

STIMULI FOR CHANGE

Projects for building territorial design systems

Methodology and Case Histories

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ABSTRACT

Worldwide Italy is known more for design driven innovation capabilities than for technological innovations. Italian Design has been the key factor for the promotion and internationalization of Italian manufacturing sectors since the national crisis caused by the 2nd World War, giving birth to the undisputable success of the so called “*Made in Italy*” products.

Due to this success, many countries who are striving for innovation today, have turned to Italy for understanding the “innovation processes” in industries and the entity of design’s contribution to innovation in order to replicate the same circumstances in their national manufacturing systems. To satisfy this request, till today, several projects led by individual professionals, institutions and associations have been developed abroad with the intent to promote, internationalize and transfer the different aspects of Italian design know-how to other contexts and international realities. However these projects have been sporadic events which, apart from their singular success, have not given birth to strong changes or autonomous developments/evolutions of the transferred know-how in local communities and therefore have not initiated the expected ongoing processes of innovation throughout the clusters of industries in the territories in which they were implemented. In other words the projects and actions lead till now in the field of Design knowledge transfer to industrial districts or clusters of industries abroad have only had a “short –term sense”¹ and therefore cannot truly to be considered “change initiators”².

Industrial districts, territory, Made in Italy, University and enterprises, Design projects

Answering territorial needs – methodology building

The methodology of the Politecnico di Milano to respond to national and international requests of innovation of territories populated by industries has been developed over a five year research process which will be briefly described in the following paragraphs.

The crisis of the small and medium industries in Italy and hence of the entire productive system of the nation, since it is mainly made of industrial districts of SMEs, has given birth to an increasing request of national and local entities to find

¹ “Cry for physical interfaces for design solutions: a case study of entrepreneurship for change through design”, Ashok Bhandari, Subhashis Banerjee, Umakant Soni, in the Development by design Conference 2002, India

² idem

new solutions for increasing the competitive value of Italian industries on the global market. Since this awareness and expressed need, a group of researchers of the INDACO Department (Industrial Design, Art, Communication and Fashion) of the Politecnico di Milano have begun to reflect on how Design and in particular Design research could help the Italian districts in this battle against the crisis which was leading them to eventual extinction. In fact, having design been the main factor of success of Italian products, the hope and also the profound belief of the researchers was that it also had to be its main strength and value for the future and hence to compete with other industries worldwide. The main questions and doubts that lead the research were the following: why is design the main competitive factor of Italian industries? how does it contribute to innovation? what role will design have in the future economic, geographic and political assets of the world? what is the role of Design Universities in this new scenario?

In order to answer these questions and to help the productive national system in real terms, the research has been lead both through a Desk research and an On Field research.

Desk Research – System research: before looking for ways to help the Italian SMEs and in particular Italian districts to survive globalization, the group developed two main researches which have been defined as System Research because their objects of investigation have been: the Italian Design System and the Italian Industrial Production System. The main aim of this System Research was to investigate and understand the birth and development of the “*Made in Italy*” phenomenon by mapping both the Italian Industrial Productive System³ (a map of Industrial districts, meta-districts and main productive sectors in which design has a main role) and the Italian Design System⁴ by analyzing/codifying both the tacit and explicit Italian know-how in design (identification of actors, processes and channels).

On field Research – Action Research: several On field Research Actions have been developed in collaboration with local district entities (institutions, consortiums and associations) in order to test methodologies and research insights in different territories, industrial contexts and productive sectors. Since year 2000, Sistema Design Italia⁵, has carried out approximately 20 projects in different Italian territorial contexts and involving over 150 students, 60 professors in research action projects guided by design innovation.

Therefore, as mentioned above, the methodology developed and consolidated in the past 5 years is based on the results of the actions described above, a series of case histories, experiments, attempts, errors, failures and victories have given birth to a mature vision of how to work with industrial districts and territories and lead them through ongoing innovation processes. Thanks to the work lead by many researchers, today we have a clearer view of how design systems work and interact with the productive system and have developed the right tools for mapping and codifying other territorial systems and creating “ad hoc” strategic plans of action for developing innovation processes in specific territorial contexts.

³ Simonelli Giuliano, Maffei Stefano, I territori del design, made in Italy e sistemi produttivi locali, Il Sole 24Ore, Milano, 2002

⁴ AA.VV., Sistema Design Milano, Abitare Se gesta, 1999, Milano and Simonelli Giuliano, Paola Bertola, Sangiorgi Daniela, Milano distretto del design, un sistema di luoghi, attori e relazioni al servizio dell'innovazione, Il Sole 24Ore, Milano, 2002

⁵ a network of research agencies for innovation and promotion in the design field, 8 centres inside universities spread out on all the Italian territory (Milano, Firenze, Roma, Chieti, Genova, Palermo, Napoli 1 e la Seconda Università di Napoli) in which small groups of researchers are fully active in promoting innovative research and education in the design field. - www.sistemadesignitalia.it

Methodology filters

The System research has come to the conclusion that the competitive factor of Italian products is mainly due to the strong bond and interaction between peculiar competences of productive know-how of specific territories with the project planning know-how of tacit and explicit design resources leading to continuous innovation processes. Therefore, the following methodology works on building the correct circumstances for a specific territory to autonomously develop innovation through integrating local entrepreneur capacities (small and medium enterprises) with local project capacities (diffused design).

The role of a design research center, such as a design university, in this process is that of being a mediator between enterprises and design resources, between local communities and global markets, between the productive systems and regional politics; as a catalyst of design driven innovation processes; as an investigator of innovation between different cultural models and technical knowledge and to rediscover traditional techniques and find ways to reutilize them; as a guide through the transition from tradition to innovative concepts.

Before analyzing each step of the methodology, it is important to underline the main filters that characterize all projects lead in territories which are usually far from the reality known from the research group involved. Some of these characteristics are not new to the design research community especially in the “design for Development” fields of research, but it is important to state the values that push the researchers in these projects since they are fundamental for the correct application of the method in each of its phases. Projects for building territorial design systems should:

_have a bottom-up⁶ and participative approach⁷: to identify and plan research-actions in collaboration with local associations, institutions and entities and to involve the local resources in the project activities. If in some projects a top-down approach is used, in projects for industrial districts and territories a bottom-up approach is preferred, in which the stimuli for change is born inside the local community and creates change through different pro-action forms and modalities⁸. Participatory preparation of an action plan is the only way to find original and unique responses to a specific territory. In this perspective, each territory will have a different project response and there will be no pre-conceived “bundle” responses and no identical “case histories”. The further away the context lies from the original context of the design research group the more this feature becomes important⁹.

_build alliances with economy, political and social paradigms: design can do nothing if the political, social, cultural and economical conditions are not adapt for catalyzing project processes (Zurlo 2004). The fault of alliance with economy and political paradigms has been one of the major failure factors of past design knowledge transfer projects. However, to know political and economical issues does not mean to reduce the autonomy of the researchers to develop a project, but merely that in the

⁶ “Technologies designed with user needs and local conditions as starting points would be quite different from those developed from above” (D. Raghunandan 2002);

⁷ “ask the right question to those concerned so that they become freshly involved and seek a solution themselves.” (Eames 1958)

⁸ Zurlo Francesco, Simonelli Giuliano “La ricerca Me.design. Valorizzare le risorse dell’area del mediterraneo: quale ruolo per il design?”, in Designing Designers 2004, POLI.design, Milano, March 2004

⁹ as said by an Argentinean writer and stated by Gui Bonsiepe in an interview “The center knows nothing about the periphery, and the periphery does not know anything about itself”. A participative approach can, in these specific cases, be absolutely necessary to find solutions to a territories fault of innovation.

planning phase they will take into consideration the restrictions imposed in order to bring forward an autonomous response. In international projects, this feature becomes more complex because the project will need to also keep into consideration the internationalization strategies of each nation involved a part from the restrictions of the financier and of the actors and territories involved.

_build capacities: to enable local communities to express what people are actually able to do and to be (Sen) is the main philosophy that leads the project. The main goal is to give communities the capabilities to communicate their ideas, to express their selves; to build a bridge to other markets, to give industrial districts and productive territories the liberty to access to other markets, the liberty to communicate and collaborate with other realities and cultures and encourage cross-fertilization of cultures in new product generation processes. This vision is especially important in today's scenario in which "to export" final products¹⁰ (for some regions of the world) or "to delocalize" production (for other regions) appear to be vital actions for a company and therefore to be able to decide with whom to communicate and how seems to become a means for survival.

_sustain regional identities: the definition of the identity of a territory or even of a cluster of enterprises is not a simple task especially if one keeps into consideration that the community of a certain territory is not able to read nor give it a form on its own¹¹. Over more, since the beginning of the communication era, the contamination of cultures both virtually (through media) and physically (emigration movements) has put aside all the traditional values and rituals transforming them in mere examples of local folklore and giving birth to a restricted world of the so called "ethnic objects", "tourist gadgets", "souvenirs". In these territories designers have neglected all forms of "ethnic" contamination and have abandoned their productive traditions. In projects for building territorial systems, territorial differences and specificities are considered to be a strength and not a threat to development. All projects must work on giving the local communities the tools to reinterpret their traditions and transform them in innovative solutions.

_never be in competition with the design community: all projects aim to integrate design communities (near and far) with local productive systems. Therefore, the design research group should create a strong trusting bond with designers and design firms in order to involve them actively in the project activities. In some cases, the designers can be part of the design research group and participate in the project planning.

Building territorial design systems

The de-codification of the know-how achieved by passed experiences and their reinterpretation in each new context has given birth to the following methodology which becomes the framework in which each future project fits-in creating unique results. Past experiences have shown that workshops and seminars which are not included in a long term project are not sufficient for initializing autonomous innovation phenomena. Therefore, all projects proposed must aim to go beyond the past logics

¹⁰ "the present imperative is: export or die", Gui Bonsiepe, "Peripheral Vision", Escola Superior de Desenho Industrial (ESDI) Brazil, 2004

¹¹ for those who live in a certain context its identity is transparent. Usually those who live a certain identity cannot see it. The identity must be defined by an observer, usually external, through linguistic distinctions (Bonsiepe 1995). Taken from: Zurlo Francesco, "Design Capabilities per le istituzioni socialmente capaci", in "Medesign_forme del Mediterraneo", Alinea Editrice, Firenze, 2004, pp. 81-87.

of sporadic consultancy visits which only solve small individual problems (single companies or small groups of students) without having a global vision of the development of a territory. These projects fail to have a long term systematic approach and risk to abandon the territory in the processes of product development, promotion and distribution leaving a strong sense of frustration and delusion to local communities who are incapable to face these challenges alone¹².

As all projects, also projects for building territorial design systems need “triggers” (advantageous circumstances) to avoid barriers that prevent the start-up of the project. Even if the territory does not present any design actors the following circumstances must be fulfilled:

_the presence of a cultural intermediary of the project;

_the presence of a local entity who believes-in and supports the project and who has a good relationship with the other actors of the territory (in particular with enterprises);

_the presence of a productive system (industrial or artisan);

_ the presence a stable financier.

These circumstances do not guarantee the success of the project, nor the continuity in time of innovation processes, but they are absolutely necessary for starting the project.

The phases:

Reading the Territory- analysis of the district's environment and definition of the degree of innovation

Can a territory be read through a “design research” lens?

The System research lead on the Italian Design system has showed that not only this is possible, but it is also fundamental for defining the **degree of innovation** of a specific productive territory before beginning any kind of action. The first phase of projects for building territorial design systems, is to analyze the territory by organizing visits to design entities and non-design entities that act in the different phases of the Product System¹³ (single companies, universities, design studios, design promotion associations, design centers, local design agencies, service agencies for districts, etc.), to simplify, this moment can be called *auditing*. During the auditing, the research group collects all information and systemizes it in order to give birth to a **territorial design map** in which the different entities are divided into groups¹⁴: direct actors (designers, stylists, design firms, etc.), indirect actors (prototype firms, photographers, etc.), flux actors (fairs, exhibitions, cultural entities, etc.) and support actors (design associations, design centers, etc.). Subsequently, a series of innovation indexes are calculated according to the number of actors present in the territory and the intensity of their interaction with the local productive system.

This phase reaches its best results when some local actors (local university or design center researchers) are part of the group of researchers. If the industrial district taken into consideration already has a high index of innovation and there is a complete

¹² “design problems will only be resolved in the local context and not by outsiders coming in for a stop-over visit. This typifies one of the great disadvantages of short-term consultancy jobs, with people flying-in from the central countries with very little knowledge about the local context and believing that issues can be resolved by remote control” (Bonsiepe)

¹³ The Product System is the integration of : product, distribution, services and communication.

¹⁴ For a more detailed description see: Simonelli Giuliano, Bertola Paola, Sangiorgi Daniela, Milano distretto del design, un sistema di luoghi, attori e relazioni al servizio dell'innovazione, Il Sole 24Ore, Milano, 2002 or AA.VV., Sistema Design Milano, Abitare Segesta, Milano, 1999

collaboration on behalf of the enterprises, most information can be collected through a survey (questionnaire) to be filled-in by each entrepreneur.

Participative Action Planning

Once the innovative index of the territory has been defined and the local actors have been mapped, the research team defines the action plan in direct collaboration with the local entity and cultural intermediate of reference for the project. This is the most delicate phase of the project because it is in this phase in which the research group must **build trust in design** on behalf of the local actors who will be called to participate in the single actions. The local actors must not only trust the research group, and therefore the project, but they must also be convinced that design can really initiate a substantial change. Trust building requests the translation of the project actions into economic advantages for the productive system (higher sales, new markets, lower costs, etc.). Usually a seminar or conference, which can be called **trust building seminar**, is organized in which all territorial entities are asked to participate. The aim of the seminar is to: share the action plan and look for approval, spread-out the culture in design as an innovating agent and competitive value, confront the project objectives with the district potentialities and search partners for each project action. To support this phase of the intervention, the team of researchers of the Politecnico di Milano in year 2002 has begun a new System Research called "Design for Trust".

Action

All projects can be made of a combination of actions in the fields of design research, education and promotion. Each action has a specific aim which contributes to the creation of territorial design systems. The sequence of the actions will depend on the presence of **design resources** in the territory and its index of innovation which can go from a total absence of design resources and a very low innovation index to a high presence of design resources and a high index of innovation (however, a high population of design resources does not mean that the district will automatically have a high innovation index, this can be the case of artisan production). The actions will lead the district through an increasing innovation process, starting from strengthening the relationship between the productive system and design actors up to creating local institutions for promoting design innovation processes. The sequence of the actions cannot be casual and must be based on the real potentialities of the examined territory.

The main aims of the actions is to:

- _strengthen education processes in design: contribute to the education of professionals, researchers, design service experts and design directors for SMEs;
- _favor and push the birth of institutions who support design innovation processes (universities, design centers, specialization courses, etc.);
- _favor and empower the creation of new entrepreneurial design initiatives (design studios, design incubators, etc.);
- _strengthen strategic sectors of local realities (identity, tradition, etc.).

Monitoring the results

The final phase of monitoring the results is not just an observation phase, it is a proactive phase in which, on one hand the local community has the possibility to continue actions on its own knowing that it can count on the support of the project research team, and on the other hand it is a time in which the project team can

receive feedback on the actions carried forward and can evaluate its work. Evaluation visits can be useful if they have a real aim, for example an exhibition or an evaluation of work done by the local community.

Archive of experiences

Since the field in which this methodology is applied is very complex and depends on an infinity of variables, the collection of all case histories, successes and failures, is the only way to keep a record of the link between the typology of the territory and the kind of design project applied.

Case histories (three of the most significant projects)

1999-2001

DxD – Design for District_Design for Industrial Districts. Expertise systems and new net connections for the competitiveness of Local Production Systems

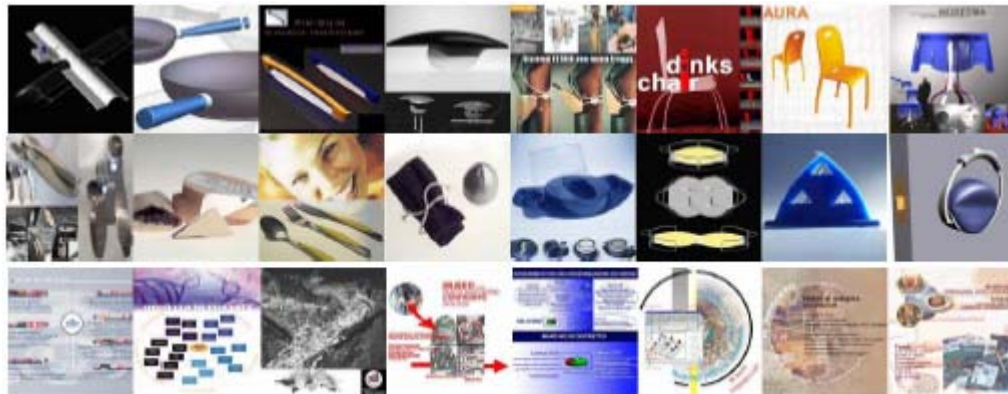


Figure 1: projects developed from students

Founded by: Regione Lombardia (Lombardy Region, Italy)

Abstract: DxD was the first experimental project for the investigation of new ways of transferring guided design innovation to the local productive systems which took place in collaboration with one of the most important district areas in Italy. The so called “DxD operation” was originated by the similarity of intents and by some favorable circumstances (a framework agreement between Lumetel (territorial district agency) and Politecnico, a funding by Regione Lombardia, an aid by Camera di Commercio di Brescia).

The question was “what can a district agency and a design university do together?”; the most immediate answer was: a design award for the students. This first suggestion is definitely interesting to stimulate new design ideas and to become itself a way to promote the creative vibe, but it was also clear that the well established dynamics of a design competition wouldn’t suit our Partners too well. A competition is an unusual event, restricted in time, which rarely leaves any sign in the territory, furthermore, participants and promoters normally don’t have any kind of relationship other than through the initial announcement of the competition and the final award ceremony. The acknowledgment of these limits requested the definition of a new competition procedure which would have integrated the two realities: production (SMEs of the district) and project definition (young designers).

Aims: The aim was to lead the firms belonging to the district to undertake product differentiation policies as well as policies for the improvement of their communication system and for the development of services tied to distribution and marketing of the products, to better face the medium-high part of the demand.

Actions: Trust building seminar, 60 students worked for 3 months inside 25 companies giving birth to 40 projects (product, communication and services), final exhibition, project catalogue.

Partners: Politecnico di Milano, Regione Lombardia, Agenzia Lumetel (Development Agency of the Italian District of Lumezzane), Club dei Distretti Industriali Italiani, Chamber of Commer of Brescia

2002

Development of Industrial Districts in Brazil: starting from the experience of Regione Lombardia: Campina Grande



Figure 2: prototyping phase

Financed by: SEBRAE (Brasil), PROMOS – Azienda Speciale della Camera di Commercio di Milano per le attività Internazionali, Camera di Commercio di Milano (Italia), BID

Abstract: The district of Campina Grande in Brazil is a very small productive reality which produces final products in the shoe wear sector. Campina Grande has a long tradition in working leather and producing leather shoes for woman and man, but because of a recent crisis all industries have abandoned this tradition and now produce only plastic and synthetic shoes.

Aims: The project has focused on building design capacities of young designers who were not able to find adequate education in their territory. After the success of this course, all students are now working in the local industries and the local university is starting a specialization course in fashion and shoe wear.

Actions: Mission and Workshop, Design course, Monitoring the results, prototyping and local exhibition, Agreement with local universities, Design competition

Partners: SEBRAE (Brasil), PROMOS – Azienda Speciale della Camera di Commercio di Milano per le attività Internazionali

2002-2004

UDIP_Pyme: Design driven innovation for the SME in Chile: Centro di Eccellencia in Valparaiso

Financed by: ISTITUTO PER IL COMMERCIO ESTERO (Italian Institute for International Commerce), REGIONE LOMBARDIA, Universidad Tecnica Federico Santa Maria (Valparaiso-Cile), Universidad de Valparaiso (Valparaiso-Cile)

Aims: Building a Design Center in the Universidad Técnica Federico Santa María in Valparaiso, Chile ("Unità Specializzata nello Sviluppo di Prodotti ad alto Valore Aggiunto per la Piccola e Media Impresa" [UDIP -Pyme]). The Design Center has the task to bring innovation to SMEs of the 5th Region of Chile through promoting design projects and linking the enterprises with universities and local, national and international entities. Therefore the aims of the project are:

- to give SME's the right tools for developing and bettering the role of Industrial Design competences in new product development projects;
- to develop new project resources and design capabilities inside SMEs;
- to support the education and research in the Industrial design fields;
- to support the promotion and diffusion of Industrial design culture inside entrepreneurial environments;
- to facilitate the development of entities and organizations that support SMEs in new product development processes;
- to facilitate the development of relationships between Italian and Chilean enterprises (eg. through joint ventures, collaboration agreements, partnerships, etc.)

Actions:

2002-2004: Mission, Auditing and Forum, Design course in Italy for 6 professors of the Chilean universities (actors of the UDIP), Local workshops

2005-2006: two Chilean PhDs in the Politecnico; Pilot Projects for SMEs: "Co-Branding project", "Private Label Retailing project", "Co-Design project"

Partners: Politecnico di Milano, ISTITUTO PER IL COMMERCIO ESTERO (Italian Institute for International Commerce), REGIONE LOMBARDIA, Universidad Tecnica Federico Santa Maria (Valparaiso-Cile), Universidad de Valparaiso (Valparaiso-Cile) Cestec (Centro Lombardo per lo Sviluppo Tecnologico e Produttivo dell'Artigianato e delle Piccole Imprese).

Conclusions

As can be seen in the case histories, there is no specific production sector in which the methodology cannot be applied. Before beginning the project, a selection of experts and professors coming from the Politecnico and from local universities is done according to the typology of actions and the productive sector of the district.

The methodology is still in its testing phase, especially at international level since 3 international projects are too few to be able to consolidate it. However, the results achieved till today are very encouraging and the international projects' success lies mainly in the will of the territories to continue working and experimenting even in absence of an external support (especially in financial terms).

The future challenge lies in building international networks of cooperation which are capable to merge territorial productive systems and design systems in international new product development processes.

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