

POLI.DESIGN®: A ZIPPER AMONG RESEARCH, PROFESSION AND INDUSTRY

Francesco Zurlo, Cabirio Cautela, Politecnico of Milan, Italy

The evolutionary characteristics of scientific research: objectives and organizational logic

A profound change in objectives, methods and organizational mentality is undergone by scientific research in general and design research in particular, which, with its investigated realms, its logics and methodology, refers to cognitive domains close to the socio-economic sciences. When universities were financed by public or government funds, their research took a speculative and predominantly theoretical direction, employing a plethora of particularly closed processes, where any kind of dialogue with actors, entities and external realities was mostly an exception, not the rule. This state of affairs influenced in some way the very *final objectives* of research; research, in fact, was aiming to “explain,” to develop concepts, interpretative models and theoretical frameworks in accordance to its very basis, where certain phenomena were adopting certain meanings and principles. For years, be it in the realm of the exact sciences or that of the social sciences, research used to explain events and phenomena after they had happened, shoehorning them into logical and functional frameworks or interpretative models, which, in a way, were perceived as the ultimate *meaning* of the epistemology and the methodology used in research programs (Lakatos, 1969). This dynamic, which, according to some, represented the very basic structure of “theoretical research,” has been affected by substantial changes in the past years, making room for the birth and the consolidation of new meanings of research, new objectives, new organizational structures for scientific processes. In brief, the most important factors, all interconnected, which have shaped the new organizational model of research, can be identified as:

- the cutbacks of public funds on a national level has compelled universities to find alternative financial resources in the private or the quasi-public domain
- the birth of new knowledge—intensive industrial sectors together with the development of the advanced tertiary sector have steered the focus of knowledge-gathering and application of critical factors towards production and competitive expansion.
- the preponderance of ICT and web technologies has provided greater opportunities to exchange and share knowledge among culturally-distant contexts, increasing either the interconnection among territorial systems or among industrial systems of research.

Such factors have remodeled the structure, the objectives and the confinements of research as a practice as well as those of the host organizations. Theoretical research, especially in the realm of social sciences, has stepped aside to make room for “applied research,” which takes the shape of a genuine “servicing” of far-reaching knowledge. The role (and the purpose) of research goes beyond “explaining” phenomena; mainly, it supplies scenarios, courses of action, gateways and solutions for specific applicative environments, which harbor a lot of questions and uncertainties about keeping phenomena on track. Reacting to these new developments, the research programs’ organizational logic and direction have fundamentally changed. Theoretical research, academic in nature and conducted entirely in universities, used to recognize an overlap between those who ask questions (providers of the research question) and those who give answers (providers of the research offer). Applied research takes a firm stand that the actors that ask questions and those who use these questions to investigate scenarios, are different from finding a solution, a practical application. The new way of researching challenges this stance, by assisting agents who *require* knowledge for pragmatic purposes. In this scenario, research takes a “relative” value, progressing

from its initial role of simply explaining the rules and the principles susceptible to generalization or just furnishing interpretative models that are universally applicable. Applied research has a “use value” only in the context where it was generated. It mostly produces findings that are contextual and debatable (Morin, 2000), bearing the phenomenological and cultural mark of their place of birth; hardly can these findings be exported and applied in a non-contextualized and indiscriminating manner in other contexts. Thus, this dynamics translates into a different perspective about the roles played by the providers of the research questions as opposed to those played by the providers of the research offer. It is deceptive to define research as a unidirectional process, where the knowledge flow is generated by one actor (the provider of the research offer), only to be transferred to another actor (the provider of the research question). Most of the times, research is an inclusive process, of reciprocal exchange, where all actors, providing either the research offer or the research question, are generating at the same time and co-creating knowledge. The new methodological directions in research, such as *grounded theory* (Glaser, 1992), or *action research*, are actually supporting the integration and the participation of the researcher in the context of the object he is researching. The underlying goal is to find an “answer” that emerges from the context, through the multiple phenomenal manifestations that the context expresses; this is where a new premise comes in, stating that the adequacy of an “emerging theory” is derived from its capability to *fit the situation*, and to *help the people in the situation to make sense of their experience and to manage the situation better*.

Design research in Italy: the “state of the art,” roles and functions in the Italian production system

Design research, subscribing to the same definition as explained above, presents itself as a scientific-epistemological activity, which lives and recharges with contributions and conceptual categories derived from the empirical and phenomenal reality of projects, developed within organized productive contexts. Specifically, the theoretical framework of design, both in its methodological foundation and its theoretical precepts, is influenced by the productive realities. In other words, design research, as opposed to other cognitive sciences, displays the following characteristic features (Laurel, 2003):

- it's *interdisciplinary*, as opposed to other subjects which only now are retracing their confines to include an overlap across disciplines; design defines itself as a thematic environment “of crossroads,” a “borderline” among domains such as management, semiotics, anthropology, product design and communications. This way, design becomes a cultural ambassador, taking a brokering role among various disciplines.
- it's *qualitative*, unlike the disciplines of economics and firm management analysis, design research attempts to build knowledge through prompt and *grounded* analysis and does not aim to legitimize the knowledge resulting from statistical inferential processes from which derive normative and prescriptive directions; according to this stance, design attempts to build “non-validating” knowledge within the context/ the moment when it is generated.
- rather than being grounded on methodological bases that generate knowledge, design is based on methodologies of “applied knowledge”; in agreement with this line of thought, the methodological structures employed by design are used to assess and validate different tools and strategic principles in various circumstances (situational approach), rather than to create interpretative models that are universally and generally recognized.

The nature and the foundation of design research, as previously defined, have developed in accordance with the evolution process undergone by scientific research in general. More

specifically, the Italian scientific research defines itself as a provider of direct *services* that will increase the competitive capacities of the national production sector.

The Italian production world, typically featuring medium-size companies, significantly smaller by comparison to the great industrial structures of other countries, has been resistant for a long time to cultural traditions influencing company management and administration practices. Entrepreneurs had to follow certain directions to meet their economic and organizational needs, directions leaving little room to promote services that encourage competition or administrative processes. It is thus not surprising that Italian consultancies have developed and penetrated the market with a significant delay. Under these circumstances, design acted as a temporary supplier of strategic and operative insights, which could not have been exported from abroad or furnished by the entrepreneurs' professional experience. Contrary to the beliefs maintained by other countries or international markets, design went beyond simply shaping a *styling* for the Italian companies (Lorenz, 1986); on the contrary, in a manner more or less explicit (Zurlo, Simonelli, Verganti, Cagliano, 2002), the design processes and competencies, with their pervasive capacities, have outlined company strategies, by promoting and administrating different levers and interfaces (De Mozota, 2003). The meta-competencies of design, with their unprecedented ability to translate socio-cultural tendencies into products and symbols, which will be subsequently experienced by the users, have progressively overtaken the realms of communication, branding, retail, as well as those of the companies' production and technological processes. The product, as a component of the professional national culture, is just an *access point*, the last link of a "value chain," which has been influenced, in several production sectors, by the approaches and the conceptual strategies used in design. The Italian design research has been significantly shaped by an integrated project approach, which looks at the companies' offer system in a holistic manner, where all the systemic components responds to a unified vision, integral to the company identity.

In this context, design has become a real productive system, a species of industrial meta-compartment or an integrated production office, which brings together several actors within in same project (project manager, assistants, prototyper, stylist, etc...), all having distinctive attributions, roles and competencies.

Within this frame of reference, design research does not rival with other activities performed in these subjects. The main characteristic of the professional services is to provide a real solution to a real problem. Usually, the result is a "closed" project recommendation, with no alternative courses of action, not relying on any theoretical-methodological justifications; a company producing domestic appliances will resort to a design studio/ a designer to acquire one or more executive projects for its products; in other words, the supplied project output represents a final *solution*, in the sense that it will not accept various "levels of freedom" within the project recommendation.

Design research diverges from the professional practices of other project actors in the following ways:

- rather than providing solutions that are "closed" and final, it supplies "possible" open answers, which have a major impact within the devised hypothetical scenarios.
- rather than reaching a *unique* solution, (*one best way*), it generates a set of solutions that adapt functionally and logically to the express requirements of the customer, underlining the limitations of each of these alternatives (very often unknown to professionals)

- rather that getting involved in a prompt manner in the specific aspects of the project (engineering, defining the functional specifications, material choice...), design is more likely to determine the directions and the strategies of the project, employing project instruments and conceptualizations.

Design research, in other words, generates *methods* and *visions*, two scarce resources in the Italian production reality, which devotes itself, lacking a long-term vision, to the everyday administration of routines (mostly commercial).

Design research has a synergic and complementary relation with professional activities; often in the first case, it has a disruptive influence in the company environment, as it only imagines methods and visions; even more often, in the second case, it runs the risk of treating superficially problems and question with a high level of sophistication and loaded with strategic consequences.

The Italian companies, whose “Made in Italy” image runs into crisis in certain international compartments / markets and who are being commercially threatened by the countries where labor and services are cheap (India, China, Eastern Europe), need to redesign a new professional strategy. The levers of design research, with respect to their component characteristics and attributions, can doubtlessly become critical ingredients for reformulating the strategies and positions Italian companies assume in the international production zone.

PoliDesign: a consortium that produces design research

It is an interesting endeavor to analyze the scientific and administrative activity of a consortium, run in Milan, pursuing a mission to propagate and develop project culture. The PoliDesign Consortium, in cooperation with the Milan Polytechnic, is the direct extension of the INDACO department (Industrial Design, Arts, Communication and Fashion) within the Design University. In order to understand the role and the functions of the Consortium, within the scope of the aforementioned scenario concerning research systems and the industrial structure of the country, it's best to focus on the following areas:

- the *governance structure* of the Consortium, defined as the model of administrating and identifying the roles of the Consortium in project activities
- the *design concept*, defined as a guiding concept from which stem various service bundle offers.

As far as the first area is concerned, PoliDesign is an open consortium model for all the project actors; in fact, in addition to the Milan Polytechnic, other professional associations that work for the other parts of the project participate as stakeholders: the ADI (the Italian Association of Industrial Design), the AIAP (the Italian Association of Visual Communication), the AIPI (The Italian Association of Inside Planners), the AIPI PROMES (The Italian Association of Industrial Machine Planners), the AIMAT (The Italian Association of Material Engineers). Such a structure does not ultimately guarantee that the company mission will always have a coherent application. Additionally, the two main principles explaining the design development activity of the Consortium are its *complementarity*, regarding its activity and its role within the running projects, and its *cultural proximity*, denoting a shared vision for the potential and the values that design brings to various production activities. The “static representation” of the governance model actually provides the best “dynamic” explanation detailing how the Consortium responds to the *design demand*. In fact, the Consortium is not an enterprise integrated into the project, which

internalizes all the project activity of analysis-proposal-implementation. The Consortium, a node of a network of project actors, has different roles and attributions, depending on the requirements of the project – be they straightforward or concealed. The project is typically the *input* that the Milan Polytechnic uses to put together a network of actors, who, with their competencies and experience, can best respond to the needs of the project. In this respect, PoliDesign defines itself as an *enabler* and a *builder* of dynamic networks, flexible in configuration, since the diverse characteristics and specificities of a project require that the *mix*, the *depth*, and the *amplitude* of the network should be always different.

This way, the *role* and the *function* of the PoliDesign within the network are shifting at different stages in the project. More specifically, with the exception of the network building activity, PoliDesign acts as:

- a *translator* for the client's service needs; the Consortium determines the *design value proposition* by analyzing the strategic characteristics of the company.
- a *broadcaster* of the design value proposition; the Consortium “details” and aggregates the value proposition in a bundle of services, personalized in accordance with the particular activity, the project objectives, the organizational methods of the project activities, the involved actors, and the expected results
- a *co-producer*; by involving several researchers and professors from the university, the Consortium internalizes a set of project activities, that can be related to the *vision* definition, the concept decision, the definition of scenarios of use for a product, etc...
- a *guarantor* for the expected quality; by using tools and methodology of meta-project analysis, the Consortium evaluates the results of the project, highlighting the eventual critiques and the places where there is room for improvement.

Relative to the definition of the *design concept*, the Consortium takes a ample and integrated stance that looks at design as a conceptual and instrumental approach, likely to furnish significant added value to various environments and administrative areas within companies. More specifically, design can be interpreted as:

- a “cultural integrator,” where design, using its own instruments of socio-ethnographic classification, pursues the aim of contextualizing company products that compete in markets which are different in culture, traditions and local specificities from those with which they used to deal previously.
- a process, where design is understood and utilized as an activity set (deeply rooted and influenced by the context where it will be implemented) unifying the interconnections that usually tend to create a discontinuity, a discrepancy within the *status quo*, either with regards to the practices and the management strategies for project work or to the output resulted in the work process.
- a brand, where design supplies considerable “added value” to products, characterized by a low “design content;” in this sense, the project and its manager (the designer), become the object of the communication process, attempting to forge the identity and the personality of the products.
- a relational system, where design represents an aggregator (as underline before), a socializing factor with the project network, which, in its multiple forms and configurations, can induce new stimuli and new competitive incentives to the production companies.

Hypothetically, the four definitions of the *design concept* exhibit different requirements, manifested in the various parts of the Italian production fabric, which, at a first glance, can be segmented in *four main clusters*.

The first cluster, for whom the Consortium provides services of “cultural integration,” are enterprises whose strategy is to augment their competitive potential and their economic value by building an international work environment. The Italian industrial realities, at a time where “made in Italy” has failed to assert itself as a style worthy of export to other cultural contexts, can only assist with understanding the socio-cultural specificities of the different markets, according to which they can reshape their *selling proposition*. In such an environment, design research is a good vehicle for exploring symbols, accounts, frames of meaning associated with various products present in the target market and with the classification of these messages and values adopted by the specific value-propositions.

The second cluster, for which the Consortium supplies the *design concept*, intended as process, is a group of enterprises which fall short of real processes or product activities. In other words, such a cluster is defined by economic targets, often of small dimensions, which looks at design either as an instrument of classification for the work process, or as a lever that will enhance the innovation level and the competitive potential of its products. Design research, in this environment, impacts on the work processes, expanding practices, project instruments, approaches, methods, and thus, augments through direct or mediated means the value of use, and the economic and symbolic value of the product-services.

The third cluster, for which the Consortium delivers a design plan focusing on the symbolic-communicative dimension (*design as a brand*), includes a series of companies that orbit in saturated competitive contexts, where communication and branding politics can increase the competitive potential of the company. Under these circumstances, design research is not so much aimed at generating and applying new forms of knowledge; on the contrary, it takes up a communication role, a type of co-branding often visible through new logos incorporating the very icons of the research groups. The companies’ participation in projects and activities supported by the universities and research entities increases the “perceived value” of the products already on the market, often contributing to strengthening the brand identity with values and attributes related to *affordability, safety, competence, and scientific character*.

The last cluster of enterprises, to which the Consortium provides a design concept based on a relational system, is formed by economic targets who are lacking bits of expertise, resources and abilities to implement solutions for new offers or to reconfigure their strategic structure (positioning, competitive advantage, ...). In such an environment, design research is an aggregator of various actors around one theme, one scenario or one strong idea. Design research thus becomes just an instrument to reach a “goal-oriented” partnerships, the final objective of which is to encourage sharing and community of intentions, or of “exchanges,” where reciprocity, in relation to the pursued advantages, is the informative principle for the relationship.

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