

TACKLING SOCIETAL CHALLENGES REQUIRES IMPROVED DESIGN METHODOLOGY

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Abstract

In recent decades human-centred design (HCD) has become a dominant methodology in all design disciplines. HCD's core idea is to study a situation and its problems from the end-user's point of view. In parallel, design has turned from traditional products and graphics to new subject matters, mostly intangible ones, such as services, systems and policies. Within one of the emerging fields, social design, researchers and practitioners are focussing on tackling complex societal challenges. Approaching new terrains has mainly been based on the assumptions of design as a creative problem-solving activity and of design as providing solutions which fit user needs in ways that are attractive and meaningful to users. The new design field may cause new and unexpected challenges to practise and therefore its methodological framework might require enhancement. But the development and analysis of design methodologies for new design subject matters is still very thin.

The aim of this paper is to initiate a critical discussion of the methodologies for a new design subject matter, namely societal challenges. The paper discusses approaches to using HCD methodology in social design to tackle wicked social problems. Through analysing HCD tools and methods in the social design context, I propose a new outline for social design methodology. The proposed new methodological framework stresses the need to study the complex character of societal challenges, to decentralise the human subject and to focus on the needs of communities and even those of the whole society.

The paper has three parts: 1) the developments of the design discipline's subject matters are described as a way to understand context, 2) a brief overview of human-centred design is given to dissect the nature of contemporary common design methodology, and 3) the appropriateness of HCD methodology for contemporary design issues is discussed, and a way in which the methodology could be re-conceptualised and developed is presented for further discussion.

Keywords: Social design, design methodology and human-centred design

Content and territories

Design's development has been discussed thoroughly and through different approaches for some time. This has led to thousands of definitions, which gives design a pluralistic and diverse nature. Design theory should systematise the descriptions and lay the foundation for explaining its phenomena and pluralism. One of the popular ways to frame design is through ladders or staircases with four steps. These staircases differ from each other in terms of aims and areas of use, but the current paper focusses on several common features.

In 2003 the Danish Design Centre introduced a tool called Design Ladder, which was created to measure the use of design in enterprises and it has been exploited as an evaluation model in several researches and in counselling companies on design issues (Design Wales, 2011, pp. 2-4). Subsequently this ladder was elaborated to map the use of design management (Kootstra & Wolf, 2007, p. 21) and to evaluate governmental design policies (McNabola et al., 2013, p. 8). The ladder has four steps, in which the first one describes the situation where design is consciously not used (no design), in the second design is only relevant in terms of style (Design as Styling), in the third designers are involved throughout the development process (Design as Process), and in the fourth, the highest level, there are companies who involve designers in strategy building (Design as Strategy).

Comparing these steps of the Danish Design ladder with design's historical perspective shows that design has developed step by step to the next level over time. Several discussions of design date the birth of design as concurrent with the beginning of mass production during the Industrial Revolution. This approach enables us to look at the first step of the ladder as the period before the Industrial Revolution. From the point of view of design's development, the Arts and Crafts movement focussed on styling and decorating, and therefore fits well within the second level. Design education and Bauhaus followed the principle "form follows function", and this focused design's attention on the functionality of products and graphics, as well as on material, form and mode of production. This progress led designers to the product development process and in this way the third step was reached.

The route to the fourth level demonstrates not only the economy becoming more knowledge intensive, but the whole of society being in the midst of a difficult period of transition. All of the big issues – globalisation, the productivity imperative, demographic change, the almost total reliance on technology, and the impact of climate change – are all shaping legislation, lifestyle and consumer choices. In the rising pressures of complex social issues, and the increasing scarcity of environmental resources, societies need to find more sustainable ways to organise and increase prosperity (Bason, 2010, p. 10-11; Conway & Murphy, 2011, p. 3; Heapy, 2012, p. 3). All of this has implications for the design of services and organisations and can be seen as the fourth step of the Design Ladder.

The Danish Design Centre isn't the first or the only organisation which has developed a four-stage

ladder type model to analyse design. In 1971 J. Christopher Jones presented a version which divided design into components, products, systems and communities (as cited in Tan 2012, p. 16). Similarly, Richard Buchanan's design has four orders: symbol, thing, action and thought (Buchanan, 2001a, p. 10-12). Buchanan's fourth order is more concerned with exploring the role of design in sustaining, developing and integrating human beings into broader ecological and cultural environments, shaping these environments when possible and desirable, or adapting to them when necessary (Buchanan, 1992, pp. 10). Jones concentrated on developing the model to analyse existing methods and to create new ones. Buchanan's aim was to initiate a re-conceiving of the nature of design.

G.K. VanPatter and Elizabeth Pastor analysed the fast changes within the design environment and the impact of these on design's development. They presented a model with three levels as a dialogue tool at the AIGA conference in 2005. The stages of this framework, or NextDesign Geographies as the authors called them, were: Design 1.0 Artifacts and Communications (traditional design), Design 2.0 Products and Services, and Design 3.0 Organizational Transformation (bounded by business or strategy) (Jones, 2009, pp. 3-4). In 2009 the fourth level, D4 – Social Transformation Design, was added. In essence, step-by-step the scale becomes more and more complicated in an effort to describe design's new challenges and perspectives (Jones, 2009, p. 7). Examining all these models side by side, it becomes evident that the lower levels tend to be more traditional design disciplines, and at the higher levels the issues become more complex and more immaterial (Figure 1).

All of the above models argue that design, whether seen as the “conception”, “discussion” and “planning” of material, or non-material objects, activities, systems, environments and services, is potentially applicable “to any area of human experience” and that it is a ubiquitous activity that is embedded in all aspects of our lives at every level of scale (Buchanan, 1992, p. 14; Kossoff, 2011b, p. 208). Herbert Simon's (1996, p. 111) famous definition of design, which states that everyone designs who devises courses of action aimed at changing existing situations into preferred ones, is based on the same assumption. Binder and Redström (2006, p. 2) describe two characteristics that should be taken into account according to Simon's approach. Firstly, design must be directed towards solving societal problems, where solutions are conditioned by the constraints provided by other problems and solutions and the available resources. Secondly, the artificial outcomes of design interface with social and natural systems according to intentions and goals, i.e. they are essentially man-made (Binder and Redström, 2006, p. 2).

The main difference in these four-stage models is in the descriptions of the different levels. The main interest of this paper is the fourth level, which in different models is variously called Design as Strategy; Complex systems or environments for living, working, playing, and learning; Social Transformation Design; Communities; or Policy for strategic design. The Danish “Design as Strategy” fits well with the terminology used by the Finnish SITRA Helsinki Design Lab (HDL). Their “strategic design” seeks to create new design tools to better shape decisions and ultimately deliver improved outcomes. By

developing strategic design, the HDL team hoped to advance society's ability to cope with complex issues, such as climate change and demographic shifts, by developing tools to assist institutions to better conceptualize and respond to "wicked" challenges. They pursued strategic design as a way to frame challenges, define opportunities and steward their implementation (Boyer, Cook, & Steinberg, 2011, p. 20).

Similarly, Design Council's former RED team applied design in new contexts to transform the ways in which the public interacts with systems, services, organisations and policies, but they called this approach "Transformation Design" (Burns, Cottam, Vanstone, & Winhall, 2006, p. 6). RED was a small inter-disciplinary team with a track record in design led by innovation in public services and running projects focused on illness prevention, managing chronic illnesses, reducing energy use at home, strengthening citizenship, reducing criminal recidivism, and improving learning at school (Burns et al., 2006, p. 2). NextDesign Leadership Institute's "Social Transformation Design" aims to frame the challenges and opportunities of unframed spaces. In several interviews, VanPatter, one of the leaders and founders of the NextDesign Leadership Institute, has highlighted the fact that they advocate and model a much broader interpretation of what is possible for design beyond Design 1 and 2, and their focus has been on "how" rather than on "what" to achieve (McHardy, 2008; Raduma, 2011).

How

In parallel with the developments in design's new subject matters or conquering new territories, it is possible to observe the development of the methodology for design, not "what" but "how" to design. In his doctoral thesis, Segelström (2013, pp. 3-15) describes the developments of both what and how, and stresses that these two have come and gone as the main focus of research on design practice, but have always been interconnected. He explains that introducing a new design subject matter may also introduce new challenges for practice. Whether the existing methodologies for design are appropriate for the wicked problems¹ and extreme complexity of societal challenges² needs to be examined, and there is a need for a closer look at the human-centred design approach.

Characteristic of the Arts and Crafts movement is author-centredness as self-expression (Hugentobler, Jonas, & Rahe, 2004; Young, 2008). There have actually been very few signature designers, and this is still true. The impact of stylisation and the author-centred approach to design was minor

¹ The phrase "wicked problem" is used here as described by Rittel and Webber (1984) and means a complex situation that cannot be tackled by classic scientific methods. The process of solving a wicked problem is identical to the process of understanding its nature, and stating that the problem is a problem. In design theories, the terms "fuzzy" and "ill-defined" are also used.

² The phrase "societal challenges" is used here to stand for large-scale critical problems, such as climate change, demographic shift and global poverty, which have several root causes, and are interconnected and systemic in nature.

compared to mass-production companies' business indicators, and that is why the focus shifted to production-centred methodology.

As production outputs rose, the need to increase sales also increased and this brought marketing to the forefront (market-pull) and put clients' needs at centre stage in product development (the customer-centred approach). This balanced the developments pushed by technology and confronted the risks of developing solutions which people could not or did not want to use. The movement from "customer-centred", which focuses on meeting customer expectations, to "user-centred", which champions the interests of end-users (Burns et al., 2006, p. 18), and on to "human-centred" was an incremental development. Similar developments in methodology took place in human-computer interaction design, which mainly regarded design as communication between humans and computers, but was seen more widely as focusing on how human beings relate to other human beings through the mediating influence of products (Buchanan, 2001a, p. 11). Buchanan (2001a) describes these products as more than physical objects, i.e. as experiences or activities or services, all of which are integrated into a new understanding of what a product is or could be.

The two terms "human-centred design" (HCD) and "user-centred design" (UCD) have a lot in common and are used in similar ways in a great deal of design literature and in many projects. Several researchers see HCD as a more inclusive methodology than UCD; for example, Lee (2012, p. 15) states that while human-centred design suggests a concern for people generally, user-centred design suggests a concern only for people in their roles as users.

Sanders and Stappes (2008, p. 6) describe the development by indicating that, in the past, manufacturing industries were characterized as being either manufacturing-driven or, more recently, technology-driven, and the attention shift to "user experience" is in part motivated by stagnation in the technology push. It has grown extremely complicated to compete in technical quality and price, and companies have been forced to look beyond products to users and their contexts. For example, auto manufacturers have become aware that car-driving experience is now of primary concern to customers (Sanders and Stappes, 2008, p. 6).

The new design paradigms do not necessarily replace each other as they emerge. Unlike in traditional science, paradigms within design and the various operational states of design exist simultaneously (Jones, 2009, p. 3). Researching customers and users doesn't mean *ex parte* specifics of materials or production technologies, but the range of designers' work has broadened. For example, even now there is an urgent need for engineering designers to develop products by optimising production processes.

HCD

Although it is easy to agree with Buchanan that design has been human-centred throughout its

history as products, services and environments have been created for people to use (Buchanan, 2004, p. 34), it is important to acknowledge the historical development of human-centred design methodology. HCD methodology can be traced back to Henry Dreyfuss's autobiographical *Design for People* (2003) in the mid-1950s. Krippendorff (2000, p. 59) claims that HCD as a methodology came into wide practice within the paradigm shift from products to goods. Krippendorff distinguishes clearly between human-centred design, which is concerned for how individuals see, interpret and live with artefacts, and object-centred design, which ignores human qualities in favour of objective criteria (e.g. functionality, costs, effort, durability and even formal aesthetics), all measurable without human involvement (Krippendorff, 2000, p. 59).

Today the paradigm of HCD is well shaped: it has established a theoretical base and it is widely used in design practise. It even has its own standards—ISO 9241-211 defines “usability” and ISO 9241-210 describes HCD's principles (International Organization for Standardization, 2010)—and the European Commission has a policy of enhancing user-centred design exploitation in fostering innovation (Commission of the European Communities, 2009; European Design Leadership Board, 2012).

One of the most interesting definitions of HCD, which sees HCD as more than just putting the individual at the centre of the development process, has been provided by Buchanan (2001b, p. 37):

“Human-centered design is fundamentally an affirmation of human dignity. It is an ongoing search for what can be done to support and strengthen the dignity of human beings as they act out their lives in varied social, economic, political, and cultural circumstances.”

At its core, HCD sees users as experts of their own experience in order to enrich the development process with user knowledge and in co-designing with their ideas. One of the main HCD principles is that the methodology should be followed throughout the whole process, from front-end research and context mapping to the tests of final prototypes and solutions. Steen (2012, p. 75) asserts that the key assumption in HCD is that HCD practitioners should be *open to others*, so that they can jointly learn and create: they should be open to users and their experiences, as well as to co-workers and their backgrounds. This assumption is the central reason why the public sector is implementing service design to replace bureaucracy- and official-centred service and policy developments.

Putting people at the centre of the development process has forced design practitioners to turn to the methods of other fields, including sociology and anthropology. Lee (2012, p. 17) points out that in the 1980s and 1990s, as the complexity of user context and the situated actions of users were recognized, the technology and design industries started to hire ethnographers, and user researchers went out into the field. In doing so, human-centred design began to understand users by locating them within their social, cultural and physical contexts, and this process led to the adoption of ethnography in design and the development of design-specific “ethnographic” methods (Lee 2012, p. 17). For example, co-design

methods were developed with the aim not only of understanding users but also of engaging them in the development of new solutions, in this way making proposals more acceptable and attractive. Sanders (2002, p. 1) defines this development as a shift in attitude from designing for users to designing with users. Co-design and collective creativity methods have become critical, while the role of design has been expanded to include social problems.

Several initiatives around the world are implementing HCD methodology to address complex societal challenges. Bason (2010, p. 40) describes how the *La 27e Région* innovation unit in France, Kent County's Social Innovation Lab (SILK) in the UK and MindLab in Denmark are combining ethnographic research and design approaches to explore interactions between citizens and public services, and to identify how social outcomes can be created more effectively.

A Danish cross-governmental innovation unit, MindLab, involves citizens and businesses in creating new solutions for society. Bason and Carstensen (2012, pp. 2-17) explain that MindLab's methodologies are firmly anchored in design thinking, qualitative research and policy development, with the aim of capturing the subjective reality experienced by both citizens and businesses in the development of new solutions. MindLab's work with civil servants in the three parent ministries—the Ministry of Business & Growth, the Ministry of Taxation and the Ministry of Employment—has helped to bring ethnography and design to the heart of the Danish government's policy making and service design. The physical workshop space utilised by MindLab inspires creativity in the collaboration sessions.

The Design Council's former RED team was concerned that many of today's more complex problems had arisen because the latent needs and aspirations of "end users" – those individuals who would receive the benefit of a given service or system – were not being met by the current offers (Burns et al., 2006, p. 18). They argued that a user-centred approach demanded significant rethinking of offers or services in order to place the user at the centre, and that this demanded the ability to look at a problem from a perspective that might be fundamentally different from that of the business-owner or service-provider. RED harnessed the creativity of users and front-line workers to co-create new public services that better addressed these complex problems (Burns et al., 2006, p. 2).

Questioning the HCD

Whilst a few authors (Jones, 2009; Sanders & Stappers, 2008; Segelström, 2013) have started to question HCD's appropriateness for addressing the scale and the complexity of the challenges we currently face, a wider discussion has not yet been initiated. For example, Sanders and Stappers (2008, p. 6) say that although the HCD approach has proved to be the most useful in the design and development of consumer products, tackling the current challenges is not compatible with designing products for users. Today the focus is on designing for the future experiences of people, communities and cultures who now

are connected and informed in ways that were unimaginable even 10 years ago (Sanders and Stappers 2008, p. 6). Manzini (2009, p. 7) argues that in the transition towards a network and knowledge society, design processes tend to be increasingly distributed between numerous actors differing in culture, motivation and professional development. He claims that in these conditions, where too many subjects are involved, traditional design knowledge, accumulated in the implicit knowledge of professional designers, is no longer enough (Manzini 2009, p. 7).

In an interview with Peter Jones (2009), G.K. vanPatter points out that the challenges organisations and communities face cannot be solved by creating more products, services, or related experiences, however human-centred they might be. He stresses that if one is trained to tackle poster-sized framed challenges, it is likely that new skills and tools are required to tackle highly complex fuzzy challenges, such as organisational transformation and world peace (Jones, 2009). Kuijer and De Jong (2011, p. 221) argue that although sustainable design researchers and practitioners are developing novel approaches to influence consumption, it turns out that the outcomes of these approaches in terms of their actual effects on sustainability are not quite what was desired. The gained efficiency is counteracted by increases in consumption. They claim that behaviour-oriented methods lead to difficulties in accounting for changes in behaviour or social context, as these methods tend to focus on single product-user interactions and specific moments in time, while in reality design interventions end up in complex social environments that constantly evolve (Kuijer and De Jong, 2011, p. 221). Crucially, Sanders and Stappers (2008, p. 6) point to the paradox of how, in many parts of the world, the needs that capitalism has worked so hard to meet have been met and so new needs are now being invented; at the same time, in other parts of the world, basic human needs are not being met. In their studies, they have found that people want a balance between passive consumption and the active choice of creative experiences. They have found that for culture to shift away from consumerism toward the consumptive/creative balance that people seek will still take years, but the renewed interest in sustainable practices is helping to fuel that fire (Sanders and Stappers, 2008, p. 6). Likewise, Segelström (2013, p. 27) indicates the need for a wider nomenclature than usual in the user- or human-centred tradition. Besides the users and customers, all the people involved, including employees and sub-contractors, should be taken into account. As there are also non-human actors to consider in the form of organisations and governing laws and rules, nomenclature should encompass all of these aspects. In his doctoral thesis, he proposes “stakeholder-centred design” as the most fitting terminology (Segelström 2013, p. 27).

How to move on?

The discussion as to how to move beyond HCD is acute, as the challenges that we face are growing in size and complexity; the risks these pose to society, the environment and the economy are unpredictable. As the comparison of design ladders at the beginning of the article shows, design is construed by several

authors as a discipline that can address these challenges, and the case studies referred to in this article illustrate how some design teams have started to put this into practice. The analysis of this demonstrates that a suitable methodological framework for the design ladders' fourth-level issues does not yet exist. There are some authors (e.g. Jones, 2009 and Kossoff, 2011: 252) who have argued that design needs a framework and tools which are specifically tailored to the transition to a sustainable society, a framework through which it can help to address the very wide range of urgent social, cultural, political, ecological, existential and economic problems. This kind of methodology requires a diffused designing capability and design knowledge that is able to help individuals, communities, institutions and companies to design feasible, sustainable solutions in the social and operational framework of a network and knowledge society (Manzini, 2009, p. 7). I argue that the new methodology should be built on and incorporate the knowledge and experience of human-centred design, but the human subject should be decentralised in the designing process and should be replaced by the distributed needs of communities and even whole societies. It is not enough to change the individual habits; effective responses to these challenges must encourage new norms of behaviour within society. Societal challenges are complex and need to be fundamentally studied in order to determine ways of changing direction. Though the HCD methods help to engage and attract individual community members, society consists of people with different needs, abilities and cultural backgrounds, and their personal interests and needs are often conflicting. The wicked nature of societal problems affects us all in one way or another and therefore requires collective action. As the academic literature of this topic is so far very thin and as practice is still emerging, I propose five main principles for further discussion.

Fuzzy front end³ and the absence of complete information

To understand the nature of the wicked problems facing our society, the attention of designers and design researchers should first of all focus on framing the challenge. G.K. vanPatter (Jones 2009 p. 6-10) sees the fuzzy front end, an area far upstream from traditional briefs which describe and define the problem, as the most significant sphere for innovation and change initiatives, both for organisations and societies. Tonkinwise (2014) warns against using static metrics for this kind of work because the indicators will change with each phase of the transition. It is important to be able to give people a clear sense of where they are, of where they were before and in which direction they are heading: this is a method of finding one's way essential to multi-level multi-phase structural change (Tonkinwise, 2014). Design has always been directed to the future, but structural changes take more time than traditional product development. For example, the design of a new community hospital may be completed eight to ten years before the hospital itself is opened, according to Sanders and Stappers (2008, p. 12), but nobody knows what the technology will be in ten years or what the needs of patients will be. SITRA's Helsinki Design

³ The phrase "fuzzy front end" refers here to a pre-design phase, where the understanding of the subject matter is vague and chaotic. The aim of this phase is to explore the nature of the issue and define the opportunities for further development.

Lab (Boyer et al., 2011, p. 21) also stresses that analysing existing options may not provide the insights needed to respond successfully because the challenge is one that has not been dealt with before and the facts do not yet exist. They claim that increasingly societies are operating “pre-factually” (Boyer et al., 2011, p. 2). Sanders and Stappers (2008, p. 13) foresee the landscapes of design and design research continuously changing as design and research blur together, providing new opportunities for designers and researchers at the front end.

Complexity of Context

Understanding the complexity of context is the second key to opening up sustainable, socially responsible opportunities. A framework must enable us to understand social, ecological, political, economic and cultural problems and their relationship to each other, and to connect and integrate the solutions to these problems (Kossoff, 2011b, p. 274). Jones (1977) long ago searched for an approach which should suit not only users, but also the world in such a way that new designs fit people and their circumstances (as cited in Young, 2008, p. 43). Kossoff (2011b, p. 274-275) states that as problems are involved in webs of mutual causality, the solutions to such problems must similarly be connected, integrated and woven together to form mutually beneficial, synergistic relationships. He concludes that in isolation problems are less likely to be understood and solutions less likely to flourish. Kossoff (2011b, p. 275) also argues that although such problems and their solutions occur at multiple levels of spatial and temporal scales, the way in which problems and solutions tend to be conceptualised does not take into account the factor of scale. And he proposes:

“When multiple solutions are brought to bear on a particular level of scale of our concrete lived experience, then it begins to become possible to visualize and realize integrated sustainable social forms and new ways of living. It becomes correspondingly easier to design well thought out solutions that can simultaneously solve multiple problems in a single environment — that is, to ‘solve for pattern’”(Kossoff, 2011b, p. 275).

Co-designing

There is nothing new about the collaboration of designers, end-users and stakeholders. Within HCD, co-design methods were developed with the aim of not only understanding users but also engaging them in the development of new solutions and in this way making proposals more acceptable and attractive. But it is important to stress here that co-design and collective creativity methods have become critical, while design is applied to tackle social problems. Sanders and Stappers (2008, p. 12) state that designers need to play a role in co-designing teams because they provide expert knowledge that the other stakeholders don't have. Tan (2012, p. 13) explains that designing *with* people ensures that designers understand the context, avoid reinventing the wheel and understand the available resources for implementation; involving people in the journey increases their ownership of problems and solutions, and embedding design practices and skills in stakeholder organisations is likely to be part of the outcome. More importantly, co-design helps

first to understand and then to focus on the needs of communities and even those of the whole of society. It is not enough to change the habits of a single individual; effective responses to societal challenges must encourage new norms of behaviour within society. Co-design and HCD methods help to engage and attract community members, but it must be remembered that society consists of people with different needs, abilities and cultural backgrounds, and their personal interests and needs are often conflicting. A diversity of team members must be assured in order to include different perspectives and opinions. In the collaborative process, the needs of others and the overwhelming nature of societal problems can be understood by all participants, and through this process the created solutions are easier to embrace.

New roles of designers: designers as facilitators

The designer's role as facilitator is directly connected to the co-design process and the need to engage communities. Manzini (2009, pp. 11-12) sees the new roles of designers as connectors, as quality producers, as visualisers and visionaries, as future builders, and as catalysers of change. In his view, design knowledge is a set of visions, proposals, tools and reflections which help to stimulate and steer strategic discussions, and can be applied in a variety of specific projects to help understand what we are doing or could do.

Multidisciplinarity to break the silos

The structures of academies, governments and businesses are built into "silos", where professional activity and expertise are protected. Intense specialisation was valuable during the Industrial Revolution as it was the best way to engineer answers to specific, discrete problems, but this came at the expense of an ability to consider the big picture (Boyer et al., 2011, p. 21). The majority of contemporary practises are multidisciplinary, where numerous fields of expertise are combined (McHardy, 2008, p. 11). In his interview with G.K. VanPatter, McHardy (2008, p. 2) argues that the situation of the increasing globalisation and the consequential acceleration of social, technological, economic and environmental changes leads to interconnected and complex challenges that go beyond the scope of a single discipline. Hence design also has to expand its reach and collaborate with other disciplines to make sense of these enlarged conditions (McHardy, 2008, p. 2). SITRA's Helsinki Design Lab team claim that the grand challenges of today are found in the fissures between the silos, in the areas that we do not have a strong ability to describe, or even name, much less procure (Boyer et al., 2011, p. 21).

Conclusion

I have discussed in this article the appropriateness of HCD methodology in social design for tackling wicked social problems, dealt with the development of its industrial usage, and offered a critique of its general, contemporary applicability. Through an analysis of the tools and methods in the context of social design, I have proposed a novel outline for a social design methodology. This proposed new

methodological framework stresses the need to study the complex character of societal challenges, make the individual less central, and focus on the needs of communities and those of the whole society instead. HCD outcomes can engage and attract individuals, for example with products customised for particular consumers, but the scale and complexity of the current challenges require collective actions. To that end, I introduce five key principles into the debate to initiate a critical discussion of the methodologies for fourth-level design matters, namely societal challenges.

	Author	1	2	3	4	Year
	J. Christopher Jones	components	products	systems	communities	1970
Four Orders of Design	Richard Buchanan	symbol symbolic and visual communications	thing material objects	action activities and organized services	thought complex systems or environments for living, working, playing, and learning	1992
NextDesign Geographies Sense-making framework	GK VanPatter & Elizabeth Pastor	Artifacts and communications (traditional design)	Products and services	Organizational transformation (bounded by business or strategy)	Social Transformation Design	2005/2009
Design Ladder	Danish Design Center	No Design	Design as Styling	Design as Process	Design as Strategy	2003
Design Management Staircase	Gert Kootstra & Brigitte Wolf	No design management	Design management as project	Design management as process	Design management as culture	2007
Design Policy Ladder	SEE	No explicit design policy	Policy for industrial design	Policy for service design (private and/or public)	Policy for strategic design	2011
The Public Sector Design Ladder	SEE		Design for discrete problems	Design as capability	Design for policy	2013

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