

HIGH ROAD TO WORK ORGANISATION

CASE STUDY

Democenter

(Modena, Italy)



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Abstract

Democenter®, located in Modena and established in 1990 by the main enterprise associations and public bodies of the Emilia Romagna Region as well as several private enterprises in the area, constitutes an important instrument of support for the local manufacturing system. In particular, Democenter®'s aim is to help enterprises implement advanced technology and ICT tools. The case closely examines the evolution of the activities carried out by the Centre and factors that contributed to these changes.

Hi-Res Case Study: Democenter

Sector

Nace Code, Association providing high-tech support to small and medium-sized firms.

Key Words

Service; Bottom-up process of change

Table of Contents

Abstract	
Keywords	
Sector	
1. Background Information	1
2 Drivers for change	2
3 Characteristics and Process of change	2
4 Obstacles to change	3
5 Risk analysis	4
6 Benefits of change	4
Conclusions	4

1. Background Information

DemoCenter® originated from the consideration that production and automation systems constitute crucial instruments in increasing enterprise productivity and competitiveness in order to achieve the highest level of flexibility and production efficiency. However, the introduction of these tools requires considerable technological know-how, substantial innovation in the organisation of production, and a change in strategy that small and medium-sized enterprises (SMEs) are usually not able to develop on their own.

The mission of the DemoCentre® is thus the "spread of knowledge on production systems". It aims to offer Emilia Romagna's enterprises, SMEs in particular, all the essential tools to overcome obstacles to making the most of innovation processes by providing suitable technical and knowledge support.

DemoCenter® was established in 1990 by the main enterprise associations and public bodies of Emilia Romagna, including the following:

- **ERVET** Politiche per le Imprese S.p.A.,
- **ProMo** Societa' di Promozione dell'Economia Modenese
- **Confindustria** Emilia Romagna
- **CNA** Confederazione Nazionale dell'Artigianato
- **UNIONAPI** Unione Regionale Piccole e Medie Imprese dell'Emilia Romagna
- Confartigianato **LAPAM**
- **Lega Regionale delle Cooperative** dell'Emilia Romagna

In addition to the above, DemoCenter® shareholders also include several private enterprises based in the region. These enterprises belong to the following industrial branches: mechanical, electromechanical, electronic and other activities suited to the implementation of production, automation and information technologies.

Today almost 70% of the equity capital of DemoCenter® is held by public organisations, among which ERVET, the entity responsible for formulation of Emilia Romagna's industrial policy objectives, represents the most important contributor.

DemoCenter provides a wide range of integrated services:

- demonstration of the use of specific technologies;
- professional training;
- information on innovation;
- laboratories and service-related activities;

DemoCenter®, as the name suggests, began its activities with the 'demonstration' of new technologies and processes as applied to various stages of industrial production in the early 1990s. Demonstrations involved handling, CAD, CAE, CAM, CAPP, rapid prototyping, design, planning and production control systems applied to different industrial sectors, for example, in the biomedical, food-processing, ceramics and automotive branches.

Demonstration activities are accompanied by seminars and meetings in which representatives of firms are able to meet directly with innovation technology producers and educational and research institutions.

During the 1990s, DemoCenter® developed its own method of training through courses, seminars and participation in conferences, but it has especially focused on providing consulting services aimed at addressing specific enterprises' needs.

DemoCenter® is involved in many research projects supported by regional and national bodies as well as European research and development projects, whose objective is the creation of ICT tools that assist in the creation of firm networks and 'virtual enterprises'. The projects mainly assist firms and their suppliers in applying tools and techniques to control their industrial planning, production stages and components supply.

Several laboratories complement the range of activities of the Centre. Within these laboratories it is possible to analyse material characteristics and performances by testing physical, chemical and structural properties. Furthermore, there are laboratories capable of undertaking activities linked to prototyping, rapid tooling, reverse engineering, fluid power systems, and powder analysis as well as developing and testing home and building automation and intelligent building technologies.

2. Drivers for Change

DemoCenter® was established with the participation of the main regional industrial policy actors in the area in order to help enterprises gain access to high tech and information technology instruments. Therefore, the Centre initially represented an important industrial policy instrument, even if part of the unit is constituted by several private enterprises.

If DemoCenter® growth during the 1990s is observed, it is evident that during this decade the volume and types of activities and services provided have expanded considerably. Thus, the main driver of change is the experience that the Centre has developed during its activity, where experience means a comprehensive, timely and effective understanding of the services that best satisfy clients' needs. This accumulated experience and a network of important linkages with the business community and training and research institutions constituted the initial main driver of the process of growth.

As a result of the strong connections established with the business community, there was a change in the composition of the partners in DemoCenter®; in fact, the number of private firms involved has grown considerably and DemoCenter® has started to establish a market position of its own through understanding market trends and playing a market oriented role in the area. As a consequence, the University of Modena and Reggio Emilia and the University of Bologna are now the strongest partners in DemoCenter® and the system of linkages that the Centre has been able to generate. This system of strategic linkages between public and private sectors and the academic community is therefore an important engine for the development of DemoCenter®'s activities.

The growing number of private partners has led to an increase in the number of specific training activities carried out as opposed to activities, like demonstrations, that are not addressed to specific customers. This development is due to the efforts of a very motivated and capable group of physicists, engineers and professional trainers who strongly believe in their activities.

Partnership with industrial and University actors became even stronger after its formalisation through the foundation of a 'Club' between the Centre and the network of experts and customers involved in the activity, allowing an even better understanding of the services required and increasing the loyalty of the users.

3. Characteristics and Process of Change

With the expansion of specific consulting and training activities, demonstrations have become costly to the Centre, due to the high cost and low level of utilisation of the

machinery, yet these are still maintained and pursued, as they constitute the most important commercial channel to promote the wider range of DemoCenter® activities.

The most important development regarding the demonstrations was the expansion of the number and types of initiatives carried out that were intended as starting points for other activities. In fact, the Centre has developed a strong network of connections with enterprises, University spin-off centres, technological centres, associations, research institutions and experts. These connections have led to an increase in the amount of work involving training, research, innovation and laboratories that, however, remain strongly related to the initial core business.

The percentage of specifically targeted activities in the total turnover has increased steadily over the past three years and today consulting, training and laboratories together account for almost 50% of the total turnover.

The specific services, technical tools, and projects implemented as well as the development of the Centre itself are the result of an ongoing analysis of enterprise needs and trends. As a result, the services offered have changed and improved throughout the years, aided by the feedback from the actors involved in consulting and training activities.

Scientific and technological research undertaken within the laboratories has become the core activity in which the goal is the creation of a strong and effective connection between education and research institutions and industry.

Applied research conducted in the laboratories satisfies University and enterprise needs and significantly reduces costs, as University researchers can use laboratories in order to engage in research, while at the same time, enterprises can benefit from this research.

Related costs are supported by University and enterprise contributions through, for instance, the purchase of laboratory machinery and the flow of ideas, since there is a strong tendency for enterprises to externalise applied research activities. The challenge for DemoCenter® is to facilitate this applied research and to lower related costs, allowing research institutions to conduct scientific experiments on their products and permitting enterprises to commercialise new and innovative products.

ICT innovation projects carried out by DemoCenter® are also important, as there is now a stronger tendency to implement solutions to create tools supporting co-operation with enterprises and between enterprises, suppliers and customers with aspects such as orders and billing management, co-operative design, and processes and mechanisms to reduce effort, costs and time.

The ongoing evolution of the Center's activities hasn't only affected the number and types of activities carried out, but also the source of the initiatives. In fact, while the Center initially represented an industrial policy instrument driven by the initiatives of the main employer's associations and public bodies of the area, it has evolved into a body that has a very strong understanding of the basic needs of individual enterprises, as initiatives now come more from the bottom up, directly from enterprises or clients. As mentioned, the system of connections and the University now constitute the most important partners for DemoCenter®.

The Domotics or Intelligent Building Demonstrator, for instance, presents an important tool that translates basic needs into a growing body of innovative services, which might also have useful social implications, for example in homes for elderly or handicapped people.

In this particular laboratory, activities focus on the demonstration and promotion of specific services, specialised training and projects.

The change in the initiator of the activities also derives from the fact that Democenter®'s research board now also comprises enterprise and University members.

4. Obstacles to Change

The main obstacles to change are also linked to the evolution in focus and the expansion of the activities of the Centre. In fact, as the activities have continuously evolved and increased both in terms of quality and quantity, DemoCenter® has experienced some internal organisational problems. Such problems were due to the fast pace of change and the consequent need for ongoing reorganisation and human resources training.

It is difficult to guarantee structural stability over time, since the increase in activities requires tighter control and better resources allocation, which can negatively affect the capacity to generate products and project results.

5. Risk Analysis

Over more than a decade of activity, the role of the Centre has gradually changed from an instrument of industrial policy supported by public institutions and contributions to a research centre capable of carrying out most of its activities on its own, thanks to the significant experience and connections developed. A possible relinquishment of the public share in the Center's equity capital is viewed as negative and represents a risk to the activities of the Centre, since activity that is driven only by the market would imply a loss of DemoCenter®'s role in addressing the technological implications of cultural and social trends.

6. Benefits of Change

The benefits of change in recent years consist first of all of the gain in credibility of the Centre with the enterprises of the area. Such an improved image held by actual and prospective customers has meant a great increase in the amount of work.

DemoCenter® has also recently achieved certification from the M.I.U.R.¹ (Ministero dell'Istruzione, dell'Università e della Ricerca) in order to be able to provide research services to firms supported by funding provided under Italian law. This certification has led to a significant increase in the number of work orders, and the consequences of this increase are reflected in the turnover, which rose from 381,000 Euro in 1993 to more than 3,7 million Euro in 2001.

The large amount of work has also led to an increase in the number of staff and co-ordinators involved in the activities: from 3 people initially employed, the current number of employees and contracted specialists has risen to between 50 and 60.

Thanks to the strong relationship with the University of Modena and Reggio Emilia and the University of Bologna, DemoCenter® is today co-ordinator of two master's degrees in metallurgy and in automotive engineering.

¹ Former M.U.R.S.T, Ministero dell'Università e della Ricerca Scientifica e Tecnologica.

Conclusions

The analysis has underlined the importance of DemoCenter®'s evolution as a support organisation for enterprises and research institutes. The Centre acts as a link between these two worlds whose problems are strongly complementary, reducing their distance and promoting activities and instruments in which the two entities are able to meet and interact productively. The importance of the Centre is due to its strong understanding of the activities that can improve the work of both industrial enterprises and scientific institutions, and the evolution of these services has taken place on a continual basis, reflecting an understanding of the most important trends and requirements of industry. DemoCenter® therefore now represents an essential instrument for technical innovation and, consequently, for promoting industrial growth.

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