Framing Design for Inclusion Strategies for Service Design

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Abstract. This paper focuses on strategies for adopting design for services with a design for inclusion perspective according to categories about the relationship between service design and inclusive design. This paper reports a research through design work that the authors have undertaken to understand the reframe of the categories' taxonomy and to explore how designers can take advantage of the framework based on those categories. The main results are two strategies that focus on approaches to design processes that adopt the categories and facilitate the application of design for services from an inclusive perspective. Finally, the design of these two strategies were compared and implications on design for inclusion, service and policy design and service innovation were discussed.

Keywords: Design for inclusion · Service design · Inclusive service design

1 Introduction

We live in a society where the quality of the services plays a crucial role in our quality of life. The capacity of a service to include or exclude people from their use and their design processes also plays a key role in the systemic quality of our lives. "Everything that we have around us has been designed" - services and their design process included - and "the quality of that design effort therefore profoundly affects our quality of life" [1]. This is just a way to understand why we should spend resources and efforts designing services that take care of the quality of all people's life - nobody should be excluded. According to this perspective, designing inclusive services plays a crucial role to respect our diversity, needs and different ways of living along the course of life. However, as we discussed in our previous paper, it is still not clear how some of the service design principles that invoke the human-centred design perspectives guarantee a real inclusive approach in the whole design process [2]. The complexity of addressing these aspects of service design is more precise if we consider logical levels for working on a service from a design perspective. We refer to the logical framework that Morelli et al. [3] introduced to explore the "way designers need to use their capabilities at each logical level" i.e. "service as interaction", "service as infrastructure", "service as a systemic institution". From the perspective of this paper, the more complexity increases at the level of 'service

as a systemic institution' "in which broad cultural and social changes happen" by framing "value co-creation processes and their related support infrastructure" [3] the more the challenge for inclusion will be.

Also, as highlighted by the former Design Director of the UK Government, and founder of service design in the UK Government [4, 5] in the principles of "Good services" [6], inclusion is more than accessibility. Thinking about 'inclusion' in designing a service means thinking about the full spectrum of user needs. Indeed, in the eleventh principle among the fifteen to good service design, Downe discussed the value, the relevance and the necessity of considering the inclusion concept in service design by affirming that a "good service is usable by everyone, equally" [6]. Diversity in all its aspects is a resource for service design. Both from the perspective of the diverse human capacities and from the point of the variety of the project stakeholders, diversity can creatively help to find inclusive solutions in service design. "Lack of diversity in your team = lack of inclusion in your service" is what Downe affirms [6]. Similar concepts from service studies perspectives have also been introduced with the recently coined "service inclusion" paradigm [7]. As a new concept, it emphasizes the urgency in adopting this paradigm to make an egalitarian service system to customers in terms of providing "fair access to a service, fair treatment during a service and fair opportunity to exit a service" [7]. Following these premises, in previous work [2] we tried to understand how service design recognizes 'diversity' as a value and addresses whether practitioners are ready to be truly inclusive in using service design. In that work, we tried to outline a theoretical reflection based on the assumption that describes the identification of four categories (see below) for understanding how service design and inclusive design can establish relationships from a design for inclusion perspective. Consequently, this paper, based on the categories of our previous work, focuses on strategies for adopting design for services from a design for inclusion perspective.

1.1 Four Categories to Read the Relationship Between Service Design and Inclusive Design

This work starts from the assumption that allows identifying four categories for understanding how service design and inclusive design can establish a reasonable relationship i.e. "(i) inclusive service design; it means principles and methods of inclusive design, ergonomics and service design are used for designing services; (ii) design for inclusive services; it is the design for an inclusive design result that is an inclusive service rather than focusing on the methods and the theoretical framework of the design process; (iii) service design for inclusion (or service design for all); it means using service design for democratizing design or at least democratizing service design as a strategic tool for inclusion; (iv) inclusive design for service design; it is the inclusive process of designing services through the inclusive design field of knowledge; in this case, the inclusive design attitude, praxis, approach and methods are used to design services" [2].

These categories can establish a theoretical framework for understanding both relationships between service design and inclusive approaches for designing services, and some basic knowledge for service design approaches with a holistic and widely inclusive perspective. It is worth mentioning that no relevant literature was found for category two. In summary, according to the results of the previous work the first category can be

described with the 'inclusive service design' approach as defined by Aceves-Gonzalez [8, 9] and with other design approaches that address the need for service design to provide a more inclusive approach for including potentially excluded users and taking into consideration the diversity as a value in the design process.

The third category described as 'service design for inclusion' finds tangibility in those works that consider the contemporary service design discipline as a collaborative and inclusive practice; and from those perspectives that considers services and service design as a tool to alleviate social issues.

The fourth category i.e. 'inclusive design for service design' is represented by those works that apply where a design for inclusion attitude is adopted to contemplate more inclusive services. This is the case where the approaches known as 'inclusive design', 'design for all', 'universal design' are applied for designing services with inclusive features and values.

In discussing these categories, we also underlined the need to deeper understand the term 'inclusion' in/for/through service design where economic, cultural, political, social and physical aspects need to be considered to adopt a fully inclusive perspective.

2 Methodological Approach

This paper reports a research through design (RtD) work that the authors have undertaken to understand the reframe of the categories' taxonomy and to explore how designers can take advantage of the framework based on those categories.

RtD has been considered as a category of design research [10], or also as a "research through practitioner action" [11]. RtD is a "research that recognises its source in design, and which uses the insights and understandings of design in its pursuit" [12]; a kind of research that "denotes the genuine designerly process of knowledge generation" [13]. We considered this designerly process as a "designerly ways of knowing" [14]. Therefore, according to this work aim, new knowledge has been searched through designing strategies for applying the discussed categories. In detail, we designed two different strategies that can represent different ways of applying the categories from a design thinking perspective. Consequently, the design of the two strategies has been critically analysed. Reflections, critical observations and comparisons among the two strategies offered new perspectives for discussing the application of the category from a design perspective.

3 Results

The main results are two strategies that focus on approaches to design processes that adopt the three categories and facilitate the application of design for services from an inclusive perspective. As a precondition of the two strategies, we considered that each category has a proper knowledge background, and a set of processes, instruments, tools, methods, techniques related to specific design disciplines and approaches. Definitively, each category presents some difference from a design culture perspective. As resumed in

Table 1, each category is mapped according to the main knowledge involved in designing and their backgrounds[1].

Table 1. Mapping the main design knowledge field and their backgrounds for each category.

Categories	Main field of design knowledge	Background
Inclusive service design (category n. 1)	Ergonomics Inclusive design Service design	Ergonomics in design; User centred-design; Design for all; Universal design; Product design; User experience; Interaction design; Design thinking
Service design for inclusion (category n. 3)	Service design Strategic design Participatory design	Design for inclusion; Design management; Strategic design; Systemic design; Design for social innovation; Design for policy; User experience; Design thinking
Inclusive design for service design (category n. 4)	Inclusive design	Design for diversity; Design for disabilities; Design for all; Universal design; Product design; User experience; Ergonomics in design; User centred-design

Also, the two strategies exhibit some differences according to common reference points (Table 2) i.e. (i) the cognitive or thinking style in approaching the categories; (ii) the expected reasoning to enter one of the two strategies; (iii) the design approach to relate the involved design disciplines in each category and the subject of the design; (iv) the design process that can result in adopting the categories with different cognitive style and design approach. The two strategies are detailed presented in the following paragraphs.

Table 2. The two design strategies compared with common indicators.

Strategy	Thinking style	Expected reasoning	Design approach	Design process
First	Holistic	Abductive	Inquiry-driven/context-driven	Innovative and unique
Second	Analytic	Deductive/inductive	Discipline-driven	Consolidated and previously experimented

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[1] We did not mention 'human-centred design' as a domain of knowledge because we are in the area of human-centred design as a transversal approach for each category.

3.1 The First Strategy

This strategy considers the categories as a set of knowledge for applying a design for inclusion perspective in designing about, through, and for services. This strategy considers a holistic approach in gaining the best contribution from each category according to (i) the variables of the context; (ii) the attitudes of the service system actors; (iii) the kind of service and innovation that need to be designed. This highlights the fact that this strategy does not describe a set of rules or a universal method for designing inclusive services. However, it takes from the categories the best from the service system actors' perspective for designing according to the context. It means this strategy is subjectively context-driven and it respects an inquiry-driven approach [15, 16]. Where for 'subjectively' we mean that how the context will drive the design process depends on the service system actors. Different actors can design a different process in the same context. This strategy does not consider the predominance of a category and takes the best advantage as possible of every instrument offered from the different categories. Innovative design processes can emerge from this strategy because the holistic thinking style in approaching the categories and the context-driven approach can favour open innovation processes for designing (Fig. 1).
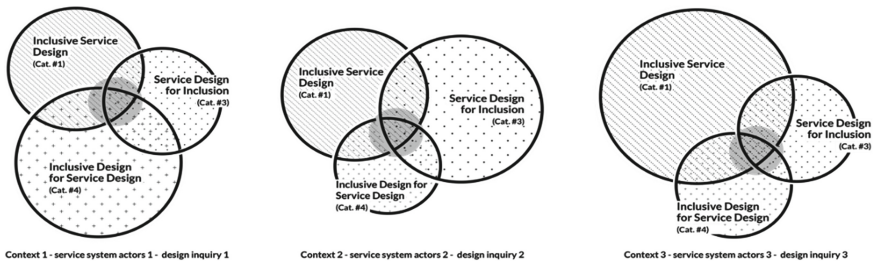

Fig. 1. Examples of how the first strategy can work according to different contexts, attitudes of the service system actors, and of design output. Different dimensions of the circles suggest a major or minor contribution of a category according to the context variables.

3.2 The Second Strategy

The second strategy considers the categories as gates for entering in the process of designing inclusive services. Designers and different stakeholders enter the design process from the category that better represents their backgrounds and follow their comfortable path based on their attitudes. Simultaneously, they can be influenced by the other categories' variables and apply the resultants to the whole design process. In this case, categories embed in their field of design knowledge the instruments from the other fields of knowledge without distorting or reinventing the design process.

According to this strategy, the categories work as gates where designers and stakeholders feel comfortable entering the process according to their background. Therefore, they naturally enter from a gate/category to address the design process. Then, they will

follow the design approaches and methods of the predominant design discipline that distinguishes the category. Finally, they will produce a design output that better represents the background and the primary design discipline of the category used as a gate. This strategy highlights that design approaches, processes and methods applied for designing in a specific context are the same as the main category that works like a gate (Fig. 2).
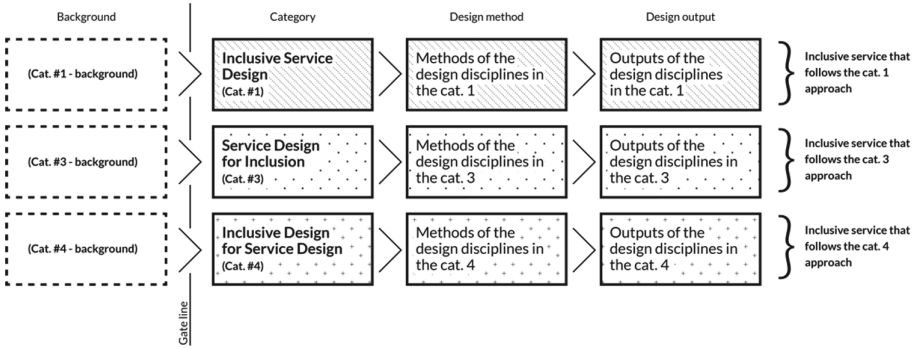

Fig. 2. Representation of the second strategy.

It means the context does not significantly influence this strategy from a design process perspective. It is best described as a discipline-driven [15, 16] strategy. For 'discipline' we refer to the specific design disciplines that are mainly involved in the category that works as a gate for entering the process.

4 Discussion and Conclusion

Finally, we can compare the design of these two strategies by highlighting possible advantages and disadvantages, theoretical and practical implications about the predetermined categories, as well as the main requirements for the application of each one. As advantages, the first strategy presents the potential to address innovative and unique design processes that can produce innovative designs and inclusive solutions. At the same time, this feature can be dramatically disadvantageous if the people involved in the design process are not guided by persons with strong skills in driving and facilitating these kinds of context-driven or inquiry-driven processes. Therefore, one of the requirements for applying the first strategy may be the involvement of human resources with competencies to apply a transdisciplinary design approach and the provision of tools, methods, guidelines, and a common language to use the categories. The scalability and replicability of the design process can be considered a critical point in applying this strategy. According to the RtD work reflection, the design process is unique and quite challenging to universalize due to the inquiry-driven approach. In general terms, the inquiry-driven approach can increase the complexity of the application of the strategy. As general implications from a theoretical perspective for designing, defining a set of design knowledge for each category is required for both the designed strategies. However, for the first strategy constructing a transdisciplinary theoretical framework

for supporting the design process can be strongly required for holistically applying the design process. As one of the main practical implications for the first strategy, we can consider the need for time and resources to design the processes, strategies and tactics to manage all the possible activities in the whole design process.

As advantages of the second strategy, we can consider the discipline-driven approach to facilitate the strategy's replicability in multiple contexts. Simultaneously, this approach can require specific design experts according to the design disciplines involved in the process. From a contemporary design perspective and considering the debate on the concept of 'design experts' [17], this kind of requirement should be the subject of strong reflections and additional discussions to understand if it is still appropriate for this kind of design strategies. One of the leading and potential disadvantages of the second strategy is that the design process may result in being rigid and not innovative due to the discipline-driven approach. Consequently, this kind of design processes can force the context to respect the design discipline rules rather than the requirements of the contexts - such as the system actors' needs. One of the theoretical implications for designing through the second strategy, we can observe the need for defining each category as a multidisciplinary or cross-disciplinary set of knowledge for fully supporting the design process. This may also highlight practical implications in structuring the design process with predefined design tools and methods that do not fit people involved in the design process. This is also linked with one of the main requirements for adopting the second strategy i.e. the necessity in pre-defining in advance which category is the best choice for the kind of the expected design results and thus for entering the design process. This decision-making process may exclude someone from the design process or create contrasts among experts in different design disciplines or between experts and not experts in design in front of the same design objective.

4.1 The Categories Taxonomy

No significant changes are needed to the categories taxonomy for the classification previously identified as the first category i.e. 'inclusive service design', the third category i.e. 'service design for inclusion', and the fourth category i.e. 'inclusive design for service design'. Also, we can mention that observing the two designed strategies, from a design perspective, the fourth category - 'inclusive design for service design' - may overlap with the first one creating confusions and methodological contrasts. More research is needed for this category. At the same time, from a mere design perspective, this fourth category recalls the attention on considering not only 'inclusive design' for service design but also 'design for all' and 'universal design' for service design. This is why reconsidering the second category may simplify this aspect in understanding 'inclusive design', 'design for all' and 'universal design' as synonyms under the same umbrella that can be 'design for inclusion'. And this finds the expression 'design for inclusive services' when we relate 'design for inclusion' and 'service design'. Finally, perhaps an additional taxonomy is needed in future steps. It is the "design for service inclusion" category by following the concept of the "service inclusion" paradigm [7].

4.2 Implications and Conclusion

This paper presented strategies that may contribute to the design for inclusion in designing for services, policies through services, or services for systems and policies. This is also the reason why we try to discuss implications of this work on the (i) design for inclusion field of knowledge; (ii) the service and policy design disciplines; (iii) and the area of service innovation.

Firstly, the design of the two strategies highlighted that at the level of service design (and beyond such as policies and systems), it could be challenging to create a net edge among design for all, inclusive design and universal design. A more practical approach in considering these approaches for designing inclusive services, or processes in service design is to consider these three consolidated approaches as a comprehensive background for applying the concept of inclusion in all its form and paradigm into the design process. Once again, the term "design for inclusion" may help, especially when the content to be designed is a service, a policy or a system.

Simultaneously, both service design and design for policy can take advantage of the strategies we presented in this paper in terms of simplifying how to consider a design for inclusion perspective in their future consolidated or experimental design activities. We argue, both these two design disciplines need to consider the two presented strategies for embedding new design processes, methods and tools to adopt a more inclusive attitude in designing services and policies. Consequently, these practices may also influence new design research strategies for considering design for inclusion as a constant feature for the innovation of services and policies. In the near future, it is likely to affirm that a service and a policy are innovative if they are inclusive, sustainable and democratic for all the different stakeholders, beneficiaries and involved actors.

Also, in the last decades, service design received attention from practitioners and researchers interested in linking design thinking attitudes in policy design (cf. [18]). Less attention has been received to the field of design for inclusion (design for all, universal design and inclusive design) in design for policy. Therefore, this work contributes to the discussion on design for policy by proposing strategies that can embed design thinking and design for inclusion in the policy design process.

Finally, from a service design capability perspective, these strategies are also useful for addressing a design for inclusion attitude at the level of 'service as a systemic institution' [3]. As emphasized above, at this logic level, broad cultural and social changes can happen through design. This is particularly crucial for the relationship between service design and design for inclusion. Indeed, applying a really inclusive attitude through design for inclusion perspective at this logical level can really influence broad aspects of society with significant social impacts.

More research is needed also to address the limitations of this work that are related to the lack of cases and practical experimentation to support the two designed strategies.

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