentrate on the study of licensing models in line with the open source philosophy, with the intent to define business and revenue models suitable for SMEs market needs but also respecting an impartial approach towards all regional companies.

More specifically, the following aspects will be examined:

- ▶ Market opportunities and applicability models
- ▶ Value of innovation and added value generated by the model
- ▶ Technology implementation costs
- ▶ Dissemination, distribution and revenue models

The technological approach

As concerns technology, CSP intends to release a development model aimed at reinforcing cooperation processes among SMEs, exploiting the opportunities offered by emerging technologies and solutions, such as:

- ▶ **Interoperability:** to evaluate the possibility of introducing to the market IT solutions that can facilitate the interaction among pre-existing systems, in order to allow minor companies to take part, at low cost, to the big circuits dominated by sector standards (see Odette, Rosettanet, ...).
- ▶ **Converging technologies:** to experiment the development of strongly personalized added value services, based on converging voice, video and data networks on IP protocol.
- ▶ **Multichannel:** to promote the development of innovative services based on common devices, such as mobile phones, television (DTT) and voice (voice mail and voice recognition systems).
- ▶ **Adaptive technologies:** to spread the use of intelligent and adaptive systems in order to highly simplify the user-system interaction as to ensure personalized, simple and accessible services also to unskilled users.

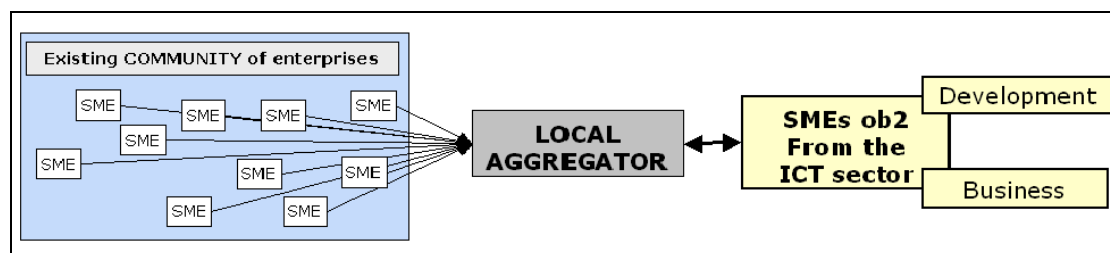
Project implementation

The introduction of this model is mainly based on the identification of early adopters to be involved in the Pilot Sub-Projects.

The term “early adopters” is referred both to ICT companies that will share vision and risk with CSP, as well as to final users who will take actively part to the introduction of ICTs into their company processes of cooperation and exchange.

The following can be identified as early adopters:

- ▶ **SMEs from the ICT sector located in objective 2 ares:** after a public selection, they will invest with CSP on the development of new solutions and services based on the proposed model and will receive for tha a regional financial contribution. The outcomes of the activity will belong to the enterprise that worked at the development, on the bases of the licensing policies that CSP will apply within the Project.
- ▶ **Communities of micro-enterprises:** as users of the system, they are interested on participating in the experimentation of the framework within their processes and represent a case study for the application of the model to real markets.
- ▶ **Local institutional bodies:** as their mission states, they work in direct contact with communities of micro-enterprises and can therefore play the role of collector of their specific needs, as well as promoter of DIADI 2000 model towards those potential users.



Conclusions

Implementing the model proposed by CSP requires a full integration with other regional initiatives addressed to support the development of the Information Society and eBusiness to SMEs.

Therefore CSP, as regional agency for technology transfer and Information Society promotion, will disseminate the outcomes of its studies and experimentations to local institutions, in order to develop fruitful synergies among DIADI 2000 Project and the various regional policies.

More precisely, CSP will work in order to make as available as possible to ICT SMEs those precious resources that would otherwise have a strong cost impact for the introduction of such innovative services (resources as vocal recognition systems, SMS gateway, DTT band, ...)

The same way, CSP will work to start fruitful synergies with other local initiatives financing and promoting eBusiness development, trying to convey as many funds as possible to the development of cooperation networks among enterprises and the introduction of e-collaborative business processes.