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SERVICE DESIGN RESEARCH PIONEERS

An overview of Service Design research developed in Italy since the '90s

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Här ges en forskningsöversikt av tjänstedesign från Italien sedan 1990-talet – framför allt inom tre forskningsfält: olika typer av tjänster och tjänstedesign som ett eget område, produkttjänstesystem samt undersökningar av sociala innovationer och hållbarhetsfrågor. Områdets framväxt visualiseras och knyts an till den internationella forskningen om tjänstedesign, vilket ger en bas för en gemensam utveckling i framtiden. Tillväxten för tjänstedesignområdet sker bland annat genom att kunskaper från andra perspektiv inom tjänstområdet integreras. I Italien har tjänstedesign tagit ett stort steg framåt i och med att den berömda Compasso D'Oro-utmärkelsen nu infört en kategori för projekt som avser tjänstedesign – ett tecken på att tjänstedesign blivit alltmer accepterat som ett eget område inom det bredare italienska designforskar-samhället.

ABSTRACT

This paper provides an overview of the research on Service Design carried out in Italy (mainly in Milan) since the '90s. The authors show how the initial steps in this emerging field have definitely influenced the following evolution of studies in Italy; three areas of research in particular are described: investigations into the nature of services and of Service Design as a field; investigations into Product Service Systems; and investigations into social innovation and sustainability. As final considerations, a map of Service Design research is developed to suggest connections with the existing international research into Service Design and to imagine future developments.

INTRODUCTION

When reflecting on the current and future development of design as a discipline, Service Design is now recognised as one of the main fields of practice and research. The authors aim to contribute to this field and to its future development by presenting an overview of the research on Service Design carried out in Italy (mainly in Milan) since the '90s. Describing the initial steps and intuitions that have helped shaping this new design agenda, they will show how these first contributions have developed into different streams of research that are now part of an international debate.

The first articles and research on Service Design were exploring the nature of services (or product-services) as opposed to products and their relationship with the concerns for environmental issues. These core reflections have definitely influenced the following evolution of studies in Italy. Three areas of research in particular emerged: investigations into the nature of services and of Service Design as a field; investigations into Product Service Systems; and investigations into social innovation and sustainability. These three areas often overlap and share a common interest in the development of methods and tools to help building the discipline in its operative paradigm.

The paper articulates these different research areas looking at and summarising scientific publications, funded research projects and PhD research. This overview feeds then into a final interpretation and visualisation of the Italian work so far, showing its relationship with wider areas of research and practice in the international community.

INITIAL STEPS

Thanks to the intuition of Prof. Ezio Manzini, two Master theses on Service Design were developed within the department of Industrial Design at the Faculty of Architecture of Politecnico di Milano. One of these theses by Elena Pacenti – who graduated on July 1993 – was titled “*Il Design dei Servizi*” (*Design of Services*). Her work represented a first attempt to understand and describe the nature of services, the main reasons behind the so called Service Society (Gershuny, 1978; Giarini, 1986), and to map out both the phenomena affecting the evolution of services (such as industrialisation, automation and digitalisation), and the existing knowledge and approaches to Service Design as coming from management (Butera, 1988; Heskett, 1986; Negro, 1992; Normann, 1985) and from marketing (Eiglier and Langeard, 1988; Levitt, 1981; Lovelock, 1984). This reflection on the nature of services in comparison to products and collecting the available insights from management science helped to prepare the basis for Service Design.

Manzini’s intuition behind those first research works, was clearly summarised in his article published on Design Management issue n.7, June 1993, titled “*Il design dei servizi. La progettazione del prodotto-servizio*” (*Service Design. The design of the product-service*), and partially introduced in his book *Artefatti* (*Artifacts*, Domus Academy Publishing, Milano 1987); the concept of product-service was suggesting how services, becoming increasingly similar and integrated to product offers (and products offers becoming increasingly integrated as service components), needed to be

designed and needed a specific design culture. In the article published in Area issue n.14, June 1993, “Lo scenario del prodotto-servizio” (*The Product-service scenario*) Manzini explained the reasons for promoting services as a new field of design: considering the growing importance of services in the contemporary economies, the design of services (or of product-services) was envisaged as a potential strategy to move the actual system of production and consumption towards environmental and social sustainability. Compared to the consumption of products, service solutions potentially represented a more efficient way to answer people’s needs.

Starting from those original studies, Service Design has been interpreted and studied as a field of convergence between social innovation and scenarios of sustainability. In the article *Sustainability as a scenario of services. Environmental quality, social quality, the design of services*, in Design Recherche, n°7, June 1995, Manzini and Pacenti discussed the potential of Service Design as a contributing factor to the evolution of contemporary society towards sustainability, connecting the potential of service scenarios (such as eco-efficient services and community service) to environmental and social quality. As services are co-produced by users and providers, service scenarios help to rethink the quality of the social habitat while opening up the possibility to promote social innovation.¹⁾

The initial theoretical and conceptual research framework on Service Design developed in the ‘90s at Politecnico di Milano, Domus Academy, and in Germany at the University of Cologne is documented in a book titled “*Dienstleistung braucht Design*”, Luchterhand Verlag, Berlin, edited by Michael Erlhoff, Birgit Mager and Ezio Manzini. This book was the first collection of thoughts and experiences around Service Design in which representatives from Domus Academy Research Center contributed with short essays conceptualising the convergence of interactive media, digital artefacts (Marco Susani) and brand and visual communication (Mario Trimarchi) with service design issues.

Starting from those preliminary insights, the research on Service Design in Milan developed different directions and specialisations: the theoretical production was mainly pursued through a series of PhD theses developed within the PhD School in Industrial Design at Politecnico di Milano.

The first PhD research was the investigation by Elena

1) A fundamental contribution to the debate around Service Design came from the cooperation with a group of sociologists and organisation experts theorising the concept of “services as partnership”: “services are first of all relationships between providers and users”. The service is a social relationship creating value for all the actors involved. The production of a shared value transcends the pragmatic benefit gained from the performance itself and lasts in time (De Michellis, 1996; Ota De Leonardis, 1995).

Pacienti. The research work of Elena Pacienti, from November 1995 to October 1998, was using the results from her graduation thesis to better analyse the nature of services and mapping design approaches and available interdisciplinary methodologies and tools, to start building up the first body of knowledge for Service Design. Her PhD thesis, titled “Il Progetto dell’interazione nei servizi. Un contributo al tema della progettazione dei servizi” (*Designing interaction with services. A contribution to service design*), was an attempt to develop conceptual and operational tools for Service Design through an analogy with the discipline of Interaction Design. The analogy between the front-office, that is the part of the service system that is experienced by users, and the interface of a digital artefact (defined as the “*zone, area, scene where interactions take place*” by Anceschi, 1992a) allowed identification of a series of concepts and tools for designing service interaction. The thesis is composed of three main sections: the first section is an in depth analysis of service nature and of services transformation through decades; the second section analyses the reasons for the lack of a specific design culture for service-products and summarised the latest insights from the managerial culture on services; the third part develops the analogy with Human Computer Interaction and the definition of parameters and tools for Service Design.

This PhD thesis, tutored by Ezio Manzini, was also influenced and supported by the studies of Giovanni Anceschi (1992) and the PhD research of Pietro Montefusco (1995), about the design of interactive and communicative artefacts; their work theorised the shift from the design of the interface to the design of the interaction, introducing basic concepts such as the nature of “non linear potential performances”, the design of the narrative and time dimensions, and notational tools for design.²⁾ Here ‘service interactions’ became a useful paradigm to derive metaphors, tools and concepts (Shostack, 1982; Anceschi, 1992b) for Service Design, management and innovation; for example the innovation of service activities can be obtained by reconfiguring the roles of providers and users towards new ideas for value co-creation (Normann and Ramirez, 1995; De Michelis, 1995; Manzini 1997).

A summary of Pacienti’s PhD thesis work has been published on *Design Multiverso. Appunti di fenomenologia del design* (Multivalent Design. Notes on Design Phenomenology), in 2006, edited by Bertola and Manzini; it is also included in

the forthcoming publication *Design dei servizi. Interazione, innovazione, esperienza, partecipazione* (Service Design. Interaction, innovation, experience and participation), edited by Meroni and Sangiorgi.

After the PhD Manzini and Pacienti wrote a document called “*service interaction design guidelines*” where some of the basic principles of Graphical User Interface and Human Computer Interaction were translated and applied to service environments, as a checklist for designers to be used into the analysis and design of service interactions (1999).

RESEARCH RAMIFICATIONS AND A GROWING COMMUNITY

Building on this research and on the analogy between Service Design and Human Computer Interaction, a second PhD work (Sangiorgi, 2004) was conducted with the aim of extending the understanding of service interaction nature and providing an orienting model for the analysis and design of services. The starting point of this second investigation was that, notwithstanding the agreed focus on service interactions as the main area and paradigm for Service Design, a clear understanding of what affected the quality of service interactions, and how designers can contribute to it, was still missing. As service interactions don’t happen in vacuum it is important that designers gain a more systemic understanding of how services work and what contributes to a good performance. The PhD examined literature on ‘service encounters’, which are defined by Shostack as “a period of time during which a consumer directly interacts with a service” (1985: 243). This research suggested three levels of factors that influence service encounter quality related to three main levels of interactions within services: human-to-human interaction (service as social negotiation); human-to-service context or interface (services as mediated actions); people behaviours in relation to the socio-cultural (or organisational) context they belong to (services as actuation). Building on the existing link of Service Design with research into Human Computer Interaction, Sangiorgi looked at how studies on Human Computer Interaction have considered the situated nature of people-machines interaction while expanding their unit of analysis to activities and wider systems. In the same way Human Computer Interaction has developed studies and theories to contextualise and locate interactions within wider systems and practices (Bødker, 1991), Service Design could explore the contextual and systemic dimension of services applying similar theoretical frameworks. Approaches such as Activity-centred Design (Gay and Embrooke 2004) or the concept of Computer-mediated Activity (Kaptelinin and

2) Giovanni Anceschi’s studies about visual communication theorised important concepts about the lack of “iconogenia” of services and the identification of notational tools mutated from contemporary arts such as choreography or storyboarding.

Nardi 2006) have brought the attention to the application of Activity Theory as a potential design framework (Maffei and Sangiorgi, 2006). An application of Activity Theory concepts and principles to services was then developed and tested in an action-research project in an industrial setting (Sangiorgi and Clark, 2004). As a result a model (the ‘encounter model’), some tools (Activity System map, issues cards, offering map) and design guidelines were developed.

In parallel another stream of research continued the investigation into the relationship between services and sustainability. An element of these studies was connected to European research projects Politecnico di Milano took part in. Among these we can mention: SusHouse (1998-2000), a European Union (EU)³⁾ funded research project concerned with developing and evaluating scenarios for the transition to sustainable households (Vergragt, 2000); studies funded by UNEP about Product-Service System sustainability and developed at Politecnico di Milano (Manzini and Vezzoli, 2002); the EU⁴⁾ funded Thematic Network of industries and institutes SusProNet (2002-2004) developing expertise on design of product-service systems for sustainable competitive growth; HiCS – Highly Customerised Solutions (2001-2004), a EU⁵⁾ funded research project aiming to produce methodologies and tools for designing sustainable solutions (Manzini, Collina and Evans, 2004); and MEPPS (Methodology for Product-Service System, Development of a toolkit for industry), a European research project coordinated by Price-waterhouseCoopers N.V. (2001-2004) aiming at developing a methodology for Product Service Systems bringing together design with sustainability evaluation methods (van Halen et al., 2005).

These studies on services and sustainability have been mainly related to the concept of Product Service System (PSS). A PSS is defined as ‘an innovation strategy, shifting the business focus from designing (and selling) physical products only, to designing (and selling) a system of products and services that are jointly capable of fulfilling specific client demands’ (Manzini and Vezzoli, 2002a). A particular approach to PSS design comes from the encounter between Design for Sustainability and Strategic Design as suggested by Manzini and Vezzoli (2002b). In their investigations into ‘eco-efficient PSS’ they suggest how, only when stakeholders engaged into the design and delivery of PSS adopt a life cycle perspective, system resource optimisations can be achieved: ‘the potential eco-efficiency of a PSS relies on system optimisations (in resource use and emissions) because of the stakeholders’ convergence of interests’ (ibid: 856). Designing PSS with this systemic approach can be considered part of strategic design

competences, suggesting the need to develop a new field of studies and practice called Strategic Design for Sustainability.

The interest in developing sustainable solutions has also led to research into design methodologies to facilitate the development of PSS. The European research HICS aimed at developing methodologies to guide a network of companies to converge toward the development of a highly customised solution. A significant result of this work was the elaboration of a methodology, the ‘design plan’, which consists of a guiding format to present, in a codified and progressive way, representations of a solution, from initial tentative ideas to final solutions (Jegou et al., 2004). The same interest in developing an ‘operational paradigm’, meaning a set of standard tools and methods to design and develop PSS, has been shared by Nicola Morelli. Morelli developed his PhD in Politecnico di Milano about innovation and sustainability (2005). He then moved to Melbourne University in Australia and then to Aalborg University of Denmark, where he still lives, further developing these theories in a closer relationship with the Service Design community. Inspired by the work of HICS, his studies have looked at PSS as a “social construction” (Bijker, 1995), and at the role of design within this process (Morelli, 2006); in particular he envisages designers contributing to the identification of the potential actors, to the development of possible PSS scenarios, and to the development and use of representation and management tools as a way to effectively visualise PSS in all its elements.

Another perspective on services and sustainability, as anticipated by Pacenti and Manzini (1995), is related to social innovation and its role for the development of a more sustainable society. This stream of research on sustainability (funded by another EU research project called EMUDE – Emerging User Demands for Sustainable Solutions⁶⁾) has been looking at existing examples of inventiveness and creativity among ‘ordinary people’ to solve daily life problems related to housing, food, ageing, transport and work (Meroni, 2007). Such cases represent a way of “living well while at the same time consuming fewer resources and generating new patterns of social cohabitation” (Manzini, 2008: 13). The idea behind this research was to consider these as promising signals for a sustainable society and examples of systemic change at a local level that could be replicated and diffused on a larger scale. All solutions were based on collaborative service and business models giving birth to new forms of

3) EU Environment and Climate Research Programme Theme 4, Human Dimensions of Environmental Change

4) EU Fifth Framework Programme (FP5)

5) EU Growth Programme, Fifth Framework Programme (FP5)

6) European Commission 6th Framework Programme.

community and new ideas of locality. Defined as ‘collaborative services’ they have the potential to develop into a new kind of enterprise, a ‘diffused social enterprise’, which needs a supporting environment to grow. The designers’ role here is to contribute to the development of these promising cases by designing ‘enabling solutions’, meaning ‘a system of products, services, communication and whatever is necessary, to improve the accessibility, effectiveness and replicability of a collaborative service’ (Manzini, 2008: 38).

Within this area of research some further PhD research projects are exploring specific topics, such as on the relational qualities of collaborative services (Cipolla, 2007), methods and tools to co-design collaborative spaces such as co-housing (Conditi, 2008) and creative centres (Franqueira 2009), also the potentialities of digital platforms as a support for more collaborative solutions (Baek and Manzini, 2009).

Moreover the convergence between Strategic Design for Sustainability, Social Innovation and an interest and opportunity for territorial interventions, has supported the articulation and experimentation of a new design approach called *Community Centred Design* (Meroni, forthcoming). This approach, currently applied in projects for the sustainable development of *rururban* areas in Italy, China, Brasil and USA (Meroni et al., 2008; Meroni et al., 2009), brings together sensitivity for territorial heritage and community sovereignty with scenario building activities as a way to enable transformational processes. Within this field of research, particular attention has been dedicated to the re-design of local food chains (Vasconcelos, 2008; Simeone, 2010).

Finally other research streams bring together investigations into Interaction Design and Information Design with studies of services. Among these we can mention research into the development of digital services (Pillan and Sancasani, 2003) or explorations on the role of visualisations to support change within complex systems (Ciuccarelli et al., 2008).

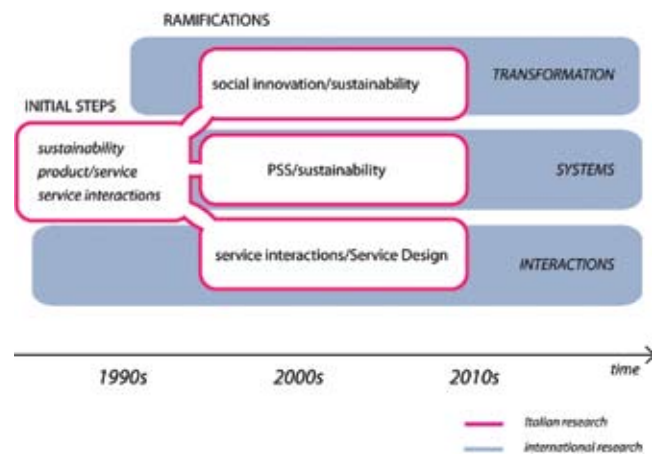
A FINAL PICTURE AND POSSIBLE NEW DIRECTIONS

The paper has so far provided an overview of research on Service Design as it developed in Milan since the ‘90s. Starting from the perception of Ezio Manzini of the necessity of applying design culture and skills to the field of services, a growing area of research has emerged. The authors of this paper have, in particular, suggested the development of three interrelated research themes: investigations into the nature of services and of Service Design as a field; investigations into Product Service Systems; and investigations into social innovation and sustainability.

Looking at how research and practice in Service Design has been developing in the international community, these three areas are representative of how the field is growing in general and what the main research questions are so far. In an attempt to map international Service Design research practice and needs, Sangiorgi (2009) observed how the initial focus on service interactions has been maintained. What has been gradually changing, she noticed, is the context and nature of the interactions that Service Design has been dealing with: from one-to-one to many-to-many interactions; from sequential to open-ended interactions; from within to amongst organisations. As the complexity of challenges and the objects of design have become larger, designers are starting to collaborate with a wider number of stakeholders and professions, but also to work ‘within’ service organisations and user communities to provide tools and modes to deal with change and complexity on a daily basis.

These changes have introduced two significant fields of investigation: one related to positioning service interactions within and among *systems* that requires deeper understanding of issues of complexity, reframing business models and networks; the other related to evaluating the role and impact of design into transformation processes both within companies (entering the discipline of organisational studies) or user communities (with a special concern for social innovation and sustainability). As we can see from the graph 1, these research areas can be easily connected with the three themes described in this paper.

As it is foreseeable from this overview, Service Design will grow by integrating more knowledge coming from parallel fields of service studies, but also by continuing to define and



Graph 1. Service Design Research map

clarify its specific contribution to the interdisciplinary community now starting to converge around the so-called ‘service science’ (Maglio and Spohrer, 2008). As far as the Italian contribution is concerned, a significant step forward in the recognition of its work has been the opening of a section, dedicated to Service Design projects, in the famous Compasso D’Oro design prize⁷, dedicated to Service Design projects. The authors hope that this is a sign for an opening up of the field to the wider Italian Design research community.

7) A dedicated thematic commission has been setup for the Compasso D’Oro on Service Design engaging also people from Politecnico di Milano (Giordana Ferri, Stefano Maffei, Beatrice Villari) and Domus Academy (Elena Pacenti).

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