Design X Connexity

EIGHTH
INTERNATIONAL CONFERENCE
of the
EUROPEAN ACADEMY OF DESIGN
Aberdeen · Scotland
April 2009

Conference Proceedings
Edited by Julian Malins

the european academy of design

THE ROBERT GORDON UNIVERSITY ABERDEEN

GRAY'S SCHOOL OF ART

Creativity and Innovation
European Year 2009

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Proceedings of the
EIGHTH EUROPEAN ACADEMY OF DESIGN INTERNATIONAL CONFERENCE
The Robert Gordon University, Scotland
1-3 April 2009

Published by
Gray's School of Art
The Robert Gordon University
Aberdeen, Scotland

Proceedings designed by
Graham Grant

Conference logo designed by
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ISBN 978-1-901085-97-6

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BUILDING UP A FRAMEWORK FOR SERVICE DESIGN RESEARCH

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ABSTRACT
This paper outlines the evolution of Service Design from its origin within Interaction Design to its current state of development, which is strongly affected by the growing complexity and collaborative nature of service projects and social demands. The paper aims to provide a platform to ground the current state of the discipline, to offer a critique of what has been achieved to date, and to outline the main research questions that could drive Service Design Research in the near future.

Keywords: Service Design, Service Design research

1 INTRODUCTION
While Service Design is now recognised in much of the design community and service-design related initiatives, events and research projects are growing in number, any attempt to precisely define what Service Design is and what it does are more difficult tasks. Design practice is quickly evolving - stretching the borders and questioning the underlying bases of this emerging specialisation. This paper stresses the importance of, and provides a first platform to start a reflection on, Service Design. We need to understand where Service Design comes from, where we have been in the last two decades and where we are now to better drive future research directions and make them meaningful to the current challenges design is dealing with.

Without any intent to be exhaustive, this paper outlines the evolution of Service Design from its original connection with the Interaction Design discipline and practice to its current state, which is strongly influenced by the growing of complexity and collaborative nature of service projects and society demands. The analogy between designing 'interactions' (user - device interface) and designing 'service interactions' or 'service encounters' (user – service interface) is at the core of Service Design's identity and practice. What has been gradually changing in the last decade 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 (Winhall, 2004); from within to amongst organisations. Buchanan (1994) talks about 'third order' and 'fourth order' design to represent this recent need to move where strategic decisions are made in order to be in a position to influence future directions.

While 'scaling up', Service Design is also 'reaching out' and 'deepening in'; this means that when both the complexity of challenges and the objects of design become larger, design needs to collaborate with a wider number of stakeholders and professions, but also to work 'within' service organisations and users communities to provide tools and modes to deal with change and complexity on a daily basis.

The following sections will briefly track this evolution, providing a platform to critique what has been achieved to date, and what are the main research questions that could drive Service Design Research in the near future.

2 DESIGNING SERVICE INTERACTIONS
As Richard Buchanan has asserted "design problems are 'indeterminate' and 'wicked' because design has no special subject matter of its own apart from what a designer conceives it to be" (Buchanan, 1992: 16). This means that the object and the practice of design depend more on what designers perceive design is, than from a stable definition elaborated by a scientific community.

Building on this lack of 'determination' Service Design emerged as a contribution to a changing context

and to what a certain group of informed thinkers (notably Morello, 1991; Hollins, 1991; Manzini, 1993; Erlhoff et al., 1997; Pacenti, 1998) started to perceive and describe as a new design agenda. In the '90s the growing economic role of the service sector in most of the developed economies was in a clear contrast to the practice and culture of design, which still focused on to the physical and tangible output of the traditional industrial sectors.

During this first decade Service Design research has been mainly dedicated to articulating and legitimating why design could and should work on services. Only with the introduction of the *Interaction Paradigm,* Service Design has started to build its own identity and legitimacy to work in this area. The Interaction Paradigm in Service Design refers to the set of concepts, values and tools that derive from the interpretation of services and of Service Design, starting from the area and the moments of interaction between the user and the supply system (Sangiorgi, 2004). This area and the moments of interaction have been referred to in different ways, such as: service interface, service encounters, touch-points, moments of truth, etc.

The perspective that looks at services from the interaction point of view, is different from the one that was trying to define services as 'products' (Mager, 2004; Hollins, 1991) and therefore as objects of a design process. Hollins and Mager, suggesting that services should be designed with the same attention to 'products' (see concept of 'total design'), place the focus on the process (design management), with less emphasis on the specificity of services and therefore of design contribution.

By contrast, the introduction of the interaction perspective has enabled a deeper understanding of the nature of services and of Service Design, opening up a *liaison* with the schools, research and methodology of Interaction Design. This perspective was proposed for the first time in the PhD research by Elena Pacenti (1998) who defined Service Design as the design of the area, ambit, and scene where the interactions between the service and the user take place. She made an analogy between the design of advanced interactive devices and the design of services, suggesting a shift from the interpretation of services as complex organisations to one of services as complex interfaces to the user. This contribution helped to position Service Design (focused on the service interface) between Service Management (focused on service organisation) and Service Marketing (focused on service offering and market).

The **Service Interface** is the tangible and visible part of a service that a user can experience, beyond the so-called 'line of visibility'. It is made up of people, products, information and environments that will support the user experience. Adopting a theatre metaphor, Service Designers are described as 'directors' that "manage the integrated and coherent project of all [these] elements that determine the quality of interaction" (Pacenti, 1998: 123). Livework (London-based service design studio) describes Service Design as the "design for experiences that reach people through many different touch-points, and that happen over time". *Service Design therefore iteratively moves from designing intangible experiences to designing the tangible elements that enable the desired experiences to occur in a coherent way.*

This correlation and analogy between Interaction Design and Service Design has been further developed both on a methodological and practical way. As Holmlid (2007) points out "the service perspectives become a challenge to interaction design, and technology usage becomes a challenge to service design". A set of design tools have been then adopted and adapted mainly from interaction design disciplines and practices, including such things as drama, scenarios, service interface analysis (Mager, 2004), storyboards, flow charts, storytelling (Shelley, 2006), use case (Morelli and Tollestrup, 2007), scripts, personas, role play, experience prototypes, etc. These tools and methods support the design practice and at the same time contribute to the visualisation and testing of the service experience and interface - from a general description to detailed implementation specifications.

It should also be recognised that, so far, little attention and research has been dedicated to evaluating what determines the quality of service interaction and how design contributes to this quality as well as to

its innovation. As Hoepy and Parker have said in "Journey to the interface" (2006) "being able to assess the quality of the experiences is as important as knowing the efficiency of the operations". In addition the so-called "service relationship" or "delivery" innovation (Green et al., 2001), which is where design mostly intervenes, is one of the most diffuse kind of innovation in the service sector. However, because of the *interactivity dimension of services,* which means that services are co-produced with users and are often highly bespoke or customised, innovations are often made 'on the fly' and are, therefore, difficult to reproduce and measure. For this reason, new modes to evaluate innovation, mixing quantitative with qualitative measures, are under investigation (http://www.innovationindex.org.uk). Service Design scientific and professional community should participate to this ongoing discussion: a new interpretative framework is required to depict and explore a new theory of service innovation that merges contemporary innovation theory (that is more focused on the process/product dichotomy) with the contributions and models of the user-design driven approach (Maffei et al., 2005).

3 SCALING UP AND REACHING OUT

The first evolutions of the interaction paradigm have focussed mainly on the acknowledgment that the design of service interactions cannot be separated from the overall service system and organisation; nor can it be separated from the user context. Service interactions do not occur in a vacuum, they are highly influenced by the specificity of the situation. In the same way Interaction Design has developed studies and theories to contextualise and locate interactions within wider systems and practices (Bødker, 2008), Service Design has explored the contextual and systemic dimension of services in different ways and adopted different theories in order to build conceptual models and theoretical frameworks that support designers. These models and frameworks enable the designer to observe, understand and visualise complex social systems of service organisations.

One research project has explored the application of Activity Theory to the analysis and design of services (Sangiorgi, 2004; Sangiorgi and Clark, 2004). In a similar way to Interaction Design (Kaptelinin and Nardi, 2006), Activity Theory has provided a framework to go beyond one-to-one (user-service interface) and sequential interaction models (service scripts) to include wider systems of action and interactions. In this framework, service encounters are described as mediated by the situated instrumental (service evidences) and social (people, rules and roles) conditions (the service interface), but are also located in the wider Activity Systems to which each service participant belongs. The benefit of this approach is that the encounters and potential conflicts among service participants can be better understood when their behaviour is situated within their wider context of action; the success of designing good services can be increased by synchronizing the perspectives, goals and existing practices of service participants.

The same concern about synchronising multiple perspectives in Service Design, appears when describing services as the result of a co-production among different stakeholders. Ramirez and Mannervick (2008) talk about the shift from the design of 'moments of truth' to the design of 'Value Systems', from 'Interaction Design' to 'Navigation and Enclave Design'. The main idea is to co-produce value for and with users and a wider system of actors, the so-called 'network of scope'. This approach is similar to the one proposed by the Product Service System (PSS) literature, when talking about Solution Oriented Partnerships (Jegou et al., 2004). PSS are described as the result of a "social construction, based on 'attraction forces' (such as goals, expected results and problem-solving criteria) that catalyse the participation of several partners" (Morelli, 2006: 2). In particular when "dealing with complex challenges of sustainable development, the designer can become a connector between multiple stakeholders, teasing out issues and finding common values" (Brass and Bowden, 2008).

The need for design to work on a systemic level has increased the number of tools generated with the scope of mapping out the potential system of actors, facilitating a conversation and co-designing and visualising possible and desirable scenarios. Tools such as the 'Activity System map' (Sangiorgi, 2004), the 'service ecology', the 'map of interaction' (Morelli, 2006), the 'system organisation map' or the 'motivation matrix' (Jegou et al., 2006) are part of these research studies.

4 DEEPENING IN

Service Design is also 'deepening in', meaning that, while scaling up the object of intervention, Service Design is also starting to work more closely with and within organisations and user communities. This seems to reflect a general shift in the perception of 'creativity' itself as no longer the province of a few specialisations, but as a capacity that permeates every part of modern life and draws upon the knowledge and skills present in every organisation (Cox, 2005). Working with and within service organisations and user communities generally aims at making people aware and able to use their existing creativity to deal with change and complexity and co-develop innovative solutions.

The European research project EMUDE has investigated this kind of creativity, identifying examples of 'social innovation' and exploring ways design could support and empower this emerging approach to sustainable solutions. Manzini talks about the need to develop 'enabling solutions, i.e. systems that provide cognitive, technical and organisational instruments so as to enable individuals and/or communities to achieve a result, using their skills and abilities to the best advantage and, at the same time, to regenerate the quality of living contexts, in which they happen to live' (Manzini, 2007: 6). A similar consideration was developed by the RED team at the Design Council (now Participle) as a reflection on pilot projects such as Activmob (Vanstone and Winhall, 2006); the co-developed service was actually a platform, with a set of rules and tools to 'enable' people to create their own way to keep themselves active and healthy. In a key paper RED talks about 'Transformation Design' (Burns et al., 2004) as a new discipline aiming at generating lasting changes in terms of their ability to change and spur innovation in communities and organisations for socially progressive ends. Dott07 initiative has been the consequent development of these researches, which worked with and within communities in the North East of England to explore new and more sustainable ways of carrying out familiar, daily-life activities. As for the other projects, the focus was on participatory approaches to design, using existing capacities, resources and relationships as inspiration and sources for design.

The call for 'creativity' is also particularly strong within the businesses and public sectors. The latest innovation studies on services highlight the need to create a permanent innovation culture within organisations. Instead of focusing on single innovation projects, leaders are called to focus on building innovation programmes (Tekes, 2008). On a professional level, this call has already had significant answers by service design studios such as Enginegroup with the design of a 'social innovation lab' for Kent County Council or as Thinkpublic that co-developed with staff from Birmingham North and East NHS Primary Care Trust a prototype for a 'Clinic to Go', a portable carry kit containing all the information required to set up a community clinic.

When the object of design becomes the way organisations conceive and redesign their own services, Service Design needs to become more familiar with the dynamics and issues of organisational change. Junginger (2007) suggests that if designers know about the different ways organisations change they will be able to reflect on their own design efforts: "the ability to assess their own work in the context of organizational change allows designers to take on ever more important roles within the organization". Considering a 'transformational change' as the one that deeply affects an organization's values and beliefs (Rousseau, 1995 cited in Junginger 2007), the main question is how and when Service Design does have a 'transformative' effect on service organisations and how this can be evaluated.

5 CONCLUSIONS

This paper has briefly described some of the main areas where Service Design is currently working on and that represent the main ambit of Service Design driven innovation (Sangiorgi and Pacenti, 2008). Although the number of initiatives and practitioners are starting to grow in this field, there remains a lack of theory. Furthermore, the development of the discipline seems to be mainly driven by and through a reflection on what practitioners do. This results in a strong emphasis on methodologies, with less focus on the development of foundational theoretical frameworks. As a result Service Design currently lacks a strong sense of research direction, which is reflected by the limited number of (academic) publications

in this area. Here, the author has provided an overview of the main areas in which Service Design is operating - which could be used as a basis for reflecting on where to develop research directions in Service Design.

The three areas of practice and investigation outlined above can be summarised as *Interactions*, *Complexity* and *Transformation*. In turn, these could correspond to three main research areas that warrant more detailed investigations:
1) **Interactions**: what is 'quality' in service interactions and how it can be designed and/or evaluated,
2) **Complexity**: what are the qualities and dynamics of 'systems' and what is the scale and mode of intervention of Service Design
3) **Transformation**: how and when Service Design has a 'transformative' impact on service organisations and user communities.

Service Design research is in its infancy. At this point in its development it has the opportunity and responsibility to 1) investigate the above areas 2) relate them to existing knowledge and experience developed in other similar Design Research areas such as Interaction Design, Participatory Design, Experience Design and System Design 3) explore these emerging areas in collaboration with other disciplines and theoretical frameworks that could support and enrich the practice and theory of Service Design, such as Behavioural Science, Organisational Theory, Innovation Studies, Science and Technology Studies, etc..

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