What is strategic design?

an examination of new design activity in the public and civic sectors

Camilla Buchanan

May 2020

Candidate Information & Declaration

Name
Camilla Buchanan

Existing Degrees
- History of Art (BA), University of Bristol, First Class Honours
- Culture and Society (MSC), London School of Economics, Distinction

Thesis title
What is strategic design?
An examination of new design activity in the public and civic sectors

Degree applied for
PhD Design

Submission Date
May 2020

Declaration
This thesis has not been submitted in support of an application for another degree at this or any other university. It is the result of my own work and includes nothing that is the outcome of work done in collaboration, except where specifically indicated. I grant Lancaster University online access and the right to publish this work. With thanks to my supervisor Professor Rachel Cooper OBE for her support and guidance.

Abstract

Design is increasingly appearing in the public and civic sectors in strategic contexts, like policymaking. However, data and literature examining new design activity is limited. This research aims to address the gap in current theory by defining and critically assessing 'strategic design' so that it can be adequately framed, understood and analysed.

While the research is an academic study, the questions it asks are rooted in practice and initial observations about shifts in design activity were made when the researcher began to collaborate with designers in 2015 on UK government policy development. In this research, new design activity is explored through a case study, survey and qualitative interviews with leading practitioners and commissioners. Throughout, insights from applied contexts are used to develop an argument about the definition, strengths and limitations of this work.

The research finds that the pragmatic, constructive and participatory attributes of design activity have much to offer in situations of ever-intensifying complexity surrounding public and civic sector organisations. However, this new design activity is limited by both structural and ideological factors, such as an absence of sector infrastructure and comprehensive definitions. Questions of potential, maturity and ethics are also relevant to almost every aspect of design discussed in this research. Although there are clear concerns about whether current practice is equal to the situations presented in new environments, the research frames design as a powerful set of tools to improve responses to challenging social situations.

Overall, the research argues that design activity in strategic contexts in the public and civic sectors has developed beyond isolated individuals and initiatives, to form a new - albeit nascent - body of practice which can now be seen as an emerging design sub-field. This new field is defined as 'strategic design': a creative problem-framing and problem-solving practice that relies on material and participatory ways of working and is actively focused on understanding, articulating and responding to strategic challenges.

Contents

List of figures

“In every area of public life there are these issues and crises and tensions, in ways that feel intractable. And I think in that world we need to find new ways of working… design feels like part of that story” (INT 4)

“Design broadly has the capacity, in its best case scenario, to imagine that which doesn’t exist yet - which frequently is the question that needs to be answered.” (INT 14)

“You need people with a broad training, that has one foot in reality and one foot in imagination.” (INT 11)

Chapter 1

Introduction

Chapter 1: Introduction

1.1 Context for the research

Design has long been identified as a widely applicable approach to address complex problems. However, methodologies stemming from design are now being used in new ways in a wide variety of fields. These recent, tremendous changes in practice require new explanations.

The literature tracks an evolution in design during the 20th century from its engagement with communications and industrial production to services, systems or even environments (Buchanan, 1995: Cooper & Press, 1995: Heskett, 2001). This is evident in shifts of focus in how design is valued, from its outputs to greater emphasis on its working processes - or from 'artefact' to 'systems' (Hargraves, 2018: Hunt, 2012). The new contexts for design include government agencies, healthcare systems, business and organisational strategy, as well as complex systems that encompass multiple fields (Banerjee, 2014: Irwin, 2015: Lurås, 2016).

It is difficult to find places where the potential of design activity has been more widely lauded than in the public sector. The staggering growth of design activity in governments around the world in the past two decades, and more recently in the wider ecosystem of other actors delivering social systems and services - including foundations and charities - signals a new phase of development (Bason, 2010: Mulgan, 2014: Prendiville & Sangiorgi, 2017). Almost nowhere is design activity less formed and more fragile than in its most recent application to strategic challenges in these fields, such as public policy development (Bason, 2014: Clarke & Craft, 2019: Junginger, 2013). This design activity is underdeveloped in both theory and practice (Clarke & Craft, 2019). In addition, there are still challenges in design research as a whole, to navigate the plurality of design applications and consolidate design as an academic field (Cooper, 2019). These challenges, combined with the recent growth in new areas for applied design activity, have left a fundamental gap in understanding.

In part, the absence of critical reflection is a practical issue - as design expands into confidential and sensitive places it is harder for outside researchers to gain access. However, this gap is also structural, and the design field has not typically been accustomed to the kinds of scrutiny required in new strategic spaces. The current lack of critique means that design activity in strategic contexts in the public and civic sectors is not adequately assessed or promoted. This research explores that work.

The research is an academic study but the questions it asks are rooted in practice. The researcher is currently a UK government policymaker at the Policy Lab[1], a specialist government design team, and over the course of the research - from 2015-2020 - worked in various roles: as Senior Policy Advisor at the Social Investment & Finance Team in the UK Cabinet Office from 2015-17; as Visiting Scholar at the Parsons DESIS Lab[2] at The New School in New York for six months in 2018; and, on a longstanding Policy Fellowship at The Public Policy Lab[3], the first public sector design non-profit in the USA, also based in New York. However, the researcher is not a formally trained designer. Therefore, this research examines new design activity from an external perspective, through the lens of a policy and social science training.

During this research, the researcher also worked on a wide range of policy issues using design, including: undertaking ethnographic and design-led research with representatives of the Windrush Generation for the independent Windrush Lessons Learned Review in 2019/20[4]; developing policy proposals to better integrate young refugees into the UK for the Home Office in 2019/20[5]; convening large groups of United Nations policymakers to generate ideas for the organisations' Management Reform agenda in 2019[6]; working with the New York City Department of Education on school attendance for pupils living in temporary housing in 2018[7]; and, undertaking a research and design project with one of the Bloomberg Philanthropies i-Teams to understand the intersection between opioid use and jail overcrowding in Louisville, Kentucky in 2015[8].

Although they are not included as specific data, the research drew from and was woven into these applied environments. However, one such project on which the researcher worked, where

[1] Policy Lab is a multidisciplinary team founded in 2014 bringing new approaches, including design, to UK government policy development.
[2] Parsons Design for Social Innovation and Sustainability Lab (DESIS Lab) is an action research laboratory created in 2009 at The New School in New York City.
[3] The Public Policy Lab was founded in 2011 in New York, as the first public sector design non-profit in the USA.
[4] Undertaken at the Policy Lab, the researcher was the policy lead, see: https://www.gov.uk/government/publications/windrush-lessons-learned-review
[5] Undertaken at the Policy Lab, the researcher was the project lead.
[6] Undertaken at the Policy Lab, the researcher was the project lead, see: https://openpolicy.blog.gov.uk/2019/05/16/how-do-we-do-open-foreign-policy-making/
[7] Undertaken with The Public Policy Lab in New York, the research was part of the project team as a Policy Fellow, see: publicpolicylab.org/projects/students-in-temporary-housing/
[8] Undertaken with The Public Policy Lab in Kentucky, the researcher was part of the project team as a Policy Fellow, see: http://publicpolicylab.org/projects/jail-and-opioid-use/

design activity was deployed in UK government policy development for the social investment sector, forms a case study in this research. The area of research, in the public and civic sectors, therefore relates directly to the professional experience of the researcher where design activity is being used to address social and policy challenges. The use of design activity in complex strategic challenges in other fields, such as in the business community, is beyond the scope of the current research.

1.2 Research problem and questions

The research aims to understand more about a new area of design activity, by defining and critically assessing its application in strategic contexts in the public and civic sectors. The area of study is defined through a research problem, aim and questions.

Research problem

The research problem addressed is the lack of theoretical understanding and analysis of how design is being used in strategic contexts, such as government policymaking and strategic planning for civic sector organisations, which has meant that this design activity has not been adequately understood or scrutinised.

Research aim

The aim of this research is therefore to define and critically assess the application of design activity in strategic contexts in the public and civic sectors, and its impacts in addressing complex social challenges.

Research questions

In order to consider this aim, three research questions are addressed:

- RQ1: What is the current state of design activity in strategic contexts in public and civic sector organisations?
- RQ2: How can this design activity in strategic contexts be framed and understood?
- RQ3: What are the strengths and limitations of current design activity in these strategic contexts?

1.3 Terminology

Three terms are used throughout this study to create parameters around the research area. These terms signpost the research by delineating the design activity being analysed and its contexts, rather than acting as definitive statements.

Design activity

Design is notoriously hard to define. It can be a *noun*, and is often associated with industrially manufactured products, or a *verb* where the act of designing is emphasised (Lawson, 2004). Design is also both an essential human activity and an area of professional expertise (Manzini, 2015 & 2016). In recent decades there has been exponential growth in new domains and applications of design activity, resulting in profound changes to its contexts and methods (Dorst, 2015).

Throughout this study, the term 'design activity' is used to denote both the design process and the products or outputs of design. The choice of the term 'design activity' is deliberate, to add precision to 'design' by emphasising the significance of both the active and participatory aspects of the design process, and the breadth of design products in new strategic contexts.

In this research 'design activity' can therefore be understood as the planning and conception of various design products which takes place through constructive and intentional design processes, frequently involving both professional designers and non-designers.

Public and civic sector design

Public and civic sector design is an important definition in the research, outlining the field of primary research. It is seen as "strategic and service design activities that relate to how the public sector, city-level initiatives, and community actors function to address social and governance challenges" (Buchanan, C. *et al*., 2019, p.161). The definition is deliberately broad acknowledging the diverse actors advancing design activity in social contexts, including government agencies and civic sector organisations such as charities, not-for-profits, foundations, design consultancies and universities. This is now a global movement and, while public sector design is reasonably well-documented in the literature (Bason, 2010: Mulgan, 2014: Clark & Craft, 2018), design initiatives outside the public sector - which nonetheless relate to the creation of public value - appear less frequently in contemporary theory, in part because this work is more recent (Nusem *et al.,* 2019, p.36).

This research therefore defines public and civic sector design as a wide range of initiatives deploying design activity to improve strategies, processes, services and citizen experiences in these fields. The research avoids taking a specific national lens, in

order to emphasise the international nature of this design activity and to reflect the multiple locations and contexts of participants in the primary research. Nonetheless, the practice-led nature of the research resulted in an emphasis on work in the UK and USA, where the researcher worked during the research period.

Strategic contexts

To understand the new strategic contexts for design, ideas of policymaking or strategic planning require explanation. The breadth in these concepts means that a definition needs to be imposed on a wide range of activity.

In this research, the term 'strategic contexts' refers to situations where policy development and other forms of strategic planning take place. **It is used to encompass both the articulation of a policy or strategic goal and the subsequent actions which this goal sets into motion, such as the creation of a new strategy for an organisation and the resulting programmes of work** (Howlett, 2014: Junginger, 2013: Kimbell & Bailey, 2017). The research observes that design activity is being used to inform strategic planning in government and non-government contexts, meaning that it is influencing both the development of strategic goals and the actions that take place to fulfil these goals in a wide range of settings. The resulting design activity is thus focused on both the inception and delivery of strategic outputs.

Examples discussed by participants in this research include: the creation of national funding programmes at the Big Lottery Fund in the UK; advocacy work in a small UK think tank relating to policy regulation about the emerging field of tech ethics, and, the development of a €60m real estate project to create a new zero carbon city block in Helsinki. The research focuses on the design processes that bridge these different situations, and includes one in-depth case study, but this wider landscape of differing challenges underpins the findings.

In practice, policymaking and strategic planning are messy and contingent processes (Howlett, 2014). Where design activity is present in strategic planning and delivery, it is often applied inconsistently and in combination with other disciplines. In addition, all design can be strategic, for example the product designer creates a design output that exists in a wider social and environmental context. However, this study starts with the notion that in strategic contexts design activity has shifted from the relatively bounded world of graphics, products and services to a new role in both defining and implementing strategic goals.

1.4 Research structure and outline

The research is organised into contextual, methodological and analytical chapters. It reviews existing academic work, presents findings from primary data and develops a framing and definition of design activity in strategic contexts.

Chapter 2 is a literature review of key theoretical concepts of design. The aim of the chapter is to underpin the primary data by sketching out design theory as it relates to strategic contexts. Concepts of design are interrogated including its link to problem-solving (Rittel & Webber, 1973: Simon, 1998), the 'material' and 'making' aspects of design activity (Dorst, 2016 & 2016: Krippendorff, 1995: Margolin, 1995) and its participatory engagement strategies (Manzini, 2015 & 2016: Sanders & Stappers, 2008). New contexts for design in the public and civic sectors are also discussed (Bason, 2010: Junginger, 2013: Kimball & Bailey, 2017). The chapter concludes with a number of theoretical propositions about design activity.

Chapter 3 sets out the research design, research strategies and research methods. Overall, the study is qualitative mixed methods research. The mixed methods approach comprises a range of strategies and methods to capture the complexity of new design activity in strategic contexts. The primary data was collected using examples available through professional practice and supplemented by research undertaken specifically for this study. The research draws on four main strategies and a range of methods, set out below in the order in which the research was undertaken. The sequencing of research strategies was circumstantial, due to the professional contexts of the researcher. However, the different strategies were chosen deliberately, to address the research problem using multiple lenses. The research strategies are:

1. **literature review** of design and policy-related literature;
2. a **case study** of design approaches in UK social investment policy development;
3. a **survey project** of public and civic sector design teams, and
4. **qualitative interviews** with expert commissioners and practitioners.

Chapter 4 is the first of the data analysis chapters (Chapters 4-8). It sets out the broad landscape of public and civic sector design activity to contextualise the strategic aspects of this work. It examines the pathways and rationale for public and civic sector organisations to engage with design, considers the characteristics of the current public and civic sector design field and provides detailed insight into one instance of design activity in a strategic context, through a discussion of the case study of UK social investment policy development.

Chapter 5 explores and analyses the expansive concepts and definitions of design held by the research participants, encapsulating both a pragmatic process-driven activity as well as moments of invention and creativity. The chapter also highlights the striking commonality in design processes in different strategic contexts, despite which definitions of this emerging activity are currently ill-formed.

Chapter 6 identifies and discusses the central roles of 'materiality' and 'making' in design activity. It examines the highly varied 'products' of design activity in strategic contexts; where physical objects and new meanings are viewed equally as 'material' outputs from design. The diverse roles of making in the design process are explored, including 'making to learn', 'making to build' and 'making to speculate' about a future scenario. The chapter argues that working materially and making are central to the culture of design.

Chapter 7 reveals and examines the diverse skills and qualities of designers undertaking design activity in strategic contexts and interrogates the role of participation by non-designers in the design process. Power dynamics and the cultural conditions that designers both encounter and enable in strategic work are considered.

Chapter 8 is a discussion of findings that relate to the current challenges and future directions of design activity in strategic contexts. These include practical barriers to the development of the field, such as communications challenges and ideological and structural issues. Overall, the chapter concludes that design activity in strategic contexts can be viewed as an emergent design field, where the ambition of leading practitioners to position design as an approach to pressing and far reaching challenges is clear.

Chapter 9 synthesises the overall research findings. It addresses each research question in turn and sets out the key conclusion to the research, that an emerging design sub-discipline is now being used by public and civic sector organisations to address strategic challenges. This new field is defined as **'strategic design'**: an imaginative problem-framing and problem-solving activity which relies on material and participatory ways of working and is actively focused on understanding, articulating and responding to strategic challenges. The chapter identifies the strengths of strategic design, relating to its potential as a powerful set of tools to improve social situations. It also observes its shortcomings, arguing that the field lacks maturity - in particular regarding its ethical stance. Limitations and areas for further research are set out.

1.5 Conclusion

Questions of potential, maturity and ethics are relevant to almost every aspect of design discussed in this research. Clearly the pragmatic, constructive and human-centred attributes of design have much to offer in the situations of ever-intensifying complexity surrounding public and civic sector organisations and systems. However, today's design activity has been quickly transplanted to new domains - although its protagonists are unclear about whether current strategic work stems from a more technical/functional role in manufacturing or from foundational design theory, which lays claim to its strategic potential - where its presence and outputs can have arguably more profound social repercussions. This movement has taken place without due reflection and adaptation.

There are also structural challenges within the field. Approaches to measuring and demonstrating the impacts of public and civic sector design are insubstantial. The language and working methods of design activity can seem mysterious, which prohibits its adoption. Other sector-level systems are not in place such as standardised models for procurement, financing and training. In addition, the impulses to scale up design activity within large systems seem to be in tension with the individual moments of creativity and the tacit knowledge on which the design process relies.

Ethics in new design activity are significantly underexplored. In the context of this research, they relate to the power dynamics that accompany participatory ways of working, how legitimacy is being created for designers to operate in new strategic spaces, and the values being promoted by designers in the public and civic sectors. The field has largely remained silent about these issues, either because it is not yet seen as a distinct sub-discipline or for reasons of complicity with the institutional structures where design is now present. It is important that the people engaged in new design activity do not lose sight of its future-orientated and agitating potential.

Nonetheless, as this research shows, leading practitioners are advocating for design activity to advance by developing more critical awareness. Although there are clear concerns about whether current practice is equal to the situations presented by new environments, there is ambition and growing capability within the field to position design activity as a means to address fraught social challenges. This research takes the position that design activity has an important contribution to make. It aims to interrogate how such work is taking place, in order to further its development and impact.

Changing contexts

Design is continually being reimagined and creatively combined with other disciplines. Since the time that this research was initiated in September 2015, the use of design activity in strategic contexts has grown considerably. Alongside this, the complexity, connectivity and scale of social crises have intensified - many of the participants in this research voiced their concerns about the situations they are now observing in public and civic sector organisations. As this research shows there is extraordinary potential in the ingenious, pragmatic and empathic attributes of design. However, beyond a small group of technical experts, its strategic potential is still barely recognised. To achieve impact, designers working in strategic contexts will need to learn both to mobilise quickly in profoundly difficult circumstances and to step back in order to define the future direction of their field.

Chapter 2

Literature Review

Chapter 2: Literature Review

2.1 Introduction

The Literature Review chapter sets out the landscape of design theory as it relates to new strategic contexts. It expands on practice-based observations about emerging design activity and underpins the primary data by creating the theoretical frame for this research. The ideas examined here represent some of the major perspectives and definitions of design research and practice. Foundational concepts of design are outlined and brought up to date with more recent literature about design activity in the public and civic sectors, where this research focuses. The chapter establishes:

- Core definitions of design activity, emphasising those that relate to strategic work;
- Theoretical propositions about design activity; and,
- Gaps in the current literature

Compared to other areas of the academy, design research is still new and there are challenges to compiling a literature review. Rapid developments in applied practice mean that design has not yet been theorised comprehensively and is often ahead of academic research. In addition, design activity is increasingly taking place outside its established contexts and the contemporary literature is scattered across different academic fields. This literature review focuses on debates that help to understand design in strategic contexts, rather than offering a broader review of the dispersed design-related literature. The chapter examines different bodies of design literature, including:

- Foundational theories of design
- Recent analysis of design as a strategic tool
- Literature relating to public and civic sector design activity

This chapter begins with a brief overview in Section 2.2 of approaches to defining design as an entry point for discussing theories about design. The chapter is then organised into three key themes, each looking at a different aspect of how design is understood and the way that it is evolving. Section 2.3 considers theories and counter-arguments that explain design activity as an intentional, planning and problem-solving approach. Section 2.4 examines concepts of ‘making’ in design and the products of design activity. Section 2.5 discusses design as a participatory discipline, exploring the qualities of designers and the role of non-designers in

today's design activity. Finally, Section 2.6, outlines emerging trends in design identified in the academic literature; specific reference is made to the evolution of design activity in the public and civic sectors - where this research is focused. Conclusions from the literature are drawn in Section 2.7 and gaps in current knowledge are identified.

2.2 Defining 'design activity'

Design is an elusive concept with expansive rather than fixed definitions. It is defined in various ways depending on the situation, processes used and the voices of its participants. Core theories of design tend to be so broad as to defy contextual usefulness or too contingent for wider application. Therefore, it is useful to develop a working definition of design for this research. Section 2.2 considers approaches to defining design from the literature as an entry point to the theories explored in the remaining sections of Chapter 2.

The word 'design' can be a verb (*designing:* connoting a process and activity) or a noun (*a design*: referring to products and artefacts) and latterly even an adjective "as in 'designer'" (Lawson, 2004, p.118). Views of design range from a technical skill to develop products to a system of competencies common to all humans. The plurality in ideas about design can obscure rather than clarify the concepts in question, and the challenges of interpreting the breadth in design activity are frequently referred to in contemporary literature. For some, the task of seeking fixed definitions has been a distraction from furthering design theory, for others definitions serve useful "strategic and tactical" purposes even if later discarded (Buchanan, 2001, p.8). There are also practical barriers to defining design and some observers note that design is evolving rapidly allowing little time for "critical and cultural reflection" (Manzini, 2016, p.55-6).

Although by some readings design is an essential human activity, its delineation as a distinct area of social production is relatively recent, arising and accelerating throughout the 20th century with the growth of industrialised manufacturing. Design is also tacit and material, making the skills and process involved in designing hard to verbalise (Cross, 1995, p.111). John Heskett (2001), brilliantly captures the elusiveness of the experience of design:

> *"A continual problem for design practitioners is in defining for non-practitioners just what it is they do. Designers may know what they mean by design, but their understanding often is based on experiential knowledge, which is not easily articulated or communicated. The problem is compounded by the fact that there is virtually no*

agreement in social terms of what design is - indeed, clients and audiences often have a very different understanding of design to that held by professionals." (p.18)

This research examines amongst the most stretching applications of design activity - its recent deployment to strategic challenges in the public and civic sectors. There is a gulf between the notion of design as a strategic tool and common associations of design with manufacturing production, which still dominate the public imagination - at least in industrialised economies. To understand why both these concepts of design - and others - are valid, it is useful to first outline key definitions and their shifting emphasis.

2.2.1 Design as an everyday activity

Several foundational theories of design, dating from the mid-20th century onwards, emphasise its fundamental relevance to human activity. Herbert Simon has been one of the most influential theorists on the field of design, an economist, political scientist and cognitive psychologist working across domains including artificial intelligence, problem-solving and decision-making; his core definition of design refers to a constructive intentional activity common to all deliberate human action (theories of design as a problem-solving discipline are discussed in Section 2.3).

"Everyone designs who devises courses of action aimed at changing existing situations into preferred ones." (Simon, 1998, p.111)

Another prominent theorist, Victor Margolin (1995) provides a similarly expansive notion of design, referring to both a commonplace, lay activity and an area of professional expertise. Margolin also articulates the breadth of design products and - crucially - emphasises that these can be both material and immaterial, discreet and systemic (concepts of 'making' and design products are examined in Section 2.4.).

"By 'products' I mean the human-made material and immaterial objects, activities, and services, and complex systems or environments that constitute the domain of the artificial. And I intend 'design' to denote the conception and planning of these products. As I apply the term design in this essay, I refer not only to the outcomes of professional design practice but also to the vast results of design activity that everyone else engages in." (Margolin, 1995, p.122)

Other theorists examine the skills and attributes required for design, whilst frequently underlining that these defy clear definition. Lawson (2004) argues that to some extent we all

design, yet professional designers are distinct because they undertake design activity for others (questions of participation and design qualities are addressed in Section 2.5.).

> *"Yet another clue would be the understanding that the general public has of what designers are, what they do and what they know. There is a paradox here for design is at once every day yet special. We all design to some extent every day...Professional designers however do all these things for other people rather than just for themselves."* (Lawson, 2004, p.7)

In a moving entry to his personal website made in 2002, J. Christopher Jones tracks how his own definition of design has changed; now in his 90s, he had a profound impact on the study of design as a process and its working methods. His early view of design as "the performing of a very complicated act of faith" which appears in his seminal text *Design Methods* (1992), first published in 1970, was soon revised to the more expansive, "to initiate change in man-made things" (2002). Jones' final definition of design was made much later and suggests expanded roles for design and its potential for tangible and intangible impacts (emerging trends and new applications for design are discussed in Section 2.6).

> *"now, more than thirty years later, and in a changed world, I am no longer happy with 'man-made' nor with 'things'...So, remembering J. W. Goethe's remark that human life can be thought of as just two entities - thought and action - and remembering a host of other considerations, too many to describe, my mind-in-the-night would not sleep until I had re-phrased my comprehensive definition as:*
>
> *'thoughts and actions*
> *intended to change*
> *thoughts and actions'."* (Jones, 2002)

Common to these broad theories of design is the recognition that it is both an essential human activity and an area of professional practice. Notions of **planning, construction and invention** are also woven through the foundational theories of design, even where the design outputs are not material in an obvious sense. In addition, the products of design are far more diverse than is usually assumed, ranging from industrial artefacts to whole systems.

2.2.2 Design and industrial production

Although early design theory emphasised its quotidian presence and offered expansive conceptions of design products, narrow associations between design and industrial production

have had an enduring impact and have perhaps limited its use. The concept of design as an expert activity associated with industrial production arose with the growth of capitalist industry and the expansion of markets for household products, when the model of artisanal production - where craftsmen both designed and made a product - shifted to that of industrial artists who generated a flow of ideas for industrialised production, meaning that concept development became distinct from manufacturing and production (Heskett, 2001, p.23). This gave rise to the notion of modern industrial design, which was also consolidated in the early 20th century by groups such as the Bauhaus[9] in Germany (Heskett, 2001, p.23). Mitcham (1995) eloquently describes the shift in the production of artefacts from artisan to designer and the increased distance between artisanal craft and industrial design.

> *"Traditionally, both the formal-final and efficient causes remained within the mind and hand of the artisan. It is the modern separation of mental and manual, and the coordinate creation of inventor-engineer and worker, that grounds the original character of modern design."* (p.178)

Public conceptualisations of design as a product and manufacturing-related process are largely unchanged, perhaps because of the ubiquity of objects that are mass-produced. However, in its current applications design is evolving beyond the form-giving tradition, which is increasingly becoming a subset of a far wider area of activity.

The growth of industrial production and the role of design in enabling this growth also, necessarily, raises questions for a field that still relies on its reputation for translating function into desirable products. Prominent design theorists such as Victor Papanek (1985) scrutinised the degradation of manual skills and raw materials through industrial design, whilst simultaneously recognising the potential for the design professions to take on greater moral and environmental responsibility. Beyond industrial design, questions of ethics and impact are still under-explored. The ill-effects of much industrial design production should be cautionary as design activity expands into new terrain, largely without recognised or explicit ethical and professional guidelines - including in strategic contexts in the public and civic sectors.

[9] The Staatliches Bauhaus was a German art school operational from 1919 to 1933 in fine arts and crafts. It was known for its approach to design which emphasised beauty and usefulness in manufactured products.

"There are professions more harmful than industrial design, but only very few of them. And possibly only one profession is phonier. Advertising design, in persuading people to buy things they don't need, with money they don't have, in order to impress others who don't care, is probably the phoniest field in existence today. Industrial design, by concocting the tawdry idiocies hawked by advertisers, comes a close second." (Papanek, 1985, p.ix).

2.2.3 Design as an innovation process

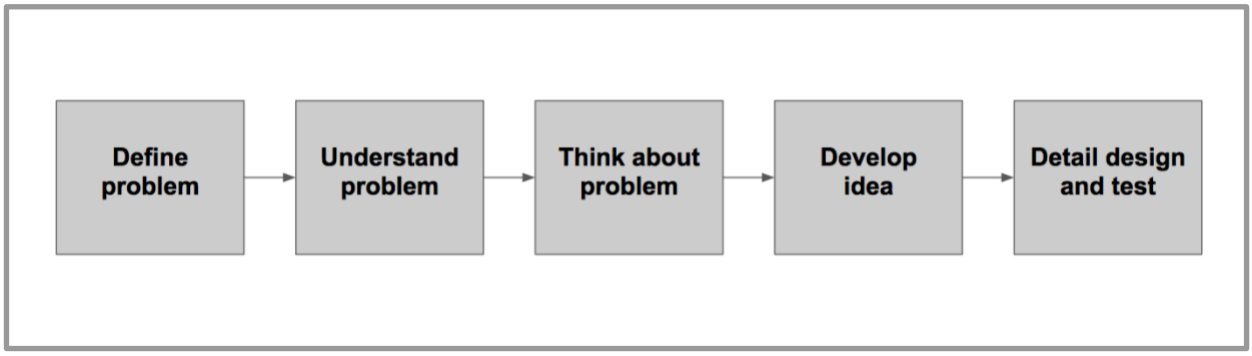
During the 1950s and 1960s there was increased interest in making the design field more rigorous and systematic, linked partly to the advent of new computer technologies of the time (You & Hands, 2019). Literature on the design process began to appear in most industrialised countries in the 1950s and 1960s, when initial attempts were made to set out a schema for the steps that comprise design activity (Jones, 1992, p.3). This led to the Design Methods movement[10] and its leading figures such as J. Christopher Jones who, in his influential book *Design Methods* (1992), argued that the complexity of demands on designers of the time required new working methods beyond those used to develop manufactured products. *Design Methods,* first published in 1970, codifies 35 such methods for designers to deploy in different situations, and emphasises the significance of new concerns for design such as public participation and the considerations of whole systems rather than individual products (Mitchel 1992, ix). Jones' attempts to articulate the thought processes involved in designing have had a significant impact on concepts of design as a process.

In *The Design Agenda*, Cooper and Press (1995) explore different facets of the design process, which is useful to understanding how design can be seen as a 'process-driven' activity and its links to business innovation. Cooper and Press argue that in the design and management literature, this process has two aspects, "firstly, as the process involved in undertaking a design task - how designers' skills are employed in progressing a problem to its solution - and, secondly, in using the 'design process' to describe the strategic planning of product development" (p.36). Their explanation of the stages that an individual designer undergoes to develop an idea, represented in Fig 2.1, is particularly useful because it provides a transferable conceptual model of the design process, whereas their second explanation focuses on the specific context of product development. Cooper and Press note that the design process is

[10] See: designresearchsociety.org/cpages/about

usually thought to comprise a number of steps which move progressively towards a solution, whilst acknowledging that at any stage a designer may be required to return to an earlier step in order to “amend their definition, understanding or design” (p.37).

Fig 2.1: The internal creative process of design (adapted from Cooper & Press, 1995, p.36)



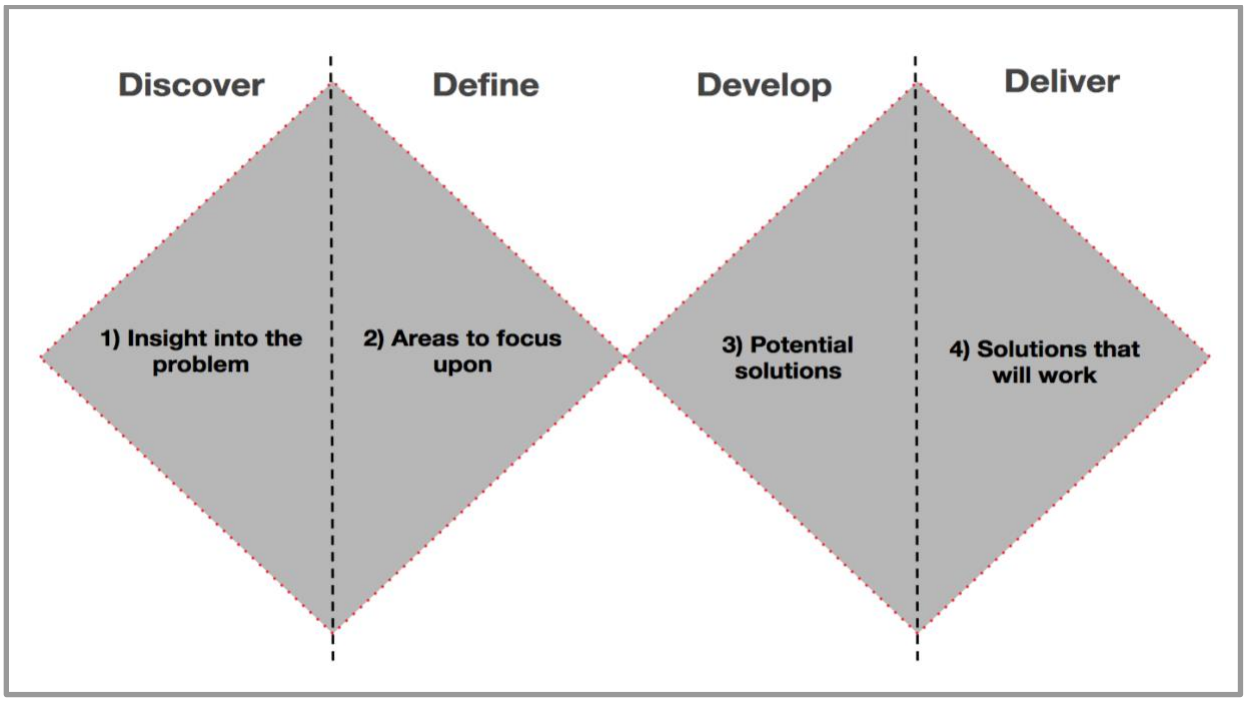
Cooper and Press (1995) also discuss the relationship between innovation and design, which is central to understanding design’s appeal to the business community and the associations between design and ‘value creation’. Cooper and Press argue that design “has a role in the very heart of the innovation process” because it translates state-of-the-art technology into marketable products (p.40). In this account design is not the source of innovation or creation in product development, rather it is the process that connects technological innovations to human needs through the adaption or creation of products (p.40). Norman and Verganti (2014) affirm this view in a later reading of the relationship between design and innovation, arguing that ‘radical innovations’ in product development are driven by technological changes and come about “simply because their inventors thought they were interesting things to try”, whereas ‘incremental innovations’, which improve products and their appeal, stem from design research and human centred design (p.79). Although there are still debates about how to assess the value and role of design in innovation, it is often framed as a “fertile seedbed for strategic growth” in business (Hands, 2011, p.366).

This is not to say that designers cannot develop radical new ideas or breakthroughs, rather, that in business and industry design has typically been seen as an effective means to translate technology into real-world applications. The role of imagination and creativity in design, where designers bring their own experience and insight to bear in the design process, is also widely acknowledged in the literature (see Cross, 1995: Potter, 2002: Lawson, 2004). In *Design Methods*, Jones emphasises that design activity relies on the integration of creative and rational

skills, “From the creative viewpoint of the designer is a black box out of which comes the mysterious creative leap; from the rational viewpoint of the designer is a glass box inside which can be discerned a completely explicable rational process” (1992, p.46).

The potential for the design process to improve business competitiveness has also been discussed widely in publications such as *Harvard Business Review*[11] and promoted by public and private sector organisations. In the early 2000s the UK Design Council published the widely-used Double Diamond framework which builds directly on the work to codify design methods in the 1960s, and was developed as an “accessible description of the design process” (Ball, 2019). The Double Diamond describes the key stages of the design process and the shifts between expansive investigation of a design problem ‘divergence’, and pinpointing specific ideas that can be tested or developed to ‘convergence’, see Fig 2.2. At the same time, private sector design consultancies were becoming known for applying the design process to a wide range of organisational challenges. The best known of these, IDEO[12], popularised the term ‘design thinking’ and argued that thinking like a designer could develop products, services, processes and strategies (Brown, 2009).

Fig. 2.2: Design Council, Double Diamond. (adapted from Design Council, 2020)



[11] See: hbr.org
[12] IDEO is one of the world’s leading design consultancies, commonly associated with popularising the term ‘design thinking’. See: ideo.com/eu

Design thinking has become a widely used term in the business community (Deserti & Rizzo, 2014). It describes “many disparate, vaguely creative activities”; as such it has been critiqued in design research (Dorst, 2011 p.531). Dorst (2011) argues that the term ‘design thinking’ has been present in design research since the late 1980s, and was laterally taken up by business sectors to “broaden their repertoire of strategies for addressing the complex and open-ended challenges” (pp.521-22). He sets out to reduce ambiguity in the term ‘design thinking’ by associating it with the core reasoning pattern used by designers. This is referred to in design theory as ‘abductive reasoning’, and it involves understanding a problem and how it can be addressed through a design solution, simultaneously. For Dorst (2011), abductive reasoning is a specific and highly valued element of design practice, it is core to the design process and at the heart of the term ‘design thinking’. Abductive reasoning is discussed further in Section 2.4.2.

Frameworks and concepts such as the Double Diamond and ‘design thinking’ have become widely accepted illustrations of the design process and approaches, and have made design readily accessible to non-designers. However, they perhaps diminish the importance of invention and creativity in design activity and the imperative for designers to reinvent their working processes for new challenges, rather than simply transplanting existing models.

2.2.4 Expanding roles for design activity

Alternative ideas about design activity and its potential applications, were reflected in the creation of new academic journals from the 1970s. The British journal *Design Studies*[13], founded in 1979, became the first academic journal to focus on the processes of designing. *Design Studies* is the journal of the Design Research Society which was created in 1966 as a result of the influential ‘Conference on Systematic and Intuitive Methods in Engineering, Industrial Design, Architecture and Communications’, held in 1962 in London and seen as the start of the design methods movement. In 1984, the journal *Design Issues*[14] published by MIT Press became the first American academic journal to examine design history, theory and criticism. *Design Issues* introduced ideas about design as a widely relevant subject with the potential to intervene in complex systems and environments. According to one of its founding editors, Victor Margolin, the journal was seen as a vehicle for the development of the study of design history (2002, pp.132-3). In the 1980s and 1990s another founding editor, Richard Buchanan, similarly broadened the discussion of design’s scope by advocating for it to address

[13] See: journals.elsevier.com/design-studies/
[14] See: www.mitpressjournals.org/loi/desi

"the problems and purposes of the present" (1991, p.4). Buchanan[15] is a prominent design theorist, well known for extending ideas about design into new areas including its strategic potential; his ideas are returned to frequently in this research.

The shift in professional design activity from its primary engagement with industry is signalled by increased diversity in the outputs of design and attempts to apply the process of designing to a wide range of issues beyond the challenges of manufacturing. This expansion is widespread and highly diverse representing broadened interest in the design process, as well as the products of design. It has also been accompanied by greater uncertainty in how to define design.

In the 1990s, Buchanan examined the professional context and perceptions of designers. The essay *Myth and Maturity: Toward a New Order in the Decade of Design* (1995), explores the growing importance of design in non-traditional fields, such as corporate strategy development. However, Buchanan also observed a lack of confidence in the field, which he described in terms of "(1) its powers and limits, (2) how it relates to other practical and academic disciplines, and (3) the appropriate criteria for evaluating its results" (p.78). Although Buchanan identified these challenges 30 years ago, they are as resonant today, including in the strategic deployment of design activity in the public and civic sectors, where the role and potential of design is uncertain.

After a period of ascent and rapid collapse in the 1980s design began to emerge as a strategic resource to develop products and services appropriate to the needs of industry and customers (Cooper and Press, 1995). Recently, Hargraves (2018) writing about the rise of design in healthcare, highlights the growing emphasis on the design process, or approach, and the confusion arising from further expansion of design activity.

> *"For most of the nineteenth and twentieth centuries, designers thought of themselves as having subject matter expertise. Furniture designers were experts in the construction of chairs, tables, cupboards, and other furniture. Graphic designers understood themselves as masters of two-dimensional communicative form. This conception has shifted significantly during the past 40 years. Design, in large measure, no longer understands itself through the classes of artefacts it produces. Instead, design commonly conceives of itself and promotes itself as a general approach for innovative change - as having no subject matter that is properly its own. This conception leads to an anxiety that manifests in questions commonly asked of designers: "What exactly do you design?""* (p.78)

[15] See: weatherhead.case.edu/faculty/Richard-Buchanan

However, even within more recognised design disciplines there is considerable diversity and ambiguity. As Lawson (2004) notes:

> *"It is quite possible to find two people who call themselves architects and yet share hardly any of their daily tasks. The more generic question about what designers do is even more difficult to answer simply and successfully." (p.1)*

2.2.5 Contemporary applications of design activity

Further splintering has taken place in the contemporary applications of design activity, for example in fields such as healthcare, crime reduction and policymaking. The range of design disciplines is expanding too, and includes a long list of subfields covering familiar areas of practice like graphic design and product design as well as newer and emerging design professions such as organisational design[16], service design[17] and design for social innovation[18] (Wilson & Zamberlan, 2015).

As the role and contexts for design have changed, the public sector has become a major new site of design activity. One of the first mapping studies of the public sector design field by the Parsons DESIS Lab at the New School in New York, examined 16 public sector design organisations (Parsons DESIS Lab, 2013). More recently Nesta[19] in the UK has identified 162 government-related design organisations in Europe and beyond, with a surge in their creation from the year 2007 onwards (Roberts & Dahl, 2017). This is still no more than a snapshot of current activity. Research within the design sector confirms the public sector as a primary site for new forms of design activity and research, particularly relating to service design. In a survey undertaken in 2012 to map the emerging field of service design in the UK, 49% of the 98 respondents identified the public sector as their main client (AHRC, Design Council & ESRC p.38). In another mapping study of service design research in the UK, Prendiville *et al.* (2014) argue that "research in Service Design appears to have been concentrated on investigating the contribution of Design for Public Service Innovation" (p.10). These recent studies build a broad picture of the increased significance of design in activity in the public sector today, however they

[16] Organisation design aims to create organisation structure that meets the purpose and requirements of an organisation.
[17] Service design is a growing field of design activity, which is concerned with planning and organising services.
[18] Design for social innovation is a broad term usually referring to design-based practices towards collective and social ends, rather than commercial or consumer-oriented objectives.
[19] National Endowment for Science, Technology and the Arts, see: nesta.org.uk

do not reveal the strengths and limitations of this work or its specific applications. This research seeks to add knowledge to both the characteristics and contexts of new design activity.

Notions of professional design disciplines are also becoming more diluted as non-designers take up the task of designing, borne both from necessity and the wide availability of design tools such as open source software programmes (Manzini 2016, 2015). Where design activity is deployed by professionals, it is now frequently with the intention of facilitating or building the design capabilities of non-designers. To add further complexity to contemporary definitions, design is also drawing from other disciplines, such as sociology, behavioural science and data science, to meet the demands of more complex design problems. Dorst, (2015) one of the foremost analysts of the design process, eloquently captures the present breadth in design activity.

> *"Design is becoming a real force in the world. Nowadays, design-trained people have gained access to a very broad range of professions, and together they wield enormous influence from positions in senior management, government, and academia (e.g., two Asian cities with populations in the millions have mayors with a background in design). This is clearly a great success, not only for the individuals concerned, but also as a testament to the quality of design practices and the relevance of design education in contemporary society. But there is something paradoxical about this development, too: highly successful people have moved out of the domain of 'design' proper (to become 'mayor', etc.), ostensibly indicating that the growing influence of design seems to be traveling beyond the confines of traditional (parent) design disciplines. Similarly, a growing number of non-designers are successfully picking up and using design practices to solve problems right across society."* (p.23)

2.2.6 Analysis: defining design activity

Foundational theories recognise design as both an essential human activity and an area of professional expertise - they also identify the breadth in potential applications and outputs for design. Notions of invention, planning and construction are central to design theory. In recent decades there has been enormous growth in design activity in new fields, resulting in profound changes in how design is used and valued, such as the emphasis on the design process rather than solely the products of design.

There has been a particularly marked growth in design activity in the public and civic sectors in many places around the world. This shows that the far reaching scope of design as a process and strategic planning tool, identified in early theory, is now being realised in practice. However, design research is a fledgling area of academic inquiry which, combined with the unprecedented growth in new areas for design, has left a fundamental gap in critical analysis. The strengths and limitations of new design activity and its specific applications have not been adequately assessed.

Throughout the research, 'design activity' is used to denote both the design process and the products or outputs of design. The choice of the term 'design activity' in this research is deliberate, to add precision to 'design' by emphasising the significance of both the active and participatory aspects of the design process and the breadth of design products in new strategic contexts. In this research 'design activity' can therefore be understood as the **planning and conception of various design products that takes place through constructive and intentional design processes**, frequently involving both professional designers and non-designers.

2.3 Design as problem-solving and the subject matter of design

Concepts of design as a problem-solving activity are central to early design theory. The association was established in the late 1960s, particularly in the work of Herbert Simon[20], which attempted to bring scientific rigour to design activity and decouple it from associations with craft (Dorst, 2006: Huppatz, 2015). Although limitations to the problem-solving paradigm have now been widely identified, it has had a lasting influence on designers as well as design theorists seeking to codify design activity and justify its adoption in other fields (Dorst, 2006).

Section 2.3 examines definitions of design as a problem-solving activity; it interrogates the shortcomings of this perspective and wider concepts about the subject matter of design. The section critically explores Simon's problem-solving theory before discussing alternative interpretations.

[20] Herbert Simon was an American economist, political scientist and cognitive psychologist, whose primary research interest was decision-making within organizations, he was based at Carnegie Mellon University.

2.3.1 Design as a problem-solving activity

Simon was an academic pioneer working in domains including problem-solving and decision-making. His book, *The Sciences of the Artificial*[21], first published in 1969, is one of the major 20th century works of design theory. It has had a profound impact on establishing design as a field of research and wrested design activity away from associations solely with industrial products, propelling its uptake in a wide range of other fields (Dorst, 2006: Huppatz, 2015).

Simon's lifelong research project was to develop a new field centred on problem-solving as an objective, quantifiable and systematic process (Huppatz, 2015). He called this project the theory of 'bounded rationality' - spanning five decades of his career and fields including economics, management and psychology - its aim was to quantify human decision-making by reducing it to a mathematical model that could be used to predict outcomes and solve complex problems, thus explaining human behaviour by "simple and constrained, yet informed, decision rules" (Dorst, 2006, p.12). Simon believed that the social sciences needed the rigour of method found in the hard sciences to properly address the problems of social research; this began with an interest in problem-solving and decision-making in organisations and the new field of management studies, and later moved to other disciplines like design (Huppatz, 2015, p.30). The lens of decision making and problem-solving helps to explain Simon's approach to design.

In Simon's *Science of Design* theory (1988), design is principally concerned with reconciling a set of goals or challenges or the "inner environment" (i.e. the design problem) to the constraints of the "outer environment" (i.e. external factors), some of which may only be known as a matter of probability (Simon, 1998, p.116). The allocation of resources forms part of this theory, and Simon argues that the design process is concerned with factors such as the "conservation of scarce resources" and "cost-minimisation" (pp.124-5), these are features of the 'outer environment'. Simon also emphasised "representation" in his theory of design, he argued that if a problem could be adequately represented its solution would become apparent, "solving a problem simply means representing it so as to make the solution transparent" (p.132). Simon believed that "the goal of designers' problem-solving processes is to find satisfied alternatives in the face of a real-world complexity where optimisation is impossible" (You & Hands, 2019, p1347).

[21] *The Sciences of the Artificial* was first published in 1969; this study uses the third edition published in 1998.

Simon thus frames design as “a logical search for satisfactory criteria that fulfil a specific goal” (Huppatz, 2015, p.6). Although the Design Methods movement of the 1960s had already tried and abandoned the mathematical approach to design problems, Simon largely ignored these discoveries (Huppatz, 2015, p.36). He argued that once design was reduced to problem-solving, designers could use algorithms and computer programmes to find optimum solutions by following a mechanical process of “design without human intervention” (Huppatz, 2015, p.6). His core argument is that if a problem can be adequately represented it can be submitted to a methodological problem-solving process.

Simon’s rational problem-solving paradigm has had a significant influence on design theory, becoming a “powerful tool for the modelling of design, inspiring and permeating a large part of design methodology” (Dorst, 2006, p.9). Simon saw any goal-orientated act of human intention as an act of design and thus claimed a key role for design in all other professional activity. In part, his theory aimed to elevate the status of design to that of the hard sciences. Crucially, Simon frames design as a process which can result equally in the development of artefacts or systems. The relevance of design to strategy or policy development is thus present in his core definition, also referred to in Section 2.2.

> *“Everyone designs who devises courses of action aimed at changing existing situations into preferred ones. The intellectual activity that produces material artefacts is no different fundamentally from the one that prescribes remedies for a sick patient or the one that devises a new sales plan for a company or a social welfare policy for a state. Design, so construed, is the core of all professional training; it is the principal mark that distinguishes professions from the sciences. Schools of engineering as well as schools of architecture, business, education, law, and medicine are all centrally concerned with the process of design.”* (1998, p.111)

Some more recent authors highlight and extend the problem-solving paradigm. Cooper and Press (1995) argue that “because the products of design fulfil a specific function, design is an activity concerned, at least in passing, with problem-solving” (p.16). Whilst Buchanan (2001) describes design as “the human power of conceiving, planning, and making products that serve human beings in the accomplishment of their individual and collective purposes” (p.9). The ‘planning’ element in his broad definition of design is the “sequence of goals towards which design thinking and practice move” (p.9). In this statement, Buchanan suggests that a deliberate evolution and progression towards addressing a given problem is part of design.

Returning to the foundations of design theory through Simon's 'Science of Design' paradigm (1988), it is easy to connect claims for design activity as an approach to strategic challenges in the public and civic sectors with early design theory. However, many theorists are now disenchanted with explanations of design as pure problem-solving and later readings of Simon's work point to both the limitations and the enduring influence of this definition.

2.3.2 Alternative views of design as a problem-solving activity

Other literature considers a more limited role for problem-solving in design activity. Critiques of the problem-solving paradigm cite the significance of social interaction and new learning in the design process. Methodological weaknesses are also highlighted in the literature.

For some observers, the interactive and social aspects of design activity go beyond problem-solving. Hatchuel (2001) argues that social interaction is a fundamental aspect of the design process that is overlooked by Simon's thesis. According to Hatchuel, "the social interaction [involved in the design process] becomes a resource and a designable area" thus implying that the outcome of a design project cannot be controlled entirely by the designer (p.267). Beckett (2017) similarly notes the conversational nature of design activity and argues that exploring the design problem is an interactive activity which may, for example, take place by speaking to those affected (p.11). Beckett also refutes the linear notion of the design process and instead frames it as a "circular process of discursive exchange" (p.6). Huppatz (2015) notes the shortcomings of a theory that focuses on an overly rational, quantitative approach to design, repressing "judgement, intuition, experience and social interaction" (p.29). In addition, Huppatz raises a key ethical question missing from Simon's approach, seeing the act of choosing in design as inherently political, "Who determines the "courses of action" and whose "preferred situations" are we to design?" (Huppatz, 2015, p.40). These are relational and situated views of design activity, where in order for a design problem to be understood interaction and contextual knowledge are required.

The notion that new knowledge is built through the design process is well-established in the literature and provides another critique of the problem-solving paradigm. Hatchuel (2001) comments that the use of "learning devices" in design, or prototypes[22], enables knowledge to be generated as part of the process of designing, and thus through the development of a design

[22] A prototype in design is an early mock-up of design output, such a sketch or rough model, that is improved and developed through the process of testing - sometimes with potential users of the design output.

project new concepts are expanded which cannot be known from the start (p.266). Dorst (2006) devises a fledgling theory which challenges the concept that design problems can be defined and then analysed. Instead, he argues that design problems are both "situated" and they "co-evolve" during the design process, meaning that there is never a complete representation of the design problem in the mind of the designer and instead the design problem is an amalgam of the designer's own experience and the local challenge at hand (pp.6-8). Dorst also posits the idea of "design paradoxes" which may arise in a design situation as a result of the value systems of different stakeholders (pp.14-15). Thus, design activity is framed as an act of negotiation and the designer must attempt to steer this process in order to devise solutions which transcend different viewpoints and respond to local contexts.

In addition, there are methodological concerns with the problem-solving paradigm. Dorst (2006) critiques Simon's central notion that ambiguous or unknowable problems could be transformed into well-structured or limited problems and submitted to mathematical analysis. He argues that the neat problem-solving framework loses its value if it is preceded by a complex process of defining the problem so it can undergo rational analysis.

> *"Creative design seems more to be a matter of developing and refining together both the formulation of a problem and ideas for a solution, with constant iteration of analysis, synthesis, and evaluation processes between the two notional design "spaces" - problem space and solution space."* (Dorst, 2006, p.10)

Beckett (2017) takes an alternative view, arguing that rather than a co-evolution, the problem and solution in design activity are "aspects of a single concept" (p.7). Although Beckett acknowledges it is "nonsensical" that a design solution could precede a design problem he views design as a subjective, cognitive act before it becomes a material one. He argues:

> *"The design process therefore concerns the simultaneous determination of problem and solution. This work of determination is entirely cognitive; any determination of the problem is only a determination of the concept of the problem. It is also therefore a subjective process, in that it only occurs as the result of the designer thinking through the problem."* (p.12)

Beckett's argument is that when a designer commits to thinking through a design problem this is first and foremost a cognitive act; in order to conceive the design problem, a concept of what the problem is not - i.e. the design solution - must also be identified. Although he acknowledges the

process of “working through” a design problem, this is inseparable from the design solution, and for Beckett “the design problem and its solution [are viewed] as moments of a concept undergoing a dialectical process” (p.8). Both Dorst (2006) and Beckett (2017) acknowledge that the design process entails the refining and development of early ideas - usually referred to as ‘iteration’[23] in contemporary design activity - but above all they underline the situated and subjective aspects of this process.

These later readings of Simon acknowledge the enduring influence of definitions of design as a problem-solving activity. However, they seek to construct new paradigms for design by underlining the relational, situated process of defining design problems and solutions. These interpretations also highlight the agency of designers and the subjective nature of framing a design problem.

2.3.3 Design problems and the subject matter of design

Considerations of design activity as a problem-solving process raise questions about the nature of design problems, and discussions about the subject matter of design are a fundamental concern in design literature. In the contemporary literature, ‘design problems’ are characterised variously as “wicked, ill-structured, indeterminate, undetermined, underdetermined, paradoxical, co-evolving with the solution, and co-evolving with both solution and audience” (Halstrøm, 2016, p. 41). These descriptions provide insight into why design activity is viewed as a potential approach to complex challenges, including in the public and civic sectors.

The first attempts to define the complexity of design problems were roughly contemporary with Simon’s ‘science of design’ theory (1969). In an influential paper, Horst Rittel and Melvin Webber[24] (1973) set out a theory of ‘wicked problems’ which departed from explanations of the design process as a linear development from ‘problem definition’ to ‘problem solution’ (Buchanan, 1995, p.13). Rittel and Webber contrasted ‘wicked’ and ‘tame’ problems, identifying ten traits of wicked problems, such as “problems that have no definitive formulation” and “problems with no stopping rules” (1973, p.160). For Rittel and Webber, societal problems of the order that governments and social planning professions deal with were wicked in nature - but they observed that the social professions of their time were ill-equipped to deal with wicked

[23] A repetitive process that aims to successively test and improve solutions to a problem.
[24] Horst W.J. Rittel and Melvin M. Webber were professors of design and urban planning at the University of California at Berkeley, who described ‘wicked problems’ in a 1973 article in *Policy Sciences* magazine. See: https://hbr.org/2008/05/strategy-as-a-wicked-problem

problems. Rittel and Webber also refer to multiple perspectives of complex problems arguing that in a pluralistic society, there is no single concept of public good and equity (1973, p.155). They argued that most of the problems addressed by designers are wicked problems (Buchanan, 1995, p.14).

Later, Buchanan (1995) developed Rittel and Webber's wicked problems theory into a substantive theory of design, examining why design problems can be described as wicked (p.15). Buchanan argued that the subject matter of design operates on two levels, the "general level" which relates to the broad view a designer might hold of the nature of design and its possible applications - such as technical knowledge or knowledge of materials - and the particular level, meaning the "specific possibilities of a concrete situation" (pp.15-16). The task of the designer is to "discover or invent a *particular* subject out of the problems and issues of specific circumstances" (p.15). Buchanan (1995) argued that design has no subject matter of its own rather the "subject matter of design is potentially *universal*" (p.15). More recently as Brown *et al.* (2016) have argued "One of the most interesting and curious features of design is that it is an art - a discipline, a field, a practice, a profession - without a subject matter" (p.1). Lawson (2004) adds nuance to this perspective, noting that whilst in theory all design problems are unique many share similar traits meaning that the experienced designer can transfer knowledge from previous problem-solving to a new scenario (p.118).

Following Rittel and Webber (1973), Buchanan (1995) argues that all but the most basic design problems are wicked. Buchanan posits that the wicked-problems view suggests a "fundamental indeterminacy", by which he means that design problems have no definitive conditions or limits (p.14). For example, if a designer is working on a complex social system the considerations are so far reaching as to appear infinite. By this reading, the task of the designer is to impose and invent a subject from indeterminate situations.

In more recent work, Buchanan (2019) argues that wicked problems are also the site of contested values, his later argument identifies the role of design in mediating between opposed value systems. This perspective has an important bearing on today's public and civic sector design activity, where designers have the decision-making agency to influence, decide and design the value systems that are prioritised.

> *"Wicked problems certainly can be complicated or complex, but more significantly, they are the location of values and purposes that are 'essentially contested' among the*

participants. Wicked problems are not problems that are contested merely by competing short-term interests; they are essentially contested on the grounds of different principles and fundamentally held values - for example, values at the heart of digital platforms that promise to connect human beings in online communication. Finding the mediated middle in such disputes is the central challenge of fourth-order design." (p.19)

The definition of design problems as wicked or indeterminate, presents a radically different view of design activity to the problem-solving paradigm, suggesting that professional designers eke away at the issue at hand by using their technical and conceptual knowledge to develop a better understanding of a situation as the design process progresses. These theories also suggest that the types of challenges designers address can never be fully formulated. Thus, part of the designer's task is to work with indeterminate subject matter, whilst acknowledging that complete comprehension of all but the simplest of design problems is never possible.

2.3.4 Analysis: the relationship between design activity and problem-solving

Early design theory established strong links between design activity and **problem-solving**. However, the pure problem-solving paradigm falls short. Later readings underline the significance of **'problem-framing'** as well as human interaction and the subjective role of the designer in understanding and responding to design problems. The act of 'problem-framing', where the subject matter is defined during the design process, shows why design is seen as an eminently transferable activity. Importantly, **power dynamics** are also at play in the process of 'imagining' and 'framing' - and this raises questions about who gets to frame the problem, decide the courses of action taken in design and what solutions to develop?

The 'problem-framing' and 'problem-solving' aspects of design underline its appeal in sectors that face complex strategic challenges - including the public and civic sectors. However, there are blind spots in both analysis and practice. Overall, the sophisticated acts of 'problem-solving' and 'problem-framing' have not been adequately codified or brought up to date in these new situations for design. In addition, the power dynamics at play in the design process, where the designer has immense agency to conceive and define problems, have not been thoroughly scrutinised. This research examines specific cases of design activity in strategic contexts in the public and civic sectors in order to understand the process of problem-solving and problem-framing in today's design activity and how the creativity and insight of individual designers informs this work. Analysis of this kind is currently lacking.

2.4 ‘Making’ in design activity

The concept of design as a constructive ‘making’ activity was central to early conceptions of professional design. For an activity so closely associated with industry, the outputs of design can appear to be evident - design results in manufactured products, messages and brands. However, design activity now takes place in widely differing settings including, as this study establishes, policymaking and strategic planning. Questions of what designers make and how design can be defined as a ‘making’ activity become more nuanced in these new environments.

Section 2.4 interrogates the concept of ‘making’ in design activity in order to explore how an activity which is often associated with material construction can be deployed in the seemingly immaterial and strategic contexts of public and civic sector organisations. Debates about the varied outputs of design are considered. The sense-making potential of design activity is also discussed, with reference to ‘abductive reasoning’. In addition, the concept that meanings and interpretations projected onto a design output by its intended users is explored. Finally, the notion that loss and erosion accompanies the construction of meaning in design activity is explained.

2.4.1 The products and outputs of design

Perceptions of design as a technical activity deployed to create graphics and products eclipse other concepts. However, from its inception, design theory has laid claim to far wider potential for design activity by arguing that its outputs also extend to services, systems and environments.

In his initial definition of design, Simon (1998) argues that the activity which produces material artefacts is no different to that which results in a social welfare policy (p.111). As discussed in Section 2.3, Buchanan (1995) also argued that design activity is responsible both for the creation of products and for complex systems or environments. According to Krippendorff (1995), the dominance of the product focus in design activity has masked other interpretations, arguing that the common definition of design “amplifies the aspect of *making* or, of applying a technical-functional rationality to the material world” (p.156). Krippendorff’s implies that interpretations of design have focused too much on material form, at the expense of other facets of making. The recent emergence of design as a strategic tool, implies that practical application has lagged behind the theory regarding expansive notions of what design can ‘make’.

The literature discussed above establishes broad understandings of design products, including seemingly intangible outputs such as new meanings - nonetheless design is still framed as a constructive activity. In order to understand the notion of making in strategic contexts - which are the focus of this research - an expanded concept of the products of design needs to be developed.

To explore the varied outputs of design activity, it is useful to refer back to early design theory put forward by Buchanan (1995), who set out a taxonomy of design activity which he called the "four orders of design" (p.7). These referred to:

1. symbolic and visual communications
2. material objects
3. activities and organised services
4. complex systems and environments

The 'orders' were not seen as a hierarchy between different design professions - although the traditions of graphic design may be more closely linked to symbolic and visual communications, and product design to material objects - rather Buchanan argued they explained how profoundly areas of design had created "a framework for human experience" (1995, p.8). He thought that the 'orders' should be read as interconnected contexts in contemporary design thinking - symbolic communication for example can help to interpret systems and environments, and material objects can enable or inhibit activities (1995, p.8). The identification of design as a tool to create complex systems and environments affirms earlier claims about the potential of design activity and marks new maturity of design as a profession.

Margolin (1995) also presents a far-reaching explanation of design products and their creation. By his reading, the outputs of design can include services, systems and activities, and these are not just created by expert designers (p.122). Margolin (1995) observes how this expanded notion of design products also broadens the social role of design activity.

> *"Conceiving design broadly enough to include buildings and corporate identity programs, spoons and towns, computer software and health care delivery systems, adds a new and needed dimension to our reflection on it as a social practice."* (p.122)

These theorists wrest design activity away from limited connotations with product development, bringing strategic plans and policies in the public and civic sectors comfortably within the umbrella of potential outputs of the design process. However, explanations of what is being made and how, when it comes to environments and systems, are largely absent from meta theories of design. Therefore, in this research, the strategic potential of design products is recognised and examples of how design activity is being deployed strategically in practical, everyday contexts are explored.

2.4.2 Design as a 'meaning-making' activity, abductive reasoning & meaning frames

Definitions of design as a 'making' activity, have led to explorations in the literature of design and meaning-making.

Krippendorff (1995) argues that "design is making sense (of things)", he returns to the etymology of the word design, from the Latin '*de + signare'* and posits that this means "making something, distinguishing it by a sign, giving it significance or designating its relation to other things" (p.156). Norman and Verganti (2014) also root their understanding of design in meaning making, arguing that radical innovation through design is a result of the creation of new meanings about the products and environments that shape our lives (pp. 93-6). Lurås (2016) similarly describes design as a "continuous process of developing an understanding of the design situation at hand, which enables the designer to develop adequate designs"; here meaning-making comes from feedback gained through the design process (p.33).

To clarify how new meanings are created by design activity, it is useful to examine how design activity progresses and notions of 'reasoning' in design.

Design reasoning is usually described as an 'abductive' process (see Cross, 1995: Dorst, 2011: Dorst, 2015: Dorst, 2006: Møller Haase & Nhu Laursen, 2019: Steen, 2013), a term which was coined by the pragmatist philosopher Charles Sanders Peirce[25] (Steen, 2013, p.17). Unlike the sciences where reasoning is typically 'deductive' (reducing possibilities to form a conclusion), or 'inductive' (the development of conclusions from observations of a pattern), design is commonly thought to rely on 'abductive reasoning' (Steen, 2013). Abductive reasoning starts with the recognition of a specific problem, then simultaneously builds knowledge about both the problem and its solution.

[25] Charles Sanders Peirce was a 19th century American philosopher, logician, mathematician, and scientist associated with pragmatist philosophy.

> *"In abduction, one can start with experiencing a specific current situation as problematic (p), and then simultaneously and iteratively imagine both ways to approach and frame the situation (p → q) and possible solutions for the problem (q); this type of reasoning is typical for design". (Steen, 2013, p.17)*

Dorst (2011) creates a further distinction between what he describes as Abduction 1 and Abduction 2. Abduction 1 is associated with conventional problem-solving.

> *"...we know both the value we wish to create, and the 'how', a 'working principle' that will help achieve the value we aim for. What is missing is a 'what' (an object, a service, a system)."* (p.524)

Whereas, Abduction 2 is closer to creative and complex problem-solving in design.

> *"...to figure out 'what' to create, while there is no known or chosen 'working principle' that we can trust to lead to the aspired value. That means we have to create a 'working principle and a 'thing' (object, service, system) in parallel. The need to establish the identity of two 'unknowns' in the equation, leads to design practices that are quite different from conventional problem-solving."* (p.524)

Dorst's argument is that in relatively simple problem-solving contexts, an artefact needs to respond to a given situation, whereas in more complex problem-solving both the object - the 'what' - and the means by which something will be achieved - the 'how' - must be established. Dorst suggests that the most logical way to approach a complex design problem is to start with the only 'known', which is the desired value (2015), and to work backwards in order to establish more about the problem and its possible solutions.

> *"Expert design is more a matter of developing and refining both the formulation of a problem and ideas for a solution in concert, in a process called 'co-evolution'."* (2015, p.25)

To understand abductive reasoning in design, the concept of 'framing' or 'placements' is important. Dorst defines framing as a hypothetical way of looking at a design problem (2015, p.25), and frames are potential situations that designers use to expand their notions of the design problem and its potential solutions. Buchanan (1995) also explores the concept of design 'frames' and argues that the subject matter of design is refined through different "design placements" (p. 16). Such placements are more fluid than categories, "they have boundaries to

shape and constrain meaning but are not rigidly fixed and determinate" (1995, p.10). Putting a design concept in a new placement or "concrete circumstance" can generate new perceptions of a situation and new ideas (p.11). A more concrete explanation of 'frames' or 'placements' is offered by Wylant (2008). A sketch, for example, can represent the concept for a product design, and thus in considering the practical development of a product idea the designer might place their 'sketch' or 'mini-hypothesis' into "placements of aesthetics, manufacturability, and ergonomics" to develop the idea further (p.13).

The process of reasoning in design is also connected to its identity as a creative discipline. In design, 'creativity' is often seen as resulting from a "mysterious" or "mystified" event (Dorst & Cross, 2001, p.425). However, the more time designers spend defining a problem by introducing different frames, which add elements of newness and surprise to the design situation, the more likely they are to achieve novel or creative outputs (Dorst & Cross, 2001). Furthermore, the concept of design frames or placements helps to explain why Buchanan (1995) considered that design had a fundamental contribution to make to other disciplines (p.4). Buchanan believed the working hypothesis of design, developed through different design placements, helped designers to select knowledge from different subject matters without honing in on any single discipline (p.4). This ability to integrate knowledge was, for Buchanan, a central question of liberal arts in the second half of the 20th century when overspecialisation made it difficult to apply knowledge beyond theory to the real problems of daily life (pp.3-4).

Although from the field of sociology, Richard Sennett – the renowned London School of Economics professor, who writes from the perspective of pragmatist philosophy – has been influential in design theory. Sennett's book *The Craftsman* (2008) challenges Western culture's long-standing ambivalence with man made things and seeks to redeem the status of practical making (p. 7-8). Sennett argues that effective problem-solving entails the "intimate connection between hand and head" as well as "skill, commitment and judgement"; he describes these qualities and processes as 'craftsmanship' (p.9). Sennett's view of craftsmanship is vast, extending beyond manual labour to include parenting, citizenship or computer programming (p.9). Thus for Sennett:

> *"Every good craftsman conducts a dialogue between concrete practices and thinking; this dialogue evolves into sustaining habits, and these habits establish a rhythm between problem-solving and problem-finding."* (2008, p.9)

Sennett's argument reclaims the significance of practical and reflective skills involved in professional design which, following his theory, is part of a wider sphere of human activity entailing a dialogue between concrete action and thinking to solve problems. Interestingly, his perspective is akin to the expansive claims for design made by early design theorists, and Sennett's emphasis on the practical transformation of objects and intellectual reflection in *The Craftsman* reads as a treatise on abductive reasoning, even though Sennett does not use this term.

Abductive reasoning is key to why design is described as a creative and meaning-making process, and its appeal for complex problem-solving. In abductive reasoning a desired goal or value is used as an anchor, and the design process depends on building knowledge of a specific situation in order to develop a solution through an iterative activity of framing or placing the desired value in hypothetical scenarios. As this process advances, more is learnt about both the problem and the solution. Abductive reasoning is a complex theory and there is little exploration of its value in today's applied contexts for design in the public and civic sectors. This research looks closely at the processes involved in design activity in practical situations, in order to understand how established concepts and design theory, such as 'abductive reasoning', are being deployed.

2.4.3 Meanings attached to and engendered by the products of design

There are other facets to meaning-making in design activity, including the meanings that people attach to the products of design and the behaviours or new meanings that these products engender.

Krippendorff's (1995) work on meaning in design activity, and his theory of "product semantics", emphasises how users construct the meanings they attach to artefacts. Krippendorff argues that a design product cannot be separated from the meaning that someone attributes to it, i.e. the "product semantics", and that this meaning is derived by both the user and designer through a process of conceptually placing an object in different use contexts. Some contexts are straightforward, relating to location or orientations like "in-front of", other contexts are more complex, like the sociolinguist context of an object whereby a user might consider the responses of others "what would my mother say about my wearing this dress?" (Krippendorff p.169). According to Krippendorff, an endless variety of meanings are possible because the number of use contexts is limited only by the imagination of different users (p.165).

> *"Meaning is a cognitively constructed relationship - it selectively connects features of an object and features of its (real environment or imagined) context into coherent unity."* (p.159)

Krippendorff (1995) also argues that artefacts do not exist in isolation, but are part of wider ecologies of things that interact with one another. These ecologies are culturally held and cannot be seen by one individual in their entirety, and thus whilst products are interpreted subjectively they also exist within wider networks. Krippendorff's theory highlights the agency of both designers and non-designers in the interpretation and use of design products, showing the importance of wider cultures of understanding in relation to the products of design and the dynamic social processes which imbue them with meaning. His theory means that even the most discreet products of design exist within social and material systems.

> *"Designers are but one kind of participant in the ecological process, and the patterns they set in motion could travel over such bridges* [between different cognitive spaces] *but never without involving the larger system of which they are part."* (p.183)

The products of design can also engender new meanings by promoting or restricting behaviour. Margolin (1995) also suggests that design products exist within networks, characterised in his theory of the 'product web'. His argument is that design products can inhibit or enable an individual's behaviour, but that they do so through complex networks comprising both activities and artefacts (p.139). For Margolin, users relate to the 'product web' through negotiation and interaction, making space for their own actions through products that enable and restrict them to varying degrees (p.139).

> *"To better understand the interactivity between products and actions in the life world we need a characterisation that recognises the full complex of objects, activities, systems, services, and environments that individuals engage with…I call this complex the product web"* (p.136)

The complexity of meaning-making in design activity is further explored in an example by Ghajargar and Wiberg (2018), who discuss how interactive artefacts engender behaviour. They argue that technologies can encourage behaviour change, for example "eco-feedback technologies and ambient lights as a means to reduce energy or water consumption" (p.52). Thus, they observe that rather than acting as 'neutral' or 'passive' tools, artefacts can shape not

only users' behaviour but also patterns of thought. In addition, Ghajargar and Wiberg recognise the meaning-making and reflection involved in the design process.

> *"Hence, two distinctive but related topics emerge. One is about the design activity and concerns the designer's reflective activity as a professional practitioner. The other is related to the artefact and to technology that is able to evoke reflective kinds of thinking in people."* (p.54)

The concept of design products within complex, subjectively experienced networks adds a new lens to the interplay between meaning and design activity, implying that it is impossible to separate design products from the meanings attributed to them by users and designers. In addition, design products are both constructed by, and direct, human behaviour. This is an interesting consideration for the design of complex systems such as government services. Seen in this light, social services or systems become dynamic design products that users both interpret and navigate. The agency and power dynamics inherent in this perspective of design products underlines why appraisals of new spaces for design activity are so urgently needed.

2.4.4 Evoking the future and confronting loss in design activity

The rhetoric surrounding design often evokes a constructive, positive activity whereby favourable futures are brought into being by the imaginations and actions of designers. This zealous optimism is evident in the titles of contemporary design conferences such as *What Design Can Do*[26] and *A Better World by Design*[27]. Such constructive associations of design lead to considerations of design as a future-oriented process. However, design activity also entails loss and erosion. For example, the deployment of raw materials in a new design product can only be achieved through the extraction of resources. Thus, considerations of both the future and of loss are central to design activity.

The relationship between design activity and the future is discussed variously in the literature.
In methodological terms, the future can be explored through artefacts such as sketches or product prototypes. Designers are also required to imagine future outcomes in order to initiate the process of design; Wylant (2016) argues that evoking and limiting the future is inherent to the design process and sees the products of design as the "cumulative articulation" of every minute decision in the process of making (p.74). Ideas of intention and articulation are

[26] whatdesigncando.com
[27] betterworldxdesign.com/about.html

particularly important in Wylant's view and he argues that "design deliverables" - sketches, models or prototypes - anticipate a future that could exist once an object has been created (p.75). Wylant also observes that the design process can explore different intentions before reaching a single solution and, as a result, design work encompasses ambiguity and openness particularly in the early stages. Wylant's views of progression and intention imply that the process of designing itself entails imagination about a future artefact or situation that does not exist.

> *"...given that the future thing does not yet exist, inherent in such deliverables is the ambition to limit something about the way the future thing may exist."* (p.75)

Jensen (2014) suggests that design has the potential to explore future possibilities beyond currently expressed user needs. He cautions that a focus on present needs can lead to only incremental innovations or "the creation of solutions to the problem at hand" (p.39). Instead, Jensen argues, more attention should be given in design to creating wholly new possibilities, meanings, and to what makes people happy.

> *"When designers start designing for the profound aspects of experience they can start designing in ways that affect human lives."* (p.39).

Reeves *et al.* look more practically in design at the "recruitment of the future" (2016). They identify two approaches to envisioning future possibilities in design; first "pragmatic projection" which aims to provide "research, information and mensuration" to establish a detailed picture of what has taken place, with a view to refining predictions about the future (p.8): second, "grand visions" that seek "to predict the future by inventing it" (p.8). They also identify the shortcomings of both approaches, arguing that 'pragmatic projection' can constrain future pathways for design and 'grand visions' can be hard to translate into present actions. Reeves *et al.* suggest that both models can be enhanced by 'participatory approaches', which "purposefully incorporate fiction as part of a design practice", and can bring greater accountability to expert-based design practices as well as more diverse views about what the future might comprise (p.17).

Designers do not always seek to evoke realistic futures, and the field of speculative design aims to investigate fictitious scenarios to understand the present and create space for debate about "how things could be" (Dunne & Raby, 2013, p.3). Dunne and Raby, two of the leading proponents of speculative design, describe their use of possible futures "as tools to better understand the present and to discuss the kinds of future people want, and, of course, ones

people do not want" (2013, p.2). Speculative design is not an area of focus for this research, but it is nonetheless a growing aspect of design activity which is increasingly influencing how designers think about the future.

Some theorists also observe that loss accompanies the construction of new meanings in design activity. Loss can refer to material use but also to habits and manners. Krippendorff (1995) argues that designers should be aware of the global effects of their creative efforts as "all production of organised matter or artefacts requires work but irreversibly increases entropy and pollution" (p.178). Krippendorff uses the concept of ecology to explain his view of "interaction among different kinds of artefacts", arguing that in order to create a substitute for something already in existence designers must understand that their product operates in the same way as populations or species which replace each other (p.179). Similarly, Wylant (2016) observes that loss in design activity is most apparent in the use of materials, "the significant reconstituting of materials is evident in making anything new and attending loss for the old material state" (2016, p.72). However, he also observes that "old ways and manners" can be lost if they are replaced by a newly designed solution (p.73). Wylant thus suggests that the idea of newness in design is paradoxical as "design can never be wholly about the new thing because it always involves linkages and loss in association with past conditions" (p.73).

Ideas about loss temper the optimistic characterisations of design activity. The loss accompanying making in design - be it material, temporal or cultural - means that consideration of both what is gained through a new solution, and what might be replaced, deserves attention from designers. Notions of loss add a new consideration to designers working in the public sector relating to the design outputs they engender.

2.4.5 Analysis: the making and loss of artefacts or meanings in design activity

The literature establishes significant breadth for 'making' in design activity, decoupling the products of design from narrow connotations with industry and bringing **services, systems, activities** and **new meanings** under the remit of design outputs. These expanded notions of making explain how initiatives in the public and civic sectors - such as new strategies or services - can be viewed as design products. As the literature shows, the products of design are not static, neutral or merely functional. They exist in complex ecologies and are the site of subjective and dynamic meanings which are projected onto them by designers and users,

restricting or enabling behaviour. Making in design is also two sided, and as much as design activity has the potential to evoke positive futures it also entails loss.

The notion of **abductive reasoning** gives a rich view of how problem-framing and problem-solving sit side-by-side in design activity. New knowledge about the problem in question is generated through the process of designing and the 'meaning-making' aspect of design - which enhances understanding - indicates why it has been deemed useful in situations where there are complex or ambiguous problems.

Thus, design is framed in the literature as a constructive activity, but 'making' in design is dynamic and multi-layered. The literature underlines the potential breadth of design products and the decision-making power that designers hold, to create outputs which influence the activities and desires of their users. This raises questions for new design activity where this research focuses, relating to 'how' making is taking place and 'what' is being made by designers working in strategic contexts. The specific products and 'making processes' being deployed in this design activity are currently underexplored, and therefore this research aims to add clarity to ideas about making in emerging design by examining real-world strategic examples.

2.5 The qualities of designers and participation in design activity

Participatory practices and strategies to understand people's experiences are central to design activity. In contemporary discussions, there is a proliferation of labels for design activities which focus on involving users in design. Many of these labels are used interchangeably in practical design contexts; they include user-centred design, human-centred design, and participatory design. The methods and approaches used by designers have also evolved to engender greater participation in the design process resulting in changes to the role of the designer. The promise of understanding human needs and increasing engagement has been a key motivation for the adoption of design activity in new fields, including in the public and civic sectors.

Section 2.5 explores the qualities and emerging roles for designers in collaborative design processes as well as concepts of participation in design activity. The methodological concerns of this new direction for design activity are considered.

2.5.1 Design qualities and new roles for designers

Considerable attention has been given in the design literature to the qualities and mindset of designers, beyond their technical skills, which nonetheless remain only partially understood. Recent developments in the places where design activity is now deployed have also led to changes in the attributes that designers require.

A substantial body of literature explores the qualities of designers. Much of this is developed by practitioners reflecting retrospectively on their own design processes. The challenges of defining an activity involving imaginative leaps, creativity and moments of inspiration are apparent in this literature (see Cross, 1995: Potter, 2002: Lawson, 2004: Michlewski, 2015).

There is broad acceptance in the literature that design as an everyday activity is distinct from the specialist work of professional designers. Secomadi and Snelders (2013) interpret design as "unambiguously grounded in a particular object of study and a field for expertise development" (p.12), thus whilst design can be defined as a fundamental activity common to all people, there is also a distinct field of professional design practice. Potter (2002) defines professional designers as those "whose work helps to give form and order to the amenities of life" (p.10). Lawson (2004), in exploring the concept of design knowledge, argues that design is a skill which it is only possible to acquire through "doing" (p.7). He emphasises the idea that designers bring 'outside knowledge' to developing design solutions, arguing that "Somehow skilled designers must bring some extra knowledge to bear on the problem in order to transform it into…[an] integrated solution" (p.13). Here the expert designer - unlike the novice - will be able to recognise problem situations and apply a schema of established knowledge to their resolution (p.118). Cross (1995) also examines professional design ability, whilst acknowledging the challenges to describing the design process because of its reliance on non-verbal media such as sketches, arguing that "Design ability is founded on the resolution of ill-defined problems by adopting a solution-focused strategy and productive or appositional styles of thinking" (p.110). Michlewski (2015) identifies core categories or themes that comprise his picture of 'design attitude', these include synthesis, listening skills and the ability to integrate knowledge (pp. 374-80). Common to all of these analyses of professional designers' skills is the combination of technical and problem-solving skills as well as more ephemeral qualities such as creativity.

Increased emphasis on participation in design activity has also influenced the role of the professional designer, which in many contexts has evolved from that of a lone innovator to a

skilled facilitator of design ability in non-designers. Manzini (2015: 2016) explores design expertise at a time when designing is widespread and the tools of design are easily accessible to non-designers, drawing distinctions between 'expert design' and 'diffuse design'. For Manzini, (2016) the features of an "emerging design" represent a major departure from the expert-led, industrially-driven design of the 20th century (p.53). However, Manzini (2015) suggests that whilst "everybody is endowed with the ability to design, not everybody is a competent designer", and thus when "natural" designing ability becomes inadequate there is scope for the expert designer to enable others, "we can ask the experts for help: people who are specially equipped with conceptual and operational tools to support design processes" (pp.37-8).

Similarly, Sanders and Stappers (2008) observe that the growing agency of non-designers in the design process is blurring the roles of designer, researcher, and user. They also emphasise new roles for professional designers as enablers of non-designers, arguing that designers are no longer translators of user experience and have become facilitators who are "leading, guiding, and providing scaffolds, as well as clean slates to encourage people at all levels of creativity" (p.14). Wilson and Zamberlan (2015) also argue that designers are now creating the conditions for participation in their work.

However, Manzini (2015, 2016) cautions against the idea that professional designers are merely fulfilling an administrative role which enables creativity in non-designers. Instead, the expert designer can "cultivate and apply" design methods and tools, but also bring "critical analysis and reflection" to the design process (p.54). For Manzini, expert design knowledge comprises both tools and a specific culture, "The tools help the experts understand the state of things and support the co-design process, from generation of the first concept to the final results. The culture is what is needed to feed both a critical sense (of the current state of things) and a constructive attitude (proposing the values and visions on which to imagine 'the new')" (p.38). This is a significant observation which represents a change in emphasis in the role of professional designers from visionary, technical innovators to skilled actors who work closely with non-designers but to guide the design process.

Although there is broad agreement in the design literature that designers require qualities that extend beyond technical skills, these qualities evade clear definition, partly because of the significance of non-verbal strategies in design but also because they are changing as design activity moves into new contexts. These shifts have played out in the public and civic sectors

where design work differs radically from its established model in industry. However, as with other areas of new design activity, there is little consensus or clear articulation of the qualities that designers require in these spaces. By undertaking research with practitioners and examining real-world situations, this study aims to develop knowledge about the qualities, skills and roles of designers in new strategic contexts.

2.5.2 Participation in design activity

In some ways design can be seen as a fundamentally participatory discipline; non-designers provide the inspiration - in the form of evidence from their own lives - to move the design process to the next stage. They also dictate whether a design output is fit for purpose by choosing to use, amend or reject design products. Participation by non-designers in the design process is a prominent theme in contemporary design literature. To understand this emphasis, it is useful to outline concepts of participation and their significance in present day design activity.

The rise of specific approaches to engender the participation of non-designers in professional design occurred in the latter decades of the 20th century (Sanders & Stappers, 2008: Opazo *et.al.,* 2017). Participation[28] had different trajectories in the US and Europe. Sanders and Stappers (2008) observe that participatory design first emerged in Scandinavia in the 1970s, where trade unions explored how workers could be engaged in the development of new workplace computer systems, initially called the Collective Resource Approach (p.7), whereas, the user-centred design approach emerged in the 1970s in the USA (p.5). They argue that in the participatory approach the non-designer, or 'user', is viewed as a "partner", whereas in user-centred design the non-designer is a passive "subject" of the design process (p.5).

As design activity has matured, the emphasis on participation has grown, and the involvement of non-designers in the design process is now a common feature of contemporary design. As (Hyysalo, V. & Hyysalo, S, 2018) argue, "User involvement in design is no longer a fringe activity. Industry, the public sector, peer-to-peer initiatives, and academia alike have begun to see citizens as important actors in various development and innovation activities" (p.42).

[28] In broad terms, participation in design is an approach attempting to involve different people in the design process to enable the results to meet real needs, as opposed to the needs perceived by the designers, although there are many different participatory strategies and traditions in contemporary design.

There is significant diversity in concepts and definitions of participation in design activity. Steen (2013) notes that despite its prominence as a working practice, the concept of co-design receives “little scholarly attention” and projects are often loosely named co-design resulting in “conceptual dilution” (p.16). Similarly, Burford *et al.* (2013) suggest that although participatory approaches in design have significant potential to transfer to other fields current barriers include a “diversity of approaches” and “lack of common vocabulary” (p.41).

Sanders and Stappers (2008) provide a clearer definition of participation in design activity. They argue that co-creation is a broad term referring to “any act of collective creativity”, whereas co-design is a specific form of co-creation which indicates “collective creativity as it is applied across the whole span of a design process” with “designers and people not trained in design working together” (p.6). They observe an increase in these approaches and argue that, to date, co-design has mostly taken place in the early stages of the design process, but the involvement of non-designers in decision-making at the later stages of designing is also growing (p.5). Following Sanders and Stappers (2008), participation in design activity can be defined as professional designers working with non-designers at different points in a design process, involving them not only in the generation of ideas but also in decisions about the design product.

By some readings, the design process is also enhanced by participation. Steen (2013) notes that in co-design “diverse people” participate in the process of abductive reasoning, and thus imagining the next stage of a design solution becomes a participatory activity (p.24). In this interpretation, design activity is seen as a process of inquiry and imagination which is advanced through input from non-designers, stewarded by expert designers.

The authorship of design products has also become more plural. Some literature recognises that non-designers are stepping into the traditional roles of designers, often in response to rapid social and environmental changes. Margolin (1995) identifies four different ways in which people engage with design: designing products for others; designing products for themselves; using products designed by others, and using products designed for themselves (p.126). Margolin identifies “cost”, “self-reliance” and “to satisfy a social need” as motivations for people to take up design in his category of those who “design products for themselves” (pp.131-132).

Manzini (2015) similarly observes non-expert design activity borne from social necessity. In his theory of “emerging design” (2016: 2015), he argues that long and lasting crises are forcing

people to design and reinvent the circumstances of their lives. He also notes the increasing availability of design tools to non-designers and observes that, combined with widespread social transformations, “more subjects must learn to design their own lives” (2015, p.31). For Manzini, the contemporary moment where people are forced to reimagine and redesign situations means that “we are all designers” (2015, p.1). Campbell (2017), identifies a similar development in his examination of “lay-designers” which he defines as “a common person who designs without any judgment of inferiority in terms of professionalised knowledge” (p.30).

The growing interest in participation and engagement has taken different forms, ranging from consultation and research with non-designers to catalyse the design process to active co-design where the designer and non-designer share the authorship of design products. Significantly, recent emphasis in professional design has been placed on empowering non-designers to use design tools, demonstrated by the deluge of design toolkits and open source design guidance which have appeared in different sectors[29].

In addition, as Manzini (2015: 2016) and others observe, non-designers are increasingly stepping into the roles of designers, enabled by more widely available tools and motivated by social necessity. These recent trends are blurring the boundaries of design and non-design roles in contemporary design activity. However, there are also challenges in transferring design capabilities to non-designers. As Huybrechts *et al.* (2018) caution “Designers often engage in complex participatory processes with the naive technocratic idea that they can easily provide [groups of] citizens with tools that allow them to self-organise and design their future” (p.95).

The power and potential of material ways of working to enable participation and develop shared understanding is also underlined in Sennett’s arguments on craftsmanship. In Sennett’s view, the concept of materialism has become debased through associations with consumerism and greed (2008, p.7); arguably, and ironically, this has been fuelled largely by modern design professions. In *The Craftsman* (2008), Sennett’s position is that material culture matters because “people can learn about themselves through the things they make” (p.8). Although Sennett is not discussing professional design in particular, his view that the processes of making enable people to develop knowledge of themselves and the world around them, is becoming a central and growing facet of design activity where designers are increasingly engendering participation by encouraging and facilitating design skills in non-designers as part

[29] See for example, OECD compendium of toolkits for public sector innovation and transformation. Available at: https://oecd-opsi.org/toolkit-navigator/ [Accessed March 2020]

of the design process. Furthermore, like many design theorists, the significance of experience to craftsmanship is also emphasised by Sennett (2008, p.10).

The promise of increased knowledge and engagement from specific social groups has been a central objective for design activity in public and civic sector organisations. As yet, analyses about how participation is taking place in such strategic contexts are lacking and notions of the ethics, power dynamics and protocols around increased participation are in their infancy. This research seeks to interrogate engagement with non-designers as one facet of new design activity in strategic contexts.

2.5.3 Methods for participation

Discussions of the methods for participation and co-design in the literature point to significant diversity of approaches and increasing sophistication in methods. As design problems become more complex, a number of theorists underline the need for new methods to engage people. Manzini (2016) argues that 'emerging design' can be distinguished by the methods used, such as those that elicit co-design processes. Similarly, Wilson and Zamberlan (2015) argue that new types of design require better methods. Hargraves (2018) observes an "explosion of new methodological approaches, techniques, and processes for centring design on people" (p.82).

Participation and co-design methods are wide ranging and are not always used or understood consistently. According to Celikoglu *et al.* (2017), many of the participatory techniques used in design activity have roots in sociological and anthropological research (p.84). In the context of design, these approaches are used to incorporate the experiences and views of people affected by a design problem into the evidence gathered in order to create design outputs (p.84). Celikoglu *et al.* comment on the varying degrees of interaction with users that result from deploying different ethnographic methods, for example 'participant observation', require researchers to immerse themselves in people's lives, whereas 'cultural probes'[30] are a less obtrusive method (p.84). The reliance on methods from sociology and anthropology, specifically ethnography, suggests increasing hybridity in contemporary design activity, where approaches from other fields are borrowed to fulfil the evolving demands on designers to engage and understand social groups.

[30] Cultural probes are methods that help people to self-document certain activities where the presence of a researcher would be disruptive. The methods might include photographs, user diaries and drawings, or even a combination of methods prepared by researchers or designers spanned several EU countries in the 1990s and is now fairly commonplace in design (Dunne, T. Gaver, B. & Pacenti, E. 1999)

The Empathic Design programme, a research programme led by practicing designers for 15 years in Helsinki, provides a demonstration of how participatory strategies can advance the design process, and how these approaches have evolved with the changing nature of design problems. The techniques developed by empathic designers explored everyday life experiences and highly individual factors such as emotions, moods and desires (Koskinen *et.al*., 2014, p.69). They deployed experimental strategies and borrowed from other fields; for example, using "design games", or techniques from "scriptwriters, filmmakers and scenographers" to create fictitious design scenarios and to trigger new ideas about possible solutions (p.74). Over time, the focus of the Empathic Design programme evolved from products to services and large systems in communities. As the design topics in the programme increased in complexity the central problem for design researchers became "how to leapfrog from mere interpretation into a more imaginative mode" that would help designers and participants to trigger "imaginative proposals on alternative futures" (2014, p.73-4). The evolution of the Empathic Design programme demonstrates that as the challenges addressed by the group became more complex, they were required to create research strategies which engendered imagination and speculation in order to think beyond the context of the known design problem.

Another action research programme 'Makeright', established in 2015 by the Design Against Crime Research Centre at Central Saint Martins in the UK, deploys participatory methods through a training course for prison inmates to design 'anti-theft' bags. Here, inmates have a co-design role in the creation of marketable products following a design process. In this real-world application of the empathic potential of design, a space for "emotional learning" is created for inmates (p.94). The programme focuses on both the individual and the systems around them, by recognising the need for inmates to establish networks and skills outside prison if they are to avoid crime (Gamman & Thorpe, 2018). This initiative underlines the increasing agency of non-designers and the enabling role of trained designers in new contexts for design activity.

As design activity evolves into new more political spaces, questions of power and ethics relating to the methods designers choose are increasingly relevant. Mitcham (1995) argues that ethics in design activity are underdeveloped, in part because of the speculative way in which design solutions are conceived, where a designer is not always able to account for how a design product will be used or respond to the ethical questions that may arise from its use. Nonetheless, Mitcham argues that the central ethical question of all design activity is "To what extent is this new way of being in the world [engendered by design] desirable or good?" (p.179).

Mitcham's (1995) question inevitably becomes more acute when the subject of design is social or policy programmes, both of which are contexts where design activity is now developing rapidly, and which this research aims to interrogate.

In a later analysis, Opazo *et al.* (2018) also argue that design is inherently political, particularly in a participatory context (p.82). They link the increasing emphasis on participation in design activity to the climate of social changes in developed and developing countries in the 1960s (p.73). They argue that the participatory change in design infers that "a political community can view design participation as an opportunity to rethink itself in terms of its boundaries, its common goals, and its form; it also means that deliberation over the definition of a design problem may lead to forming a public and to political (and design) action" (p.82). Here, questions of the values associated with design activity in politicised contexts are being evoked, which have not been adequately explored.

Other authors examine the ethics of specific design tools and methods. Massanari (2010) explores the potentially problematic relationship between designers and users created by methods such as 'personas', which are fictitious, aggregate identities used by designers to consider the priority needs of user groups - typically "a name with demographic information, goals, desires and personal details woven into some sort of narrative" (p.408). Massanari argues that "personas are implicitly political tools within organisations" (p.408), noting that they can be used to encourage particular behaviours in design teams or "enlisted" to make arguments in favour or against products and new features (p.410). Instead Massanari advocates participatory approaches that "openly enlist the users as co-designers throughout the design process" (p.406). Returning to Steen (2013), co-design is viewed as an inherently ethical process (p.20). Steen argues that when people engage in a co-design process they also engage in moral enquiry because "participants express and share their personal experiences" (2013, p.21).

Beyond specific design methods and tools, the structure of the design process more broadly lends itself to adoption in other disciplines. Burford *et al.* argue that design's "transcendence above paradigm boundaries" gives it a "privileged perspective" for building up a framework of knowledge about participation that can be deployed in other fields (2013, p.43).

Increased emphasis on participation in design activity has resulted in the development of methods to engender engagement. These methods raise new ethical and political concerns, for example about which groups are consulted and who defines the intended users of design products. In general, questions of ethics in today's design activity are underdeveloped. This is particularly true in the public and civic sectors where the design activity which has taken place has often been internal to large bureaucracies and largely compliant with organisational norms, possibly stymying the activist potential of design in these contexts. As design activity enters these overtly political spaces, issues of power and ethics are inevitably raised which have not been addressed. Therefore, this research aims to investigate where the new ethical considerations for designers lie.

2.5.4 Analysis: the qualities of designers and participation in the design activity

The qualities and attributes of professional designers are explored extensively in the literature. Although plural perspectives emerge, many descriptions highlight the combination of **technical knowledge** and more **individualised traits** such as creativity in the design skillset. In addition, new contexts for design activity have stretched the required skill set of designers, with an increased emphasis on participatory strategies and methods from other disciplines.

The relationships between designers and non-designers are also central concerns in the literature, and they indicate how design activity is changing. There is now increased blurring of 'professional' and 'lay' design where the role of the expert is frequently as a **facilitator** and **steward** of design ability in others. This means that professional designers are no longer the sole authors of design outputs. As design activity enters more political spaces, the **ethics of participation** are also increasingly important.

The potential to learn from and engage with different social groups has been an important incentive for the adoption of design activity in the public and civic sectors. However, it is not clear from current analysis which skills and qualities are most useful for designers in these contexts. Questions arise about the roles of non-designers, including whether skills can be successfully imparted from design professionals to civil servants and the best methods to engender participation. The required qualities and ethical dimensions of design activity in public and civic sector contexts are only recently being explored. Examining the skills, attributes and ethical concerns of designers working in strategic contexts is therefore one of the areas of focus for this research.

2.6 Emerging applications for design activity

The public sector is now established in theory and practice as a major site for design activity. Less analysis has taken place of design activity in civic sector organisations such as foundations and charities, but applied work is growing. Nonetheless, in relation to both the public and civic sectors there are considerable gaps in theoretical understanding, specifically regarding the application and processes of design in strategic contexts.

Section 2.6 explores the notion that design is in a new phase of development. The section first examines broad theories of design activity in complex and systemic contexts. Definitions and the landscape of design activity in the public and civic sectors are then explored. Finally, a small body of literature examining new strategic contexts for design activity is discussed.

2.6.1 New theories of design activity

A significant portion of contemporary literature charts changes within design methods and the expanding contexts for design activity.

Emerging contexts for design activity

Various commentators highlight changes in the products of design from discrete outputs, such as industrial products, to more complex systems. Nearly two decades ago, Buchanan (2001) wrote that the design product/output had shifted to “action and environment” and observed how an “early formative stage of understanding” these “third and fourth” orders of design would shape design professions and design education (p.11). In the context of participatory design, Sanders and Stappers (2008) argue that as co-design practices become more prevalent, the focus of design activity has shifted from “product” to “purpose” (p.10). They note that “we are no longer simply designing products for users. We are designing for the future experiences of people, communities, and cultures who are now connected and informed in ways that were unimaginable even 10 years ago” (p.10). More recently Manzini (2016), observes that the “focus of design has shifted away from ‘objects’ (p.53). Other theorists echo the notion of a new focus for design; Binder *et al.* (2016) for example find that “participatory design approaches are particularly well-equipped to let design give up its obsession with ‘objects’ and replace them with interwoven socio-material things” (p.153).

Shifts in the way design is valued have accompanied the expanding contexts for design activity. In his theory of emerging design, Manzini (2016) argues that design is concerned with "ways of thinking and doing" and looking at "complex and often intractable social, environmental and even political problems" (p.53). Similarly, Nusem *et al.* (2019) note that the act of designing is becoming as significant as the design output, arguing that "as the discipline of design has evolved, the role of design as a verb has become increasingly prominent" (p. 36). Thus, in these recent analyses the design process is identified as being equally, if not more, important to the design output.

Some theorists argue that changes in design are a direct response to the increasing complexity of environments in which design activity is now taking place. Banerjee (2014) describes a new class of "super-wicked" problems, that are "simultaneously massive, integrated, pressing and highly complex". Such problems entail the redesign of whole ecosystems and require designers to integrate their work with other disciplines (p.71). Similarly, Irwin (2015) argues that major societal shifts have resulted in complex challenges and that, "fundamental change at every level of our society, and new approaches to problem-solving are needed to address twenty-first-century wicked problems" (p.229). In a recent, study Lurås (2016) argues that to function effectively the products of design need to sit within systems, which entail the specific design at hand, the system that design seeks to influence and the wider system in which this is situated, for example an organisational context, "There are no strict boundaries among the systems; they are intertwined and form a system in themselves - a system representing the full design situation, including all factors that influence the situated design work" (p.35).

Defining emerging design activity

Various labels and frameworks are associated with the new strategic or systemic forms of design activity. In his concept of "fourth-order" design, Buchanan (2019) argues that "this new practice of design engages some of the most complex and difficult creative work that designers have been called on to address" (p.11). Buchanan's theoretical assessments of design, dating back to the early 1990s, established the potential for design activity to shape complex systems well before the current surge in practice, and more recently he argues that "interior design, from its beginning, has been a fourth-order design practice" - design activity focused on the creation of systems and environments (2019, p.11). This implies that whilst the theory has long identified the strategic potential of design activity, this recognition is still relatively new in applied contexts. Building on Buchanan's theory of 'fourth order design', Banerjee (2015) puts forward the

concept of the “design of large-scale transformations”, where he argues that a new class of “super-wicked problems” distinct for their scale and complexity now require designers to take a broad systems view and to facilitate collaboration between disciplines, he describes this practice as “fifth-order design” (p. 74).

Other theorists also underline the cross-disciplinary nature of emerging design activity. Hunt (2012) uses the concept of “transdisciplinary design” as a response to the increasing complexity of today’s problems. Hunt observes that, “transdisciplinary design situates its practices within new kinds of contexts - public health, government services, humanitarian relief, public education, infrastructure - and generates outcomes that might range from protocols, platforms, services and systems to those whose forms we cannot even predict” (p.8). Hunt (2012) emphasises the multidisciplinary and participatory aspects of this new design activity. Peruccio (2017) also underlines the integration with other disciplines, in a historical account of systemic design he argues that the “task of the contemporary designer is to confront and find innovative solutions for humankind, and this is achieved by opening the doors to dialogue with other disciplines with the aim of enhancing communities and territories” (p.71-2).

In other parts of the literature, design activity in complex and systemic contexts is viewed from within a specific sector. In the field of management, Holland and Busayawan (2014) identify strategic design activity as a tool for business competitiveness, considering that “strategic design refers to using design management to implement corporate strategic goals. It creates vision and integrates and orchestrates collaboration across disciplines in order to deliver real value to all stakeholders through creative solutions to business, social and environmental problems” (p.3).

Irwin (2015) emphasises the environmental sustainability principle at the core of some contemporary design activity, and her theory of “transition design” is of a transdisciplinary and collaborative practice that takes a systemic view to complex, global challenges such as “climate change” and “income inequality” (p. 229). She argues that transition design is “based on longer-term visioning and recognition of the need for solutions rooted in new, more sustainable socioeconomic and political paradigms” (p.230). Manzini (2016) highlights the fledgling and distributed status of new design activity and describes the change in current design practice in his theory of “emerging design”, a new “problem-based, solution-oriented design” that is not yet mainstream but “more or less consciously” appearing in different design theories and areas of work (p.52).

Despite the diverse terminology there is considerable commonality between these nascent theories of design activity. The sites of design are consistently emphasised as complex systems or strategic challenges. The multidisciplinary nature of many forms of new design activity, where design is seen as a framework for different disciplines to collaborate, is also frequently underlined. In addition, references to the crucial role of participation and collaborative working practices recur in the literature. Another key thread in academic debate, defines emergent design activity as an overarching approach which encompasses previously distinct design disciplines. As Buchanan (2019) notes “one implication of fourth-order design is that a rigid separation of the branches of the discipline of design is not adequate for the solution of many of the challenges designers face” (p.20).

Although momentous shifts in design activity have taken place in some contexts, the theory perhaps overplays the amount of design activity which is now engaged with the design of complex systems and environments. There is also a significant gap in understanding between these meta theories of design and the practical contexts where design activity is being used to address complex strategic challenges. This is an important insight for this research which seeks to contribute better definitions to design activity in strategic contexts.

2.6.2 Public and civic sector design

The public and civic sectors are a major site for design activity, which has been growing steadily as an innovation approach for nearly two decades in many places around the world (Ansell & Torfing, 2014, p. 2: Bason, 2014, p. 3: Clarke & Craft, 2019, p. 5: Miettinen & Valtonen, 2013; Mulgan, 2014, p. 1: Service Design Network & Mager, 2016, p. 9).

Public and civic sector innovation around the world

Design activity in the public and civic sectors sits within a broader movement of public sector innovation, which has been growing since the early 1970s and relates to “new ideas that create value for society” (Bason, 2010, p.4). The desire to create public value has been a key motivator for public innovation - where public value is understood as factors that improve internal operations such as “higher productivity, improved service quality, enhanced capacity for problem-solving” (Ansell & Torfing, 2014, p. 6), as well as societal outcomes or values such as “reduced crime, educational attainment and... democracy, equality, and trust, legitimacy, and confidence in the government” (van der Bijl-Brouwer, p.2). In their analysis of the role of design within public innovation, Ansell and Torfing (2014) note that there are rival views on how to

stimulate public innovation, including “privatisation” which involves commercialising and contracting out public services, and initiatives to “reinvigorate public bureaucracy” from the inside (p.3). Arguably the majority of design-led innovation activity has focused on the latter.

However, the public and civic sectors have typically lagged behind the private sector in keeping pace with innovation, for example by failing to capitalise on the broader ‘digital transformation’ which has revolutionised other fields (Clarke, 2017). However, there is a significant interest in public innovation at different levels of government including “national and trans-national policy-making, regional planning and development, and local regulation and service delivery” (OECD, 2010). Over the past decade, design activity has been interwoven with broader public sector innovation which is resulting in “a new emerging practice in which design approaches are used to design and implement public services, products, policies and procedures across domains such as housing, employment, health, crime prevention, and education” (van der Bijl-Brouwer, p.2). This design activity is also closely linked to the growth of public sector innovation labs, ‘i-labs’, which have been established in many bureaucracies as ways to deliver innovation and, although heterogeneous in approach, many i-labs draw heavily on design (Tõnurist *et al.,* 2007, p.1465). Thus, the emergence of design can be seen as one of a number of elements in an ongoing and widespread innovation and reform movement.

Design activity in the public and civic sectors is now an international movement, however there have been different national trajectories. Denmark and other Scandinavian countries are commonly thought to be at the forefront of this movement, where the organisations Mindlab[31] and the Helsinki Design Lab[32] were frontrunners. In the UK this design activity has grown rapidly since the early 2000s, initially driven by consultancies such as LiveWork[33], Engine[34], Participle[35], and Think Public[36], before becoming an established sector with many teams working inside and outside bureaucracies. There is also an established field in the Asia-Pacific region, for example in the Singapore Ministry of Manpower[37] (Bason, 2013, p.16). There are

[31] MindLab was one of the first internal to government, public sector innovation labs in the world, and was founded in Denmark in 2002.
[32] Helsinki Design Lab was established by the Finnish government’s innovation agency SITRA; it ran from 2008 to 2013.
[33] LiveWork is a commercial service design agency founded in London in 2002.
[34] Engine is a commercial service design agency founded in London in 2002.
[35] Participle was a service design agency focused on redesigning the welfare state, which closed in 2015.
[36] Think Public was the first social design agency in the UK, established in 2004
[37] The Singapore Ministry of Manpower is a department of the Singapore government using design.

long standing-innovation teams in many other places, Mexico City for example hosted the Laboratorio para la Ciudad[38] from 2013-2018. Additionally, some of the earliest public sector design activity took place in the Australian Taxation Office[39] (Body, 2008). Despite its advanced design sector and education system the United States has lagged behind, although organisations such as the Public Policy Lab[40] in New York have been operating for nearly a decade and a wider field is now developing (Buchanan, C. *et al*., 2019, p.167). These initiatives represent only a handful of the organisations undertaking design activity in public and civic sector contexts.

There are common motivations for public and civic sector organisations to engage with innovation and design activity. In recent years, contextual factors such as the global economic crisis and fiscal austerity have created pressure on public organisations to deliver services more efficiently (Tõnurist *et al.,* 2007, p.1461). In turn, organisations beyond the public sector - in the civic sectors - have had to fill gaps in public service provision. Within public administrations there is also growing recognition that complex problems cannot be addressed through conventional structures and design approaches are sought to infuse different ways of working and thinking into these systems, resulting in a call for new forms of design leadership and management (Junginger 2017, p.291: Mulgan 2014, p.1). The relationship between government and citizens has also changed fundamentally and the desire to understand the needs and demands of citizens has been another major driver of public sector innovation (Service Design Network & Mager 2016, p.11: Ansell & Torfing 2014, p.2). Design has moved into this space because of its perceived potential to "deal with the critical question of how to bring together various actors in an open-ended and cross-disciplinary search for new and creative solutions" (Ansell & Torfing 2014, p. 3). In one of the few studies of non-profit organisations, the clear focus on the consumer was found to be an effective means of building awareness and appetite for design activity (Nusem 2019, p.45). In addition, the digital government agenda has been a major catalyst for design work in the public and civic sectors and has profoundly shaped the development of service design (Bason, 2013, p.16: Sangiorgi & Prendiville, 2017, p.9).

[38] The Laboratorio para la Ciudad was an internal government innovation lab run by the Mexico City government from 2013-2018.
[39] The Australian Taxation Office was one of the first government departments in the world to use design.
[40]The Public Policy Lab was founded in 2011 in New York, as the first public sector design non-profit in the USA.

Design activity is also being applied in different places within public and civic organisations; including the 'front-end' of services through service design and digital design; new service models; and introducing new approaches to engender cultural change in organisations, frequently through capacity building and training (Christiansen, 2015: Sangiorgi & Prendiville, 2017, p.20: Service Design Network & Mager, 2016, p.13). Latterly, there has been increasing engagement in strategic areas of public and civic organisations, such as the design of policy, governance and legislation (Sangiorgi & Prendiville, 2017, p.20). The deployment of design in strategic contexts is a newer and less understood aspect of design activity, where this research focuses in order to add to knowledge.

Defining public and civic sector design activity

Different terms and definitions are used in the literature to describe public and civic sector design activity. Whilst public sector design is a now coherent field of academic study, the concept of civic-sector design - design initiatives outside the public sector - which nonetheless relate to the creation of public value (Buchanan *et al.*, 2019) - has received less focus, although aspects such as the subfield of social design are well-documented. This is perhaps because organisations in the civic sectors such as foundations and charities have been slower to adopt design activity than the public sector, or because this activity is more diffuse which makes analysis harder. This research examines public and civic sector design together, in acknowledgement of the diverse actors that are advancing design activity in social contexts.

Service design has been the dominant focus of research and is now well established. Although it is defined variously, there is common agreement that service design focuses on reshaping citizen interactions with government services and other points of interface, including digital and physical interactions. Leading service design academics, Sangiorgi and Prendiville (2017), define service design as "a human-centred, creative and iterative approach to service innovation" (p.2). They argue that the service design field began as an object of theoretical debate in the 1990s before developing as a practical design discipline with the first service design studios opening in London in the early 2000s (p.1). Within the public and civic sectors, service design has emerged as a distinct and well-formulated field.

Broader terms, particularly 'design thinking' are also used to denote design activity in the public and civic sectors. This term was originally used in business contexts to refer to the "qualitatively different thought processes, and approach to problem-solving, that comes from having had a

design training and career" (Design Commission, 2013). Although design thinking has been adopted in public sector contexts by some observers, it is also critiqued for its associations with a commodified form of design activity and the emphasis implied on developing ideas rather than delivery. In addition, there are overlapping areas relating to the practice and research of public and civic sector design activity. Design for social innovation refers to socially-motivated design activity which often, although not exclusively, takes place outside business and consumer contexts. According to Irwin (2015), this evolving discipline "expands problem contexts and objectives to address problems in social, cultural, and economic domains", (p.230).

Other theorists emphasise the participatory aspect of public and civic sector design activity and argue that the 'design for participation' field has been catalysed by emerging expectations of greater citizen engagement in government processes. Staszowski *et.al.* (2014) define designing for participation as "an approach that seeks to re-imagine public policies and current service delivery in public agencies by transforming the relationships between designers, civil servants, and citizens and ultimately by making the process of public service design more inclusive" (p.2). In the context of the non-profit sector "the role of design remains ill-defined" (Nusem *et.al.,* 2019, p.1), which is also the case for design activity in foundations and charities and other socially-motivated organisations. Thus, a range of terms and definitions are used to denote design activity focused on improving strategies, processes, services and citizen experiences in the public and civic sectors.

Methods and working processes in public and civic sector design

Despite the considerable diversity in definitions there is broad consensus in the literature about the approaches and methods deployed in public and civic sector design, and the argument that whilst some features of new design activity stem from established design industries like product and industrial design it has expanded to an amalgam of approaches from other disciplines (Clarke & Craft, 2019, p. 8: Manzini, 2015, p. 68; Mulgan, 2014, p.1). This design activity is now typically rooted in ethnographic or user research which aims to understand the daily experience of government staff and members of the public who rely on the services they deliver. Evidence generated from design research is then used as the basis to inform changes to public services and policies or to build new ones. Working visually with material artefacts such as 'journey maps' or 'prototypes' and testing ideas iteratively before implementation is also significant (Buchanan, C., *et al.,* 2019, p.163). Much emphasis has also been placed on training public servants in design approaches, and building individual and leadership capabilities is now a

considerable part of public and civic sector design activity (OECD, 2015, p.15). Ansell and Torfing (2014) provide a succinct description arguing that “design thinking operates through iterative rounds of inspiration, ideation, selection and implementation, and it combines a large array of tools and methods to guide and sustain the design of new and better solutions” (p.4).

Although there is overlap in descriptions of the technical working processes of designers engaged in public and civic sector activity, the mindset required to undertake this design practice is also underlined and “designers’ work is recognised more as an approach to innovation than a set of tools” (Sangiorgi & Prendiville, 2017, p.8). Public sector design activity has therefore become a “growing suite of design logics, traditions, and practices that are currently being applied to matters of governance” (Clarke & Craft, 2019, p. 6). This argument can also be extended to the civic sectors although literature about these fields is less developed.

Weaknesses and limitations

There are critiques in the literature about public and civic sector design. One of the most glaring challenges to the field has been its weakness in measuring impact and creating evidence of results (Mulgan, 2014, p.1: Prendiville & Sangiorgi, 2017, p.7). As Kimball argues (2016) in her review of the book *Design for Policy* (2014), there is relatively little in “definitive, quantitative proof” that evidences the tangible impact of design activity in public and private organisations (p.275). This has placed design activity at odds with the rational, quantitative stance of some public and civic sector organisations and left the sector open to critique. Clarity about the origins of public sector design activity is another area of challenge relating to its legitimacy in the public and civic sectors. As Mulgan (2014) comments “The advocates of design methods have been unclear about whether they are primarily promoting methods derived from product design...or whether they are echoing the ideas promoted by Herbert Simon and others a generation ago that see all public service as involving aspects of design: policy design, organisational design, service design, and role design” (p.1).

A more complex debate within the literature relates to the political intentions of practitioners of public and civic sector design activity. In such a global movement, the political and ethical stances of practitioners will necessarily vary widely. However, some literature argues that there is a unifying cause in public sector design activity, particularly around the representation of different, often vulnerable, groups inside large bureaucracies (Buchanan, C. *et.al.* 2019). Design

activity in bureaucracies has been complicit with existing policy mandates and political orientations and, as Staszowski *et al.* (2014) argue, “despite the inclusion of multiple stakeholders in the design process, decision-making for creating services and policies ultimately lies within the public agency and is bound by policy mandates and political decisions” (p.1). However, the political and ethical decisions behind public and civic sector design work, and the realities of where decision-making power lies, are not usually made explicit by practitioners. The ethical dimensions and challenges for designers in new and more political contexts is an area of concern for this research.

There are also structural challenges with the current public and civic sector design field identified in the literature. The presence of authorising environments, for example through leadership support, has been crucial to the rise of public and civic sector design but there is still a fundamental challenge in embedding these approaches in public and civic sector contexts (Sangiorgi and Prendiville, 2017, p.7). In addition, there are structural challenges within the design sector. According to Bason (2013) the market for consultancy services is currently immature or even declining in some places, and design education has failed to meet the demands for service and system designers who can interact effectively with governments (p.17). In addition, there are critiques in public sector innovation more broadly, relating to a perceived failure to move beyond the “low hanging fruit” (Ansell and Torfing, 2014. p.11) and, as Bason (2010) comments, deeper change through innovation requires structural and institutional support which has only marginally taken place, and “In order to make such ‘paradigmatic’ innovation much more likely, leaders in government must build an infrastructure of innovation – a public sector innovation ecosystem” (p.5). The need for organisation-wide change is also identified by Nusem *et al.* (2019) in a study of non-profit sector design activity, where to foster design capability “requires an organisational shift from reliance on a handful of key advocates for design” (p.72).

Thus, design activity in the public and civic sectors emerges as a broad practice with multiple definitions and applications, and although there is coalescence in descriptions of the design process and in the collaborative nature of this activity, its current heterogeneity is also underlined in the literature. The strategic and political or ethical dimensions of public and civic sector design activity are underexplored at present. Thus, the recent claims of design as a tool to aid strategy development and policymaking require urgent attention. Whilst the literature highlights that design activity in strategic contexts is growing in these fields, explorations in

applied contexts that show how this work is taking place are lacking. This research therefore seeks to contribute to understanding of these new applications for design activity.

2.6.3 Design activity in strategic contexts in the public and civic sectors

Work using design activity to improve policy development and strategic planning in the public and civic sectors has grown rapidly around the world in the past five or so years - for example the Policy Lab where the author worked during part of the research period was established as a design-led team in 2014 at the UK Cabinet Office to support policymakers in the UK government[41]. This is a departure from broader public sector and civic sector design work, notably service design, which has dominated practice and research, because of its strategic focus on policy/strategy development as opposed to service considerations. Literature examining design activity in strategic contexts is relatively limited, although a growing body of research explores its role in public policy development. The following section examines the emergent role of design activity in strategic contexts, highlighting the fluid definitions of this new work and its structural challenges.

Emerging design activity in strategic contexts

There is a small body of recent literature examining design and public policy development, although the current absence of critical analysis is often noted within this literature (Bason, 2014: Junginger, 2013: Clarke & Craft, 2019: Boyer, *et al.* 2013 & 2011). However, debate about the involvement of design activity in addressing strategic challenges in the civic sectors is very limited, potentially because this work is dispersed in a wide range of organisations and therefore harder to study or because service design has grown extensively in governments making the public sector a particular academic focus. This research examines the public and civic sectors in the round, in recognition of the complex ecosystem of organisations involved in addressing strategic social challenges and the paucity of theoretical analysis which accounts for this breadth. The recognition of this wider ecosystem comes from the researcher's experience of professional design and policy practice and networks, where the researcher has observed design activity being used strategically in foundations, think tanks and other civic sector actors.

Design activity in strategic contexts in the public and civic sectors is emerging internationally. Observers of this fledgling sector concentrate on the increasing visibility of practices associated with design in government policy development (Bason 2014: Kimbell & Bailey, 2017: Junginger,

[41]UK Policy Lab: see openpolicy.blog.gov.uk/about/

2013: Clarke & Craft, 2019). Nonetheless, some theorists and practitioners describe the growth of strategic design activity in broader terms. Long after he first identified "fourth-order design", Buchanan (2019) now observes the emergence of organisations and teams which are undertaking complex, strategic design activity including "Helsinki Design Lab" in Finland; "Mindlab" in Denmark; "Second Road: Leading Strategic Innovation" and the vision of "strategic conversations for organisational change" in Australia; "ThinkPlace" in Australia; and the "Stanford Legal Design Lab"[42] (p.18). Notably, Buchanan's list includes teams or organisations operating inside and beyond the public sector implying an awareness of the breadth in practice in the civic sector which is unusual in the current literature. Boyer *et al.* (2011) writing about the Helsinki Design Lab also notes that a growing community of strategic designers are tackling large scale "social and public policy challenges" (p.15).

The term 'strategic design' is rarely used in literature and in practice, although it appears in a handful of contexts sometimes only as a passing reference. Notably, 'strategic design' was used consistently by the Helsinki Design Lab to describe their work and they articulated its relationship to strategic and system change. The Helsinki Design Lab, though now closed, was arguably the first organisation to intentionally use and articulate design activity in strategic contexts.

> *"We believe that systemic change can be intentionally created - indeed designed - and that the task of linking up the details of a discrete project to the potential for broader change is the work of strategic design. In that sense, strategic design is a means to achieve social innovation, particularly where the class of challenge is complex, systemic in nature, and where the solution will require invention rather than adaptation."* (Boyer, *et al.* 2013, p.14)

[42] These organisations are a range of public, non-profit and design agencies working in public and civic sector design:

- MindLab was one of the first internal to government, public sector innovation labs in the world. Founded in Denmark in 2002.
- Helsinki Design Lab was established by the Finnish government's innovation agency SITRA; it ran from 2008 to 2013.
- Second Road is a strategic innovation consultancy working with blue chip organisations. It is owned by Accenture and based in Australia.
- Think Place is a design and research consultancy based in Australia.
- The Legal Design Lab is an interdisciplinary team based at Stanford Law School & school, building a new generation of legal products & services

The emergence of design as a strategic tool has also been linked to wider social and economic changes. Kimbell and Bailey (2017) note that evolving approaches in management and organisation structures over recent decades have led to a growing interest in experimentation and created space for governments to explore "Open Government, co-produce services, social entrepreneurship" (p.217). They also argue that, in the increasingly plural and disorganised landscape of contemporary capitalism, governments have introduced market-based methods into public administrations and "simple distinctions of 'public' and 'private' do not bear scrutiny" (p.216). Similarly, Clarke and Craft (2019) observe that the rise of globalisation in the late 1990s and early 2000s has resulted in expansion of the range of actors now involved in the creation of government policy, and that "policy design is acknowledged to now be a pluralistic venture rather than a strictly state-led affair, but one in which governments often still do, and in some cases are best placed to, take the lead by… 'steering' networks of non-state actors" (p.4). There is also wide acknowledgement in the design literature that greater social complexity has led to a search from policymakers for new tools. Rebolledo (2016) argues "traditional linear models of policy-making cannot cope either with the 'wicked problems' of a complex world nor with the increasing demand and expectations of citizens" (p.43). These structural changes have meant that a wider range of approaches are involved in the development of public policies and strategies, including design activity.

What is policymaking and strategic planning?

It is clear from the literature that some observers see public policies as both the articulation of a goal and the subsequent action directed by that goal, whereas, others separate intention from delivery in their definitions of public policy. In addition, some explanations distinguish policy from design, whilst other discussions condense these two ideas.

Howlett (2014) provides a crisp definition of public policy that encompasses both policy goals and subsequent actions. He argues that "Public policies are the result of efforts made by governments to alter aspects of their own or social behaviour in order to carry out some end or purpose and are comprised of (typically complex) arrangements of policy goals and means" (p.188). Similarly, Kimbell and Bailey (2017) provide an overarching view of public policy which ties together vision and activities, arguing that public policies can be understood as "a government's intent and its activities directed towards achieving specific outcomes" (p.215). They do however distinguish between "policy intent" and the ways in which governments accomplish intent through various activities, for example by "passing laws, publishing

regulations, commissioning or running public services, and stimulating business or civil society to provide solutions" (p.215). Bailey (2017) further clarifies the distinction between policymaking and policy delivery, arguing that "Policymaking is a discrete (although somewhat ill-defined) activity in government, concerned with strategy and direction-setting. Distinct from the delivery of public services, which are one way of enacting a policy intention (as are laws, regulations, 'nudges', incentives, etc.), it's as 'upstream' as you can get in government decision-making without intervening directly in politics" (p.43). For Junginger (2013) policy intention and the actions this initiates are also separate; she defines a policy as "a guideline or framework that delineates the kinds of services and products, the relationships and the manner of the interactions that are possible, encouraged or discouraged within and by a particular human system" (p.5).

Buchanan (2017) offers a constructive template to understand policy/strategic intent and subsequent action, which also wrests these concepts away from a purely governmental context. In his view, strategic planning comprises a strategic conversation which is followed by strategic planning activities (p.2). Thus, for Buchanan (2017), "A strategic conversation is a design process conducted at a high level within an organisation to shape the vision and strategy for organisational innovation" (p.1), followed by concrete activities where the "strategic process moves towards strategic planning as one immediate outcome" (p.2). Boyer *et al.* (2011), writing about their work at the Helsinki Design Lab, share this view commenting that "Strategic intent is the glue that translates the motivating force of a grand vision into principles that can be used to make choices on a more discrete level" (p.23).

In this research both the terms policymaking and strategic planning are used to account for design activity taking place in government policymaking contexts as well as strategic situations in non-government organisations such as large charities. From the debates in the literature, this research considers policymaking or strategic planning as activities encompassing both the identification of a goal and its subsequent actions, such as the development of new systems or regulations. Thus, the articulation of a policy goal, or a statement of strategic intent, are precursors of action. The literature suggests that design activity is being used in both the definition of strategic goals and the resulting actions in the public and civic sectors. This research seeks to critically assess this new work.

Differentiating design activity from policymaking

To effectively analyse the new design activity that is taking place in strategic contexts, current debates about strategic or systemic design also need to be explored.

Some observers view policymaking or strategic planning as design activities. Others establish clear distinctions. Returning to the foundational theories of design it is easy to frame policymaking as design. Simon (1998) saw design as any intentional course of action aimed at improving existing situations, this broad definition encompasses the act of devising and delivering a strategy or policy. Indeed, Simon's definition of design in the *Sciences of the Artificial* in 1969 refers to public policy - as discussed earlier in this chapter (Section 2.3).

> *"The intellectual activity that produces material artefacts is no different fundamentally from the one that prescribes remedies for a sick patient or the one that devises a new sales plan for a company or a social welfare policy for a state"* (Simon, 1998, p.111).

This meta-theory of design is echoed in more recent literature which argues that policymaking constitutes a design activity (Junginger, 2013: Mintrom & Luetjens, 2016). In the strictest sense the claim for policymaking as a form of design can be substantiated by design theories, however it is more useful to examine the distinctions between the established culture of design and policy or strategy development in real-world contexts. When assessed practically, many differences emerge.

In applied terms, design activity in strategic contexts is a contrasting approach to conventional policymaking and other types of strategic planning. Policymaking is traditionally characterised as a reductive, rational and linear activity which is often undertaken in isolated or closed contexts. In contrast, the design process is reliant on user-centrism, iterative working styles and creative working practices amongst other approaches (Bason, 2013: Christiansen, 2015: Junginger, 2017). The differences between policy and design is clearly expressed in some literature. Rebolledo (2016) establishes a useful distinction between policy and design:

> *"The difference is that while traditional policymaking is done from a normative standpoint and based on robust facts of the present, design uses a practical, imaginative and experimental approach - based on a holistic analysis of discrete qualitative facts, engagement with people, creativity and prototyping - to propose possible futures" (p.45).*

Thus, policymaking and strategic planning are typically reductive activities, often using quantitative data to establish rational and evidence-based boundaries that lead to prescribed activities. In contrast, design activity takes a practical and interdisciplinary approach that privileges regular iteration, experimentation and creativity (Bason, 2014: Rebolledo, 2016).

In practice, policymaking and strategic planning are messy, inconsistent and contingent activities. Howlett (2014), effectively captures this reality arguing that "the exact processes through which policies emerge vary greatly by jurisdiction and sector and reflect the differences, and nuances, that exist between and within different forms of government - from military regimes to liberal - as well as the particular configuration of issues, actors and problems faced by various governments, of whatever type" (p.188). Despite the complex reality of policymaking, it is important to establish distinctions between policy and design in theory in order to critically assess new design activity.

The new interest in policy and strategy design is sometimes framed as an extension of service design. Prendiville and Sangiorgi (2017) observe that service design has expanded to more systemic issues, "as part of the service design sphere, the hidden organisational systems and process behind the interface with users" has become a consideration for service design (p.3). Rebolledo (2016) comments that service design is becoming an important feature of designing public policies. Whilst exposure to service design is likely to have been a catalyst for explorations of more strategic activity in large bureaucracies, these aspects of design have different focuses. Boyer *et al.* (2011) frame strategic design activity as a process engaged with organisations and systems, arguing that "we are pursuing strategic design as a way to frame challenges, define opportunities and steward their implementation" (p.22). From these definitions, service design can be understood as a design activity which touches upon strategic issues in its attempts to improve interfaces with people, whereas design activity in strategic contexts is expressly concerned with defining strategic goals and activities to fulfil these goals.

Challenges to current design activity in strategic contexts

There are significant challenges in the current theory and practice of design activity in strategic contexts in public and civic sector organisations.

A substantial concern surrounding current design work, particularly in the public sector, is its implicit involvement in power dynamics and in some cases naivety to the political nature of policymaking. Design activity can, consciously or unconsciously, reinforce entrenched power dynamics, and the political dimensions of design become more obvious when designers work more closely with those holding power, such as policymakers (Buchanan, C. *et al.,* 2017). There is also power in the designer's ability to shape things which can impact thousands of lives and the political and ethical concerns of design activity in strategic contexts are increasingly being voiced, although remain underexplored (Bason, 2014; Kimbell & Bailey, 2017: Rosenqvist and Mitchell, 2016: Clarke & Craft, 2019: Buchanan, C. *et al.,* 2017). However, the literature is largely silent on ethical guidance that designers stepping into these new roles should follow.

The ability of designers to shape, decide and make at the strategic level raises questions of legitimacy. Mintrom and Luetjens (2016) note that at face value design activity promotes democratic participation, but this raises questions of representation and decisions about whose voice is heard in strategic planning contexts (p.393). As Clarke and Craft (2019) note, the act of deciding is itself a political task (p.11). Some observers also identify the potential for designers to act in more challenging and activist roles, given the access they are gaining through strategic work (Buchanan, C., 2018: Kimbell & Bailey, 2017: Rosenqvist & Mitchell, 2016). However, there is a central question about how the designer's role as a challenger is legitimised, particularly if they are working inside democratic government organisations. As Clarke and Craft (2019) astutely observe, "The act of weighing these needs is inherently political, subjective, normative, and ultimately falls to accountable elected officials granted the democratic power to define policy problems and policy goals, and to select the instruments intended to reach those goals" (p.10). What authority do designers have to step into this decision-making role?

There are also practical concerns relating to design activity in strategic contexts. These relate to the immaturity of current design activity and the cultural discrepancies that can exist between established organisational practices and the "serendipitous creativity" of design (Kimbell & Bailey, 2017, p.219). Bason (2014) notes that "One could argue that the political, ideological and sometimes abstract nature of public policies make them unfit for design practices" (p.6). Another major practical hurdle relates to the question of scale. Design activity, as it has emerged in the public and civic sectors, is typically rooted in understanding lived experience through user research. This often focuses on small numbers of individuals and "there is to date no empirical verification that design thinking, as a standardised practice, can be scaled up to an entire policy sector, or government" (Clarke and Craft, 2019, p.11).

Nonetheless, design activity as a strategic tool in public, and more recently civic, sector contexts is growing. It is possible that the design community has staked its claim before enough work has taken place to demonstrate its value. Efforts are needed to establish the conditions under which design improves strategic planning, requiring better analysis and definition of this practice. This research seeks to advance knowledge about how design activity is being used strategically in the public and civic sectors, by collecting data from some of its key actors, exploring its working processes and investigating applied contexts.

2.6.4 Analysis: emerging design activity in strategic contexts

The literature identifies that **design activity** is emerging **in new strategic contexts**. Although various labels are associated with new forms of design activity there is also commonality, for example in its multidisciplinary and emphasis on the process of design as much as its outputs. However, many of the attempts in the design literature to establish a new space for design activity as a strategic tool read as meta-theories rather than contextual demonstrations of how this work is taking place in practice (Banerjee, 2016: Irwin, 2015: Hunt, 2012: Manzini, 2016: 2015).

A related, but distinct, body of literature assesses the deployment of design activity in the public sector, which has consolidated into an established design field in the past two decades and comprises sub-fields including service design and the digital design of public services. However, the wider ecosystem of 'civic sector' actors deploying design in organisations such as foundations and charities has received far less scholarly attention. This is a gap in understanding about the networked way in which public services are delivered and in the breath of both public and civic sector design activity. More recently design activity in the public and civic sectors has moved into more strategic contexts. Again, existing literature concentrates on new practices associated with government policy development largely overlooking the pluralistic way in which social and policy challenges are met by actors outside and inside government institutions. Thus, design for policy is emerging as a small but defined literature, but wider considerations of design activity in strategic contexts are notably absent.

There are parallel themes in contemporary literature relating to both emerging design activity to address complex and systemic challenges and the increasing deployment of design in strategic contexts in the public sector. These two themes must be brought together and developed to reflect the reality of current design activity. First, meta theories about emerging design activity

need to be rooted in analysis of pragmatic and applied contexts. Second, concepts of **design and policymaking** must be expanded to include design activity in **strategic contexts in the civic sectors**.

This research seeks to add to the small body of existing knowledge by critically assessing how design activity in strategic contexts in the public and civic sectors can be framed and understood. It aims to develop a definition of this work by examining its working processes, key actors and impacts. Current strengths and limitations are also examined.

2.7 Literature Review - Conclusion

Chapter 2 has examined core theories of design activity by considering its definitions, essential elements and new spheres of action in order to develop a theoretical foundation for this research. Different bodies of literature were used to build a perspective of design activity in strategic contexts including foundational design theories, recent literature about emerging design and literature relating to design activity in the public and civic sectors.

The literature frames design activity as an expansive and elusive concept. It evades clear definition and there are dualities in most notions of design, which is at once a verb and a noun, a common lay activity and professional discipline, a technical skill set and an attitude. Design activity is also undergoing tremendous change, adding further opacity to conceptions of its value and of its limitations. Nonetheless, core themes about design activity are echoed in different parts of the literature and provide insight into its essential elements and value in strategic contexts - even if these are not conclusive or fixed.

First, design is a **solution-focused and pragmatic** activity with fundamental ties to problem-solving. However, problem-solving is not a sufficient definition of design, which is also a creative act where the designer has considerable agency to conceive of the design problem/subject matter and to imagine its potential solutions. In addition, new knowledge is built through the design process, suggesting that design activity is as much engaged with **problem-framing** as with **problem-solving**. Despite its ambiguities, the problem-solving paradigm highlights why design activity has appealed to those addressing strategic challenges - including in recent years in the public and civic sectors. Although there has been little scrutiny of the designer's agency in problem-framing and problem-solving in these fields or detailed analysis of how it is taking place.

Second, the **constructive** or **'making'** aspects of design activity is one of its defining features. The products of design are far more various than is usually assumed, comprising artefacts, services and systems as well as actions and new meanings. Furthermore, these products are not static or neutral, rather they exist in complex ecologies and are the site of dynamic meanings created by designers and non-designers, restricting or enabling desired behaviour. Making in design activity is also accompanied by loss of materials and ways of living. The expanded view of design products explains how design activity encompasses strategic and systemic outputs such as a new policy. However, the complexity of design products also raises questions about what is being made, what is lost and who is deciding what to make in new strategic contexts. These issues are underexplored in the public and civic sectors.

Third, design is a **profoundly human-centred** activity requiring hybrid skills. Alongside technical skills, certain qualities or attributes are associated with designers in the literature, such as creativity, imagination and empathy. These elusive traits make the design skillset/mindset hard to define. The role of the designer is also fracturing as more non-designers play active parts in the design process and as professional design activity focuses increasingly on building design capability in others. The methods of design have expanded accordingly and many of the features of current design practice include approaches from other fields. The potential to learn from and engage with different social groups in design activity has been an important incentive for its uptake in the public and civic sectors, and yet, the skills designers require and the ethical considerations of participation have not been adequately probed.

Finally, the development of design in new domains is a resounding theme in contemporary theory. Whilst the strategic potential of design activity has long been recognised in design literature, applied design activity has only recently caught up. In the past two decades, there has been a staggering growth of design activity in governments, and more recently the wider ecosystem of actors responsible for social systems and services in the civic sectors. Public and civic sector design is now deployed in many forms, including service development, digital initiatives, staff training and latterly in strategic contexts. From the literature, policymaking and strategic planning were framed as activities encompassing both the identification of a policy/strategic goal and the subsequent actions to address this goal. The recent **strategic applications of design activity** now involve the deployment of designers and ways of working from design to develop policy or other strategic goals. This design activity is evolving and shifting so rapidly that both the literature and practice are underdeveloped.

The ideas explored in the Literature Review give rise to a number of theoretical propositions about design activity, which are tested through the primary data collected as part of this research (Fig. 2.3).

Fig. 2.3: Theoretical propositions about design activity from the literature

Theoretical proposition	Description from the literature
1. Design is a 'problem-framing' and 'problem-solving' activity	Design is an intentional planning activity where solutions are developed iteratively to improve existing situations i.e. 'problem-solving'. In parallel, design activity also entails 'problem-framing' and new knowledge is built through the design process, leading to associations between design and 'sense-making'. Furthermore, individual creativity and social interaction are key in the design process.
2. Design is a constructive and material activity with varied outputs	Design is a constructive activity but 'making' in design is complex and multi-layered. The outputs of design, include artefacts and services as well as systems and actions. Design activity can result in intangible outputs such as new meanings. Making in design is also accompanied by loss and erosion of materials or old habits.
3. Design is a profoundly human-centred and participatory activity	Design is both an essential human activity and an area of professional expertise. However, the qualities and skills of professional designers are hard to pin down. Participation is central to design activity and the designer's role as a facilitator of design expertise in others is increasingly important in contemporary contexts for design. The agency that designers have to 'enable' and 'decide' raises ethical questions about new design activity.
4. Design is changing, resulting in new roles for designers and new types of design challenge	Notions of emerging design, new types of design challenge and different outputs from design - moving from product to system and environment - imply a shift within design and the types of problems that design is now being deployed to address.

The pragmatic, constructive and human-centred attributes of design activity have much to offer public and civic sector organisations addressing ever-more complex social and policy challenges. However, design activity has grown rapidly in new contexts where its presence and results can have profound social impacts, arguably even more so than the products of industrial design. This development has taken place without due critique, and questions of potential,

maturity and ethics have not been addressed sufficiently. In addition, there is an absence of concrete examples and data about how this work is now taking place.

The literature review underlines several gaps that this research seeks to investigate. Overall, design activity is expanding into new strategic contexts. The strategic potential of design is recognised in foundational theories from the 1960s and 1970s, and in the past 10 years, more recent literature has placed renewed emphasis on this aspect of design. However, data and analysis from **real-world examples** of the situations, subject matter, key actors and working processes of design activity in new strategic contexts are limited. This observation leads to further gaps in current knowledge:

- The complex and concurrent processes of **problem-framing** and **problem-solving** are central to design theory. However, there is a disconnect between the advanced and technical design literature about problem-solving and knowledge about how these processes are taking place in strategic contexts in the public and civic sectors. Factors such as the design process, values attributed to problem-framing and problem-solving and the relationship between them have not been spelt out.
- Design can be viewed as a profoundly material and constructive practice, but as the literature shows, making in design is complex and multi-layered, resulting in varied design outputs. This central facet to design has not been adequately understood in strategic contexts; specifically, the **processes of making** and **products** of this design activity have not been made explicit.
- The literature establishes that designers require hybrid skill sets, comprising technical knowledge and more ephemeral traits such as ‘empathy’. Increased emphasis on participation in design activity and new roles for designers as ‘facilitators’ have also been discussed extensively. Nonetheless, the **roles**, **qualities** and **participatory dimensions** of design activity in new strategic contexts have not been thoroughly assessed. This includes the **power dynamics** and **ethical considerations** designers are now facing in more politicised situations.

This research addresses these gaps in theoretical understanding, by defining and critically assessing design activity in strategic contexts in the public and civic sectors through primary data.

Chapter 3

Research Design & Methods

Chapter 3: Research design and methods

3.1 Introduction

Chapter 3 sets out the research design, strategies and methods used to address the research problem, aim and questions (set out in Chapter 1, Section 1.2 and below). The theoretical basis of these approaches and the justification for employing each are discussed.

Research problem
The research problem addressed is the lack of theoretical understanding and analysis of how design is being used in strategic contexts, such as government policymaking and strategic planning for civic sector organisations, which has meant that this design activity has not been adequately understood or scrutinised.

Research aim
The aim of this research is therefore to define and critically assess the application of design activity in strategic contexts in the public and civic sectors, and its impacts in addressing complex social challenges.

Research questions
In order to consider this aim, three research questions are addressed:

- RQ1: What is the current state of design activity in strategic contexts in public and civic sector organisations?
- RQ2: How can this design activity in strategic contexts be framed and understood?
- RQ3: What are the strengths and limitations of current design activity in these strategic contexts?

The overall design for this research is qualitative with mixed methods. The mixed methods approach comprises a range of strategies and methods to capture the complexity of new understandings of design activity and cases of its use in strategic contexts. The primary data was collected using examples available through professional practice, supplemented by data collected specifically for this research.

The research design comprises four main strategies and a range of methods, listed below in the order in which the research was undertaken (see also Section 3.2.2).

These are:

1. **literature review** of design and policy-related literature;
2. a **case study** of design approaches in UK social investment policy development, drawing on the researcher's professional work;
3. a **survey project** of public and civic sector design organisations and teams, including scoping conversations with 13 experts, an online survey with 16 respondents and a workshop with 25 expert participants;
4. **qualitative interviews** with 15 expert commissioners and practitioners, using design in strategic contexts, undertaken specifically for this research.

A tiered approach to data collection was taken, with the research strategies providing a range of lenses through which to examine the research questions. The 15 qualitative interviews were the only tier of data collection designed solely outside the practice environment for this research - both the survey project and case study research took place whilst the researcher was employed in public sector contexts.

Chapter 3 is structured as follows. Section 3.2 examines the relationship between design and research, key social research approaches and the research design for this study. Section 3.3 discusses the case study research strategy. Section 3.4 sets out the survey project research strategy. Section 3.5 considers the qualitative interview research strategy. Section 3.6 discusses the approach to synthesising and analysing data, which is an important consideration for research with multiple strategies and methods. Conclusions are drawn in Section 3.7.

3.2 Research in design and 'social research' design

3.2.1 The relationship between research and design activity

A challenge for this research was to distinguish between the methods used to collect the primary data - principally social science methods - and design methods which are used as a research strategy in their own right by designers in applied contexts. The relationship between design and research is multifaceted. Frayling (1993) distinguishes between: "research into art and design" such as historical research; "research through art and design" including materials research and action research; and "research for art and design", gathering reference materials to inform the development of an artefact (p.5).

The research conducted here is a social research study of design activity, meaning that methods originating from social science research are used to understand new aspects of design activity. Knowledge of the methods used by designers is important to understand the research context, but the study does not seek to add to design methods or social science research approaches. Rather, the social science approaches are a means to an end - collecting data in the best way to address the research problem, aim and questions.

Social science research seeks to understand and explain social processes. Its aim is typically to develop a conceptual framework that makes sense of phenomena, specifically the dynamics, content and context of social relations (May, 1993, p.21). The social science framework is appropriate to a study of design activity which takes place in the context of the 'artificial', in other words in socially produced situations.

The research strategy adopted for this research falls into the first of Frayling's (1993) categories, "research into art and design", however by examining the processes, methods and products of design activity in strategic contexts the research necessarily touches on "research through art and design" as well as "research for art and design" (p.5). Design methods are used to inform the process of designing (Laurel, 2003). The research did not explicitly use 'design methods' as a research strategy, but it was influenced by design approaches which encourage reflection and discussion amongst research participants as well as iterative working. For example, research participants were encouraged to engage in the creation of some of the research material - in particular by creating and analysing data at a workshop that took place as part of the survey project.

Thus, there are two important ways of considering research methods in relation to this research: first, the academic research approaches used for the study of design which are rooted in social science research, and second, the set of research methods used by designers in the applied contexts where the primary data focusses. These differing approaches to researching design can be summarised as:

1. Social science research methods used for this research into design activity.
2. Methods that designers use in practice, which feature in the primary data for this research.

3.2.2 Context for the primary research

The primary data was largely collected in professional contexts where the researcher was working at the time. Undertaking professional work alongside academic research meant that the research was informed by professional employment. For example, the selection of some primary data was led by the contexts where the researcher was employed. However, the close relationship between professional and research activity increased the accessibility to information which would otherwise have been hard to research.

The decision to undertake this research was inspired by observations made whilst working in different public sector environments and collaborating with designers. During the course of the research, from 2015-2020, the researcher worked as a policymaker and Research Fellow as well as on practical design projects (Fig. 3.1). Specific affiliations included two different positions in the UK central government, as a Senior Policy Advisor at the Social Investment & Finance Team in the Cabinet Office, and as a Senior Policy Designer at the Policy Lab, a specialist design-led policy unit also in the Cabinet Office. The researcher also undertook a six-month placement as a Visiting Scholar at Parsons School of Design at The New School in New York in 2018. Additionally, the researcher was a Policy Fellow at The Public Policy Lab, which is a design-led non-profit in New York City, as part of a long-standing fellowship arrangement. It is important to note that the researcher is not a professional designer, therefore the study examines new design activity through the lens of a policy and social science training.

Fig. 3.1: Chronology of professional work during the research period

Date	Position	Research
Jan 2015 - present	Policy Fellow, Public Policy Lab, New York	● Research application and scoping
April 2015 - Dec 2017	Senior Policy Advisor, Social Investment & Finance Team, Cabinet Office	● Literature review ● Case study of design approaches in UK social investment policy development
Jan 2018 - July 2018	Visiting Scholar at Parsons School of Design, The New School, New York	● Survey project of public and civic sector design organisations
Aug 2018 - Dec 2018	Full time research	● Qualitative interviews with expert commissioners and practitioners, using design in strategic contexts
Jan 2019 - May 2020	Senior Policy Advisor, Policy Lab, Cabinet Office	● Research write up

The research drew from and was woven into each of these applied environments. The first body of fieldwork was drawn from the case study of design approaches in UK social investment policy development, which was a practical design project led by the researcher. It took place between 2014-17 whilst the researcher was employed as a Senior Policy Advisor in the Social Investment & Finance Team at the Cabinet Office, although some design work had been initiated before the researcher joined this policy team. The case study provided much of the inspiration for the themes and focus of this research. The next body of fieldwork, the survey project, was undertaken whilst the researcher was undertaking a Visiting Scholarship at Parsons School of Design in 2018. The main body of independent fieldwork for the research came from the 15 qualitative interviews with expert practitioners and commissioners, who were selected through existing professional networks, and the interviews were undertaken in 2018.

The order in which data was collected was based on the opportunities available to the researcher. The qualitative interviews were the primary mode of data collection, although this data was collected last.

3.2.3 Practice-led research

The close connection between academic and professional work in this research relates to ideas of 'reflective practice', 'practice-led' research and 'action research' which are well-established in the research literature. There is a significant body of theory discussing these different modes of research (see Schön, 1983: Reason & Bradbury, 2008), and the concepts of reflective practice, practice-led research and action research are distinct yet overlapping. Although it is not possible to address these research orientations in detail within this research, it is important to outline the interrelation between practical action and academic study because of the influence of professional contexts on the development of the research.

Ideas of reflective practice have grown particularly in applied and interactive disciplines such as social work, where reflective approaches are seen as a way to build critical awareness about professional activity whilst it is being undertaken (Rutten 2016, p.299: Rutten *et.al*, 2010, p.481). Additionally, practice-led research has been explored within design fields because of the tacit and non-verbal knowledge in design activity, where practice-led research approaches allow designers to explore the experience of designing (Hatleskog, 2014 p.5). Action research refers to a 'family' of research strategies that are rooted in participation, entailing cycles of reflection and action to address problems, "action research is about working toward practical outcomes,

and also about creating new forms of understanding, since action without reflection and understanding is blind, just as theory without action is meaningless" (Reason & Bradbury, 2008, pp.1-4).

Within these literatures, the role and personal experience of the researcher has also been stressed as an integral part of the research process. Schön (1983) defined the term 'reflective practitioner' and examines the process of conversation and reflection in a number of fields, including design. Schön puts forward an intimate and nuanced description of the design process, concentrating on architectural design as an example of a reflective activity which he considered is generic to all design fields. Schön emphasises the reflection in action that occurs during the design process in order to respond to an evolving design situation, and he argues that verbal and non-verbal dimensions are important in the process of reflection during design (p.93). Schön describes the interaction between the designer and the design situation.

> *"He shapes the situation, in accordance with his initial appreciation of it, the situation 'talks back', and he responds to the situation's back-talk. In a good process of design, this conversation with the situation is reflective. In answer to the situation's back-talk, the designer reflects-in-action on the construction of the problem, the strategies of action, or the model of the phenomena, which have been implicit in his moves."*
> (1983, p.93)

In a more recent study of architectural research, Hatleskog (2014) argues that reflective practice is now an established methodology, which attempts to express the tacit or non-verbal knowledge found in practice "It is a verbal description made during or after practice that seeks to reveal knowledge" (p.5). This process of exchange between activity and imagination, often drawing on tacit and non-verbal knowledge, is at the heart of design.

The development of this research was influenced by reflection between applied and academic settings. However, the research does not slot neatly into the categories of reflective practice or action research, as learning-by-doing informed the research in both overt and oblique ways. For example, the body of knowledge about design activity in strategic contexts built through professional experience enabled the researcher to conduct the qualitative interviews with the 15 expert practitioners and commissioners from a position of experience, guiding the question design as well as the analysis of the interview data. In addition, action research has many commonalities with participatory design and during the course of this research, the researcher

facilitated numerous workshops including one for the survey project which forms part of the primary data. More generally, the knowledge built through professional work and the research for this study enabled the researcher to deepen professional practice and further the research simultaneously.

An idea put forward by Hatleskog (2014) in a discussion of reflective practice in architectural research helps to clarify the relationship between research and action in this research. Hatleskog argues that practice-led research does not have to take place solely in applied contexts, rather "practice can act as a starting point from where problems and challenges are discovered and investigated, before research is carried out using established methodologies, that are not too unfamiliar to practice, or developed for practice" (p.6). Hatleskog's argument is that practice-led research and established methodologies can be intertwined with more conventional social science research processes.

In the case of this research, practice-led insights led to the definition of the initial research problem (Chapter 1, Section 1.2) and the selection of the case study. Established qualitative research strategies and methods were then used to investigate the research problem, drawing on some professional experience. Thus, aspects of the research can be seen as practice-led.

3.2.4 Research paradigms

Social science research is almost always structured using a research design. This provides the overall framework for establishing a research initiative so that it addresses the research problem, aim and questions. The following section examines the concept of research design from the literature.

The research design operates as a kind of blueprint for how data is collected and analysed. Creswell (2009) defines the research design as the "plan or proposal to conduct research" (p.5), and provides a helpful structure for research design comprising three key tiers.

1. types of **overall research design** include "qualitative, quantitative and mixed methods" (p.3).
2. within these three choices, **strategies of enquiry** provide specific directions for procedures in a research design (p.11); for example, a quantitative research enquiry might be led by survey or experimental research, a qualitative research enquiry might

take a case study or grounded theory approach, while in mixed methods research multiple approaches to data collection are taken (pp.11-15).

3. the strategy of enquiry then leads to the **specific research methods** which are the "forms of data collection, analysis, and interpretation that researchers propose for their studies" (p.15).

There are different motivations for the orientation of a research design. If a phenomenon is under-researched then it may merit a qualitative approach, because this mode of enquiry is typically "exploratory and useful when the researcher does not know the important variables to examine" (Cresswell, 2009, p.18). Quantitative research can be used as a way of "testing objective theories by examining the relationship among variables" enabling findings to then be replicated and generalised (p.4). In mixed methods research, multiple approaches to data collection are taken, these can combine qualitative and quantitative methods, for example through "sequential mixed methods" where the data findings from one method are expanded on by using another method or "concurrent mixed methods" where the researcher converges or merges quantitative and qualitative data (p.14). The choice of research approach is not binary, rather a research study "tends" to be more qualitative than quantitative along a "continuum" (p.3). The idea of a tendency towards a specific orientation is helpful for this research which although qualitative in framing, deploys three different research strategies in a mixed methods study.

Mixed methods research is an approach that employs several strategies and methods. Burke *et al*. (2007) argue that mixed methods is increasingly recognised as the "third major research approach or research paradigm" (p.112). They note that there is no fixed definition of mixed methods research, which can sit on a continuum anywhere from "the collection of both qualitative and qualitative data" to research "potentially involving mixing at all stages" (p.112). Significantly for this research, Burke *et al*. (2007) argue that mixed methods research can be "qualitative dominant" where predominantly qualitative approaches are used with some acknowledgement of the value of quantitative data (p.124). In this research the majority of the primary data is qualitative; a small amount of quantitative data was generated through the survey project, although this is not statistically significant. Burke *et al*. (2007) define mixed methods research in broad terms.

> *"Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration."* (p.123)

Different 'worldviews' can inform the overall research design and orientation. There are a number of key 'worldviews' in the research methods literature. These include, the **positivist** worldview which rests on the assumption that knowledge can be developed from the "careful observation and measurement of the objective reality that exists 'out there'" (Cresswell, 2009, p.7); the **social constructivist** worldview where the researcher seeks to understand participants' subjective experience, focusing on "processes of interaction amongst individuals" and "specific contexts in which people live and work" (p.8). A more political stance is taken by researchers with **advocacy and participatory** worldviews, which hold that "research needs to be intertwined with politics and a political agenda" (p.9), whereas a **pragmatic** worldview is not committed to any one system of philosophy and instead these "researchers emphasise the research problem and use all approaches available to understand the problem" (p.10).

Mixed methods research is typically linked to philosophical pragmatism. In the context of the overall research design this implies a choice of approach, strategies and methods which centre on the research problem and questions. Teddie and Tashakkori (2012) argue that mixed methods researchers must be competent in a range of research approaches to select the best paths for answering their research questions. They advocate "imaginative" and "creative" combinations of research methods and that within mixed methods, the idea of "methodological eclecticism" means researchers "select and creatively integrate the most appropriate techniques from a wide variety of...strategies in order to thoroughly investigate the phenomena of interest" (p.776-779).

The **pragmatic** approach employed in this research enabled the researcher to respond to lines of inquiry which were not obvious at the start of the research; this was a deliberate strategy for a new field where limited research has taken place.

Different types of reasoning are also associated with approaches to research. In the hard sciences, reasoning is typically thought to be deductive - the process of reducing possibilities to form a conclusion from a number of premises (Steen, 2013). Alternatively, inductive reasoning is associated with the development of conclusions from the observation of a pattern (Steen, 2013). In this research, data was analysed inductively which means "building from particulars to general themes and the researcher making interpretations of the meaning of the data" (Creswell, 2009, p.4). Inductive reasoning in research is usually associated with qualitative approaches. It is important to note that there is a distinction between 'abductive reasoning' which refers to the mode of reasoning in applied design processes (Chapter 2, Section 2.4.2) and 'inductive reasoning' which is the social research approach used to assess the primary data in this study.

Although definitions of mixed methods research are not fixed in the literature, the concept implies a relationship or synthesis between different types of data where one approach - qualitative or quantitative - informs another at planning, data collection or interpretation stages. The concept of mixed methods is relevant to this research which employs three different research strategies.

3.2.5 Research design for this study

This research is framed as a **qualitative mixed methods enquiry**, adopting the four main strategies listed in Section 3.1. This study takes a **pragmatic worldview** but also acknowledges the role of the researcher in conducting and influencing the research, particularly because it was heavily informed by professional experience. Of the styles of reasoning, the research is most closely related to **inductive approaches** where particular circumstances are observed to understand patterns and build up theory.

A cumulative approach to data collection was taken. The case study data was collected first. This was circumstantial because the researcher was engaged in a policy design project relating to social investment in the first two years of this study. The survey project then provided a broad assessment of the current state of public and civic sector design activity. Key themes from the case study and survey project were developed through the 15 qualitative interviews with expert commissioners and practitioners. These interviews focus solely on design activity in strategic contexts. Fig. 3.2 summarises the research design, which is adapted from Creswell (2009, p.17).

Fig. 3.2: Research Design for this study

Approach	Worldview	Strategies	Methods
Mixed methods qualitative approach	Pragmatic	Literature review: Review of contemporary literature - largely from the design field - examining key theoretical concepts about design activity	Review of foundational design theory
			Review of recent analyses in the literature of design as a strategic tool
			Literature review of design activity in the public and civic sector
		Case study research: Case study of design approaches in UK social investment policy development.	3 in-depth qualitative interviews
			Practice-led research
			Document analysis
		Survey project of public & civic sector design teams: Survey project with teams using design methods to shape public policies, government services and citizen engagement.	Scoping conversations with 13 practitioners
			Online survey with 16 public and civic sector design organisations
			Practitioner workshop with 25 expert participants
		Narrative research on design activity in strategic contexts: Qualitative interviews with expert commissioners and practitioners, using design in strategic contexts.	In-depth qualitative interviews with 15 experts (practitioners and commissioners)

3.3 Case study: design approaches in UK social investment policy development

3.3.1 Context: case study research

The first tranche of primary data was a case study analysis of design methods used to address UK Government policy challenges by the Cabinet Office Social Investment & Finance Team between 2014-17. The researcher was working in the policy team that led this work and was responsible for managing the design projects within this programme.

The case study research strategy was intended to add a contingent and sustained example of design activity in strategic contexts to this research, providing in-depth evidence collected over time which complemented the survey project and qualitative interviews. Data for the case study was collected from 2016-17. The case study is outlined Chapter 4 and insights from the case study are referred to in the other analysis chapters (Chapters 5-8).

3.3.2 The role of case studies in social research

Case study research has antecedents in anthropology, history, psychology, and sociology (Merriam 2009, p.39: Harrison *et al.,* 2017, p.2). It has developed as a widely used research strategy to "investigate and understand complex issues in real-world settings" (Harrison *et al.,* 2017, p.1). Case studies can be applied in many different disciplines and have been used extensively in political science "to understand the complexities of institutions, practices, processes, and relations in politics" (Harrison *et al*. 2017, p.3). The case study is particularly appealing for applied fields of study such as education, social work, administration and health (Merriam, 2009, p.51). Despite the prevalence of case studies in qualitative research, there is uncertainty about case study definitions and appropriate use (Merriam, 2009: p.39). Thus, whilst the case study has evolved as an approach to in depth analysis of a specific situation, "variation in definition, application, validity and purposefulness can create a confusing platform for its use" (Harrison *et al.,* 2017, p.2).

Merriam (2009) puts forward a view of the case study as a "bounded system" making the argument that the "single most defining characteristic of case study research lies in delimiting the object of study, the case" (p.40). Merriam further refines this definition with the description of the case study as "a single entity, a unit around which there are boundaries" (p.40). According to Merriam, the notion of delimiting a unit of study is key in determining whether a research strategy follows a case study approach, "if the phenomenon you are interested in studying is not intrinsically bounded, it is not a case" (p.41). Gerring (2004) corroborates the notion of a case study as a bounded entity and posits that boundaries may occur from temporal or spatial definitions. He argues that the case study "connotes a spatially bounded phenomenon - e.g., a nation-state, revolution, political party, election, or person - observed at a single point in time or over some delimited period of time" (p.342). Another major case study theorist Yin (2009), also emphasises the importance of defining the "unit of analysis" for the design of case study research (p.29). Similarly, Eisenhardt (1989) views case study research as a strategy that "focuses on understanding the dynamics present within single settings" (p.534).

The methods literature often refers to case studies as in-depth analyses of real-world phenomena. This implies an embedded form of research practice where the researcher is immersed in the site of study. For Yin (2009), the case study "allows investigators to retain the holistic and meaningful characteristics of real-life events" (p.4). Merriam (2009) also identifies the immersive aspect of case study research arguing that it is focused on "holistic description and explanation" (p.43). Case studies typically combine different research methods such as "archives, questionnaires, interviews and observation" (Eisenhardt, 1989, p.534). Although case study research is most frequently tied to qualitative inquiry, the case study approach does not predetermine a specific set of methods and part of its appeal is the flexibility it allows. Case studies often combine different research methods which together provide a more "synergistic and comprehensive view of the issue being studied" (Harrison *et al.,* 2017, p.9). The absence of a fixed set of methods or philosophical outlook suggests that case studies are a flexible strategy, but this flexibility also underlines why case study definitions are challenging.

The notion that case study data is constructed and interpreted through interaction between researcher and participants implies a central role for the researcher. Merriam discusses the interpretive role of the 'reader' of a case study as "readers bring to a case study their own experience and understanding, which lead to generalisations when new data for the case study are added to old data" (p.45). As Merriam explains, case studies "can bring about the discovery of new meaning, extend the reader's experience or confirm what is already known" (p.44). The exploratory and embedded character of case study research also leads Harrison *et al.* (2017) and Merriam (2009) to describe case studies as a 'heuristic' approach - implying self-discovery, where researcher and reader bring their own knowledge and engage in learning through the case study.

Analysing case studies is also an interpretive process on the part of the researcher. Eisenhardt (1989) describes the process of analysing case studies as "highly iterative" where emerging insights are refined against data from each case study (p.541), as "overall impressions and tentative themes and concepts emerge" (p.541). The researcher's own interpretations are therefore an important part of case study analysis and "as a result, a subjective and interpretive orientation flows throughout the inquiry" (Harrison *et al.* p.7). This is particularly relevant in the current study where the researcher was involved professionally in some of the contexts where data was collected.

3.3.3 Case study selection

Determining when to use a case study and selecting cases depends on the objectives of the researcher. Various case study categories and the research objectives they fulfil are discussed in the literature.

A case study may be chosen because it relates to a particular event, meaning it has some form of "intrinsic" interest, or a case study may be "instrumental" meaning a specific instance of a wider phenomenon (Merriam, 2009, p.49). Case studies also fulfil different functions depending on the aims of the research. Yin (2009) argues that the case study approach is best used for "how" and "why" questions, and for questions that are "more *explanatory",* [original emphasis] because they address "operational links needing to be traced over time" (p.9). Silverman (2005) notes that access to case studies can be "dependent on gatekeepers" and he advocates the selection of cases that are both "accessible and will provide appropriate data" (p.132). Thus, the sampling of case studies involves some early assumptions about the relevance of the case to the topic of study and what evidence will be garnered from the case to benefit the research, but can also be motivated by practical considerations - as was the case with this research.

Gerring (2004) highlights the descriptive aspect of case studies, associating the focused and embedded approach with the potential to tackle subjects where little is known or existing knowledge is flawed; he argues that description is an "under-valued, trope within the social sciences...it is not at all pejorative to observe that there is a methodological affinity between descriptive inference and case study work" (p.346). The notion of a **descriptive case study** is particularly relevant to this research where it is used for **illustrative purposes**, to steer and validate other data collection and analysis, rather than as a unit of independent study.

Teegavarapu and Summers (2008), also provide a good illustration of the explanatory potential of case studies, with specific reference to the role that case studies can play in design research. They argue that design research is an evolving discipline where, although methods from social sciences are often adopted, the "social science view of design is not well developed" (p.1). However, they posit that case studies have significant potential for design research "to analyse a phenomenon, to generate hypotheses, and to validate a method" (p.2). They also observe that the case study method is particularly suitable for developing theories which are "the need of the day in design research" (p.8).

Thus, case studies can be seen as an exploratory research tool used to examine a topic in depth, especially where there is little existing knowledge or research.

3.3.4 The relationship between case studies and theory

A further aspect of case study research relates to the interplay between case studies and theory. The process of drawing generalisations and building wider theory from case studies, given it is a site-specific research approach, is debated widely in the literature.

Eisenhardt (1989) argues that “case studies can be used to accomplish various aims: to provide description, test theory, or generate theory” (p.353). For Eisenhardt, the process of building theory from cases is a “strikingly iterative one” that requires the researcher to “reconcile evidence across cases, types of data and different investigators, and between cases and the literature” (p.546). The definition of a case study by Gerring (2004) also implies that insights based on a single case study can be used to support wider conclusions; he identifies a case study as “an intensive study of a single unit for the purpose of understanding a larger class of (similar) units” (p.342). Although their discussion is specific to design research, Teegavarapu and Summers (2008), take a different view by arguing that “the aim of a case study is not to propose a theory that is universally valid, but to arrive at a theory that is valid for the set of propositions” (p.6). Thus the strategies for which case studies can be used in social research are highly varied.

3.3.5 Case study design for this research

In this research the case study comprises design projects relating to a strategic challenge regarding UK social investment policy. The design projects were commissioned by the Social Investment & Finance Team in the UK Cabinet Office between 2014-2017, to make UK social investment more accessible to UK social organisations such as charities and social enterprises.

The researcher's professional involvement was an important factor in the selection of this case study. However, longitudinal instances of design and policymaking are still rare and as such there is a limited pool of relevant projects for a case study, meaning that the case is of intrinsic interest. In addition, the proximity enabled by professional involvement facilitated access to the case study, particularly in the confidential environment of policymaking. A summary of the case study is provided below at *Fig. 3.3.*

Fig. 3.3: Summary of the social investment case study

Name	Date	Organisations	Project description	Contribution to research
Case study Design in social investment policy dev.	June 2014 - March 2017	Commissioner: Cabinet Office Practitioners: Design Council The Point People Snook	The case study examines how design approaches were used to address UK Government policy challenges in the social investment market. The case covers three phases of design work, from initial design research through to the development of a digital platform to make social investment more accessible, called Good Finance.	● Insight into the design process deployed in a strategic context ● Views from the commissioning policy team of working with designers ● Experiences of designers working on a strategic project from the design consultancies Snook & The Point People ● Evidence of impact from design activity in a strategic context

To develop the case study, a framework proposed by Yin (2009) was used. Yin describes his research design as a "blueprint for the research" (p.26). Although this research does not adhere to the positivist or realist view Yin espouses, he offers a useful template - adapted in Fig. 3.4.

Fig. 3.4: Case study design for this research (adapted from Yin, 2009, pp.27-35)

Component of research design	Explanation
Research questions	● RQ1: What is the current state of design activity in strategic contexts in public and civic sector organisations? ● RQ2: How can this design activity in strategic contexts be framed and understood? ● RQ3: What are the strengths and limitations of current design activity in these strategic contexts?
Unit of analysis	The unit of analysis for the case study was a policy design project. Further criteria for selecting the project were: - Taking place in a strategic public or civic sector setting. - Commissioned by a policy or strategic team to designers. - Covering the full duration of design work. - Encompassing the experience of designers and commissioners. - Accessible to the researcher through professional work.
Logic linking data to propositions	The analytic category used to assess the case study is a descriptive. The case study was written up in full and an explanation of the process and findings was created, this was then integrated with the other data from the survey project and qualitative interviews (Yin, 2009 pp.127-154).
Criteria for interpreting findings	The case study in this research is largely illustrative. Descriptions were built and key evidence taken into account, rival theories were not developed.

3.3.6 Collecting the case study data

The case study research deployed interviews, document analysis and observation. The methods are outlined in Fig. 3.5 below and the interview sample for the case study is at Fig. 3.6. The case study interviews are referenced as 'CS1, CS2, or CS3' in the data analysis chapters.

Fig. 3.5: Research methods deployed in the case study

Method	**How?**
In-depth qualitative interviews	Interviews conducted for this research with 2 policy commissioners and 1 designer involved in the design projects.
Practice-led research	The researcher was embedded full time as part of the project team and led the design work, from 2015-2017.
Document analysis	Analysis of extensive relevant policy and project documents.

Fig. 3.6: Interview sample for the case study

Code	**Job title**	**Org**	**Org Type**	**Location**	**Design Role**	**Training**
CS1	Deputy Director	Central Government Department	Government	London	Commissioner	Policy
CS2	Senior Policy Advisor	Central Government Department	Government	London	Commissioner	Policy
CS3	Service Design Lead	Service design agency, commercial	Commercial	London	Practitioner	Graphic and Packaging Design

The analysis of case study data can adopt different approaches including "descriptive, thematic and content analysis, and triangulation" (Harrison *et al.* p.7). Approaches to analysing the case study data in for research are discussed in Section 3.6 below.

3.3.7 Advantages and disadvantages of the case study approach

The strengths of case studies include the potential for the approach to be deployed to analyse real-world phenomena in considerable depth. As Merriam (2009) highlights, case studies allow a topic of research to be viewed from different perspectives without discounting difference and ambiguity. She argues "it is precisely because case study includes paradoxes and acknowledges that there are no simple answers, that it can and should qualify as the gold standard" (p.53). However, as Silverman (2005) notes case studies can come under criticism for the difficulty in generalising from the results (p.125).

3.4 Survey of public and civic sector design teams

3.4.1 Context: survey project

The second tranche of primary data was collected through a survey project to build insights about public and civic sector design teams, led by the researcher during a Visiting Scholarship in 2018 at the Parsons DESIS Lab[43], an action and research centre established in 2009 based at Parsons School of Design at The New School University in New York City.

The project sought to understand broad trends in public and civic sector design as a whole, including but not exclusively strategic work, and to interrogate the kinds of support that the sector requires. The project comprised initial scoping through informal conversations with 13 experts, an online survey with 16 teams undertaking design activity in public and civic sector contexts, and a follow-up workshop at the Parsons DESIS Lab in May 2018 with 25 expert design practitioners.

The Visiting Scholarship was undertaken during this research, and the survey project was deliberately designed to both generate data for this research and as a special project at the Parsons DESIS Lab. The findings created broad insights about public and civic sector design teams. However, it was an experimental project aiming to build new empirical data, undertaken in a relatively short time and with a small sample size. Therefore, the findings are analysed alongside other primary data.

3.4.2 The role of surveys in social research

Surveys are now a mainstream method in social research. Digital tools have radically increased the ease and frequency with which survey research can be undertaken and “today, a rash of inexpensive online questionnaire hosting services such as SurveyMonkey and Zoomerang now exist and do not require any substantive technical expertise” (Murthy, 2008, p.841). Although there is some argument that social researchers have been slow to capitalise on the possibilities of digital research (see Murthy, 2008, p.838), web-based surveys have now developed as a common research method (Ganassali, 2008, p.21).

[43] See: https://www.newschool.edu/desis/

There are significant advantages to researchers in deploying web-based survey methods. With the aid of technology, surveys are now inexpensive to construct, disseminate and analyse - survey methods also allow for each respondent to be asked the same question (D'Andrade, 2008, p.14). In addition, digital research methods, including online surveys, can encourage respondents to offer more personal information than those provided in face-to-face interviewing meaning there is sometimes more "intimacy" in the data collected through online survey and questionnaire methods (Murthy, 2008, p.842).

However, a range of assumptions relating to survey research are now being challenged as the research methods literature becomes more sophisticated (Krosnick, 1999). These include the notion that higher response rates necessarily result in more representative survey samples and that questions should be administered identically to all respondents (pp. 539-542). In addition, the assumption that "closed-ended" questions are more reliable than "open-ended" questions has been refuted (p.554). There is also increasing awareness of the subjectivity of respondents in interpreting survey data, and "survey researchers have come to recognise that respondents infer the meanings of questions and response choices partly from norms and expectations concerning how everyday conversations are normally conducted" (p.545).

Question design is also a major area of concern in the research methods literature. D'Andrade (2008) notes that there are well known problems with question design, arguing "The same words mean different things to different people. Translations are imperfect. People, however honest in their report, do not always respond to the words for things the way they respond to things themselves" (p.13).

The survey data in this research, which related to public and civic sector design activity generally, is thus used to contextualise and validate the other research strategies as an additional lens through which to examine the research problem. The strategy of mixed methods, including online and offline, was a deliberate tactic to enrich the primary data as a whole. This is close to the argument that Murthy (2008) puts forward for digital ethnography; he advocates that "a balanced combination of physical and digital ethnography not only gives researchers a larger and more exciting array of methods to tell social stories, but also enables them to de-marginalise the voice of respondents in these accounts" (p.839)

3.4.3 The survey project and design for this research

The aim of the survey project was to assess the current state of public and civic sector design in different countries in order to explore its potential for expansion in New York City. Two research questions were adopted:

1. What sector support initiatives in New York City would enable the public sector design field to mature and practitioners to advance their work?
2. What are the opportunities and barriers faced by current public sector design practitioners that might reveal where to target sector support?

Research was undertaken between January and June 2018. The researcher led a team of five people comprising two masters' research assistants, and two Associate Professors of Design at Parsons, acting as advisors. Project management processes and tools were established by the researcher at the start of the project, including a Google Drive folder for shared documents, and weekly research meetings. Data for the survey project was collected in several ways with each stage and method building upon findings from the last.

3.4.4 Sampling and data collection for the survey project

The survey project adopted three research methods.

Expert conversations

The project started with informal conversations with 13 expert practitioners working in 6 different countries to identify key themes in current public and civic sector design. The team selected people in organisations both inside and outside government, in diverse contexts and with different working languages. They were from government innovation labs and design teams, design consultancies and universities. Participants are listed in Fig. 3.7 below, and where data could be identifying organisations are anonymised. The expert conversations are referenced as 'EC' in the data analysis chapters.

The specialist topic meant that the approach adopted was 'convenience sampling' and participants were selected from the researchers' professional networks (Cresswell, 2005, p.155). Research was iterative and the issues raised in each conversation were refined based on the last. From the conversations over 100 issues were identified about how design work in the public and civic sectors is taking place. These were listed on a spreadsheet and organised into five key themes i) organisations and teams ii) projects iii) funding and procurement iv) skills v) impacts.

Fig. 3.7: Participants in the expert conversations for the survey project

Code	Job title	Org	Org Type	Location	Design Role	Training
EC 1	Director of Design Education	Office of Personnel Management	Federal government agency	Washington DC	Practitioner	Architecture
EC 2	Service Designer & Strategist	Office of Personnel Management	Federal government agency	New York City	Practitioner	Design
EC 3	Director of Government Lab	Service Design Studio, Mayor's Office for Economic Opportunity	City government agency	New York City	Practitioner	Design
EC 4	Studio Manager	Service Design Studio, Mayor's Office for Economic Opportunity	City government agency	New York City	Practitioner	Design
EC 5	Deputy Director of Government Lab	Service Design Studio, Mayor's Office for Economic Opportunity	City government agency	New York City	Practitioner	Design
EC 6	Design Lead	Service Design Studio, Mayor's Office for Economic Opportunity	City government agency	New York City	Practitioner	Design
EC 7	Director of Lab	ENAP	University	Brazil	Commissioner	Policy
EC 8	Programme Lead	La 27e Région	Not-for-profit	France	Commissioner	Policy
EC 9	Senior Researcher	University of the Arts London	University	UK	Practitioner	Architecture
EC 10	Professor	University of Helsinki	University	Finland	Practitioner	Design
EC 11	Head of Design Policy	Malmö University	University	Sweden	Commissioner	Policy
EC 12	Lecturer	PDR - Centre for Design & Research	University	UK	Commissioner	Policy
EC 13	Director	Independent consultant (anonymised)	Commercial	Helsinki, Finland	Practitioner	Architecture

Online survey design

The key themes from the conversations with the 13 expert practitioners were then reframed as questions to populate a pilot online survey which was created using the survey platform Qualtrics. The survey was about 30 minutes long and contained 41 questions.

Careful attention was paid to question design. A set of principles were developed from the research methods literature to guide the development of the survey questions. These principles aimed to make the survey easier for respondents to read and answer, they are included at Fig. 3.8 below.

Fig. 3.8: Principles guiding the design of the online survey questions

Principle	**Explanation**
Consider how wording order within questions can bias answers	Respondents can assume less important information is presented first and consequently focus on information presented last (Krosnick, 1999: p.545).
Use wording to explain numerical scales	If a question response uses a scale (e.g.1-5), the reliability of results can be improved when a word is also attached to a number on the scale (Krosnick, 1999: p.544), e.g. 'often-never'.
Keep questions simple and survey length to a minimum	Answers to survey questions are likely to diminish in quality with more complex questions or lengthy questionnaires because of fatigue or distraction (Krosnick 1999: pp.547-8).
Use simple and uncluttered design to enhance respondent experience	Aesthetically-displeasing screen design can detrimentally impact respondents' behaviour (Mahon-Haft & Dillman, 2010, p.57).

The questions were designed in a mixture of formats, including open field, nominal scales and Likert scale - which is a rating scale most often using 5 points (Krosnik & Presser, 2010, pp.266-271). The survey questions are referenced as 'SQ' in the data analysis chapters, and the survey questions are included at Appendix 1. The key themes in the survey are listed in Fig. 3.9.

Fig. 3.9: Key themes in online survey questions

Survey Category	Purpose
Organisations and Teams	Building a broad view of organisation types, including factors such as size, age and location.
Projects	Understanding the types of work and projects that teams undertake, including duration, cost and project outputs.
Funding and Procurement	Building data on how teams are contracted, as well as overall budgets and barriers relating to finance.
Skills	Assessing the most important skills for public and civic sector design work and the skills represented in different teams and organisations.
Impacts	Developing data on the impacts that practitioners perceive from their work, such as culture change or upskilling through design training.

The survey was sent to the initial group of 13 expert practitioners, as well as a handful of additional contacts to expand the geographical reach of the research. Respondents were given two weeks to complete the survey, and in total there were 16 responses from teams in 7 different countries.

3.4.5 Developing and validating the survey data

To share and develop the data further, the research team organised a workshop at the Parsons DESIS Lab in New York in May 2018 with 25 expert design practitioners from government, design agencies, academia and multinational organisations based in New York City. A handful of the workshop participants had also completed the online survey. The aim of the workshop was to generate further data on the current state of public and civic sector design.

From the question responses to the online survey, the research team created 22 data visualisations. The workshop participants were then given an overview of the research and asked to provide feedback on the survey findings (Fig. 3.10). The session concluded with a generative exercise about the kinds of information and tools that would support the public sector design community. The approach to analysing the survey project data is discussed in Section 3.6 below.

Fig. 3.10: Survey project workshop, New York, May 2018. Photo: Parsons DESIS Lab

3.4.6 Advantages and disadvantages of the survey project

The Parsons DESIS Lab project was experimental, early-stage research which sought to gather new empirical evidence about key indicators to advance understanding of public and civic sector design activity. There were some limitations to the survey project. The sample size was small due to the short timeframe for the research project. In addition, the individuals and organisations that responded to the survey project were diverse, working in different countries, contexts and locations, potentially making the data challenging to compare.

Nonetheless, the survey project generated broad insights about public and civic sector design activity. The survey data also contributes to a gap in knowledge identified in the Literature Review about research into design activity in applied contexts. This data is used to validate the other research strategies and to situate emerging design activity in strategic contexts within a wider landscape. The survey data is analysed in Chapter 4 and referred to throughout the analysis chapters (Chapters 4-8).

3.5 Qualitative interviews with expert commissioners and practitioners

3.5.1. Context: expert qualitative interviews

The final strategy for collecting primary data in the research design was unstructured qualitative interviews with 15 expert design practitioners and commissioners, all working in leadership positions and involved in strategic decision-making within government or civic sector settings. The interviews were the principal research strategy for this research.

The interview method was chosen to elicit rich data about how design is being used in new ways, and the participants were asked about the context they work within, the approaches taken using design and the impacts they believe it has. Around 57,600 words of data were collected and transcribed from the qualitative interviews, with considerable depth of insights generated.

3.5.2 The role of interviews in qualitative social research

Qualitative interviews are commonplace in social research. Many theorists point to the ubiquity of the 'interview' and 'dialogue' in wider society to explain the significance of interviewing as a social research strategy. Edwards and Holland (2013) note the presence of interviewing in daily life, citing it as "probably" the most widely-used method in qualitative research; "we know the format, what to do, and how to do it" (p.2). Kvale (2006) links the dominant use of interviews in social research to wider trends in consumer society, arguing that "the buoyant breakthrough of dialogically conceived research interviewing from the 1980s was foreshadowed by strong trends of the total societal situation" (p.492). Savage and Burrows (2007) go so far as to question whether social research interviewing is now becoming obsolete as a result of the "proliferation of 'social' transactional data which are now routinely collected, processed and analysed by a wide variety of private and public institutions" (p.885).[44]

Interviews are also an important feature of design research, and qualitative interviewing is frequently used in the early stages of a design project. Manzini (2015), for example, explores the importance of storytelling and narrative in co-design activities and sees a role for design experts in supporting storytelling, as a tool that "enables us to deal with difficult topics, putting together what is there now and what we would like it to be" (p.125). Huybrechts *et al*. (2018) underline the role of dialogue with diverse groups in participatory design so that "everyone who is affected by a design process has the opportunity to control or direct the conversation" (p.84).

[44] At least in societies where personal digital technology and digital services are widely used and available.

3.5.3 Definitions of qualitative interviews

Within qualitative research interviewing there are a wide range of possible approaches, and research interviews can be more or less structured depending on their purpose.

Edwards and Holland (2013) describe a spectrum of interviewing techniques, with structured interviews at the "quantitative end of the scale" and semi-structured or unstructured interviews as "qualitative in approach" (p.2). Gillham (2005) distinguishes between interviews and questionnaires, arguing that interviews are used to "achieve a depth of understanding", whereas questionnaires are used to carry out a "large-scale or preliminary survey" (p.3). Various terms are used in the literature to describe qualitative interviews which take the form of a free flowing and responsive dialogue between the researcher and participant, including 'unstructured', 'open-ended', 'exploratory' and 'in-depth'.

The unstructured interview method is used by researchers to investigate a variety of human experience, including feelings and perceptions about the topic of research. The objective of the method is to understand the 'lived world' of participants and their 'real life' experiences (Gillham, 2005: Kvale, 2006). These interviews are typically defined by the open questioning format and interactive dynamic between interviewer and participant (Gillham, 2005, p.3). In unstructured interviews, participants are usually encouraged to speak freely about their experiences and are at least in part responsible for defining the structure of the narrative (Oppenheim, 1992: Kvale, 2006: Wengraf, 2001: Gillham, 2005). The method is therefore used to achieve a detailed understanding about the "texture and weave" of everyday life from the perspective of the participant (Mason, 2002, p.1). Unstructured interviewing can be seen as a "heuristic" research approach, meaning it is used to develop ideas and hypotheses rather than to gather facts (Oppenheim 1992, p.67).

There are different perspectives in the literature about the degree to which the dialogue generated in the interview process should be seen as "giving direct access to experience", or alternatively an "actively constructed" narrative (Silverman, 2005, p.48). According to Silverman (2005), the choice between these two interpretations raises a methodological question for researchers. Silverman notes that the "most popular approach" to interviewing is to treat interview responses as "descriptions of external reality"; conversely interviews can be seen to represent the "internal experience" of the participant (p.154). Silverman also argues that interview responses can be seen as constructed narratives, meaning that "interviewers and

interviewees in concert generate plausible accounts of the world" (p.154). Edwards and Holland (2013) support the view that interview data is actively constructed, arguing that language itself is inherently unstable "with contested meanings, ambiguity and open-endedness" (p.93). Silverman (2005), also notes that "multiple meanings" may be attached to a situation or experience described by an interview participant, implying that an interpretive process is required during the course of the interview and when analysing the interview data (p.48). Edwards and Holland also underline the "considerable emotional work" called for in the qualitative interviewing process, both on the part of the researcher and participant (p.85).

This research takes the view that the data generated by interviews are **constructed narratives**. The qualitative interviews were thus seen as a reflexive process resulting from dynamic interaction between the researcher and participants.

3.5.4 Different types of qualitative interview

There are numerous types of qualitative interview and the researcher is not constrained by pre-existing categories.

Examples of categories identified in the research methods include: ethnographic interviews, which involve interviews "on the hoof" and at the site of study where interview participants are in positions that give them specialist knowledge about the people and processes that are the subject of research (Edwards & Holland, 2013: pp.30-31); group interviews, which are often "open and trawling in nature" and used as an exploratory method where the researcher is entering an unknown area of study (Gillham, 2005: p.60); focus group interviews, involving a group discussion about a topic previously selected by the researcher, these are typically more structured than group interviews and particular attention is paid to "interactions between participants" (Edwards & Holland, 2013: pp.36-37): and, elite/expert interviews, a special form of semi-structured interviews, the expert interview involves interview participants who are an "expert in a certain field of activity" (Flick, 2006: p.165).

The concept of elite and expert interviews are relevant to this study. All of the 15 experts in the qualitative interviews held leadership positions, either as design practitioners or commissioners of design work, and they were chosen because of their advanced experience and authority within the field. The interview participants were almost all employed by or undertaking client work for government organisations, foundations and charities suggesting that these institutional confines will have in some way influenced the interview narratives.

3.5.5 Ethics and power dynamics in qualitative interviewing

Power imbalance and ethics in the interview process are a significant theme in the research methods literature. The interview format serves the purposes of the researcher, and in almost all cases the interviewer "defines the situation and frames the topic discussed" in order to further a given area of enquiry (Edwards & Holland 2013, p.78)

Power dynamics in interviews take different forms. Some interviews are "actively confronting" or "antagonistic" which may discomfort both the interviewees and interviewer (Kvale 2006, p.486). Even where an interview is framed as an "empathetic harmonious dialogue", excursions of power can be masked (Kvale 2006, p.488). Social divisions and hierarchies around class, gender and ethnicity, age and other aspects of social status may also "further mediate power relations" (Edwards and Holland 2013, p.80). There may also be multifaceted power dynamics in an interview, and in practice power can shift during the interaction between the "knowing and approving expert" and the "vulnerable knowledge seeker" (Edwards and Holland 2013. p.79). Issues of power also play into how data is used once an interview is complete; Oppenheim (2005) highlights that interview participants may "fear how responses might be used" or even "elaborate displays or friendship" as a result of flattery at being asked to take part (p.66). Gillham (2005) observes "interviewees may regret disclosure" following an interview (p.11).

In this research, participants were approached in a professional context as experts and therefore relatively empowered. However, following the view of Edwards and Holland (2013) the researcher must recognise themselves "both as part of the research process and the power relations that permeate the research encounter" (p.5).

3.5.6 Preparing the interview sample for this research

The approach to sampling of interview participants was 'purposeful' or 'selective', which is a deliberate sampling strategy where preconceived categories are used to identify the research group and constraints such as time are taken into account (Coyne, 1997). The target was **experts working with design in strategic public and civic sector contexts.** To capture insights about where there might be barriers to adoption and to develop balanced data about the impacts of design, two types of experts were interviewed:

- **practitioners** (experts usually with design training responsible for delivering design activity) (10 people) and,
- **commissioners** (experts with non-design training responsible for procuring or commissioning design) (5 people).

The pool of experts working with design in strategic public and civic sector contexts is relatively small, and all the participants were previously known to the researcher from professional work - none declined to participate in the research. Prior acquaintance between researcher and participants influenced the sample but it also enabled better access to expert participants. A list of potential participants was drawn up; initially 10 participants were selected, but the sample size was quickly increased to 15 in order to enlarge the data set. There was a small amount of overlap between the qualitative interview participants and the other research strategies: one practitioner in the qualitative interviews also participated in the case study interviews and two other practitioners were involved in the expert conversations for the survey project.

Although the interview participants were known to the researcher, the sample selection criteria were as follows:

- Expert in the field of design in public and civic sectors
- Holding a senior level position or with responsibility for significant projects
- Has public profile e.g. published works, held several high-profile roles, public speaker
- Representation from practitioners and commissioners
- A mix of respondents working inside and outside government

Geographic spread was considered in building the sample but it was thought to be less significant than gaining insights from leading experts. Nonetheless, the experts were located in five different countries, many of them worked internationally and five of them were not speaking in their first language during their interviews. Demographic information was collected but factors such as age, gender and nationality were also less important than the level of participant's expertise and profile in the sector.

The qualitative interview sample represents leading international experts. The expert commissioners included directors of multi-million pound/dollar funding programmes in foundations such as the Big Lottery Fund in the UK and Robin Hood Foundation in New York, and prominent civil servants inside city administrations in Singapore and the United States. The expert practitioners included designers involved in defining policy programmes at the Policy Lab in the UK Cabinet Office and at the Office of Personnel Management in Washington DC, as well as those working for national governments and multinational organisations like the UN or embedded in prominent institutions such as Bloomberg Philanthropies. Some experts worked in

both the public, civic and private sectors, although the interviews focussed only on their public and civic sector activity. The interview sample is included in Fig. 3.11.

Prior to the interviews, the participants were contacted by email and the research purposes and likely questions were outlined. In addition, a consent form with a written summary of the research hypothesis and potential uses of interview data was enclosed. The consent form was developed from Gillham (2005, pp.12-13). The consent form is included at Appendix 2. The qualitative interview quotes are referenced as 'INT' in the data analysis chapters.

Fig. 3.11: Qualitative interviews with expert practitioners and commissioners, sample

Code	Job title	Org	Org Type	Location	Design Role	Training
INT 1	Head of a Government Lab	Policy Lab, UK Government	Government	London, UK	Practitioner	Industrial Design and Policy
INT 2	Senior Head of Portfolio Development	Big Lottery Fund	Foundation	London, UK	Commissioner	Policy
INT 3	Managing Director	Blue Ridge Labs, Robin Hood Foundation	Foundation	New York, USA	Commissioner	Policy
INT 4	Deputy Chief Executive	With You	Charity	London, UK	Commissioner	Policy
INT 5	Service Design Lead	Snook	Commercial	London, UK	Practitioner	Graphic and Packaging Design
INT 6	Director	The Public Policy Lab	Not-for-profit	New York, USA	Practitioner	Urban Design
INT 7	Designer for the City	LabCDMX	Government	Mexico City, Mexico	Practitioner	Industrial Design
INT 8	Course Director	Royal College of Art	Charity	London, UK	Practitioner	Architecture
INT 9	Strategic Design Director	Dot Everyone	Not-for-profit	London, UK	Practitioner	Textile and Service Design
INT 10	Director of a Government Lab	Co-Lab, Ministry of Manpower	Government	Singapore	Commissioner	Policy
INT 11	Director, Design Education	Office of Personnel Management	Government	Washington DC, USA	Practitioner	Architecture and Industrial Design
INT 12	Delivery Director	UsCreates	Commercial	London, UK	Practitioner	Graphic Design and Policy

INT 13	Senior Programme Manager	Bloomberg Philanthropies	Foundation	New York, USA	Practitioner	Graphic Design
INT 14	Director	Independent Consultancy (anonymised)	Commercial	Helsinki, Finland	Practitioner	Architecture
INT 15	Executive Director	Mayor's Office for Economic Opportunity	Government	New York, USA	Commissioner	Policy

3.5.7 Designing the interview guide

These were in depth interviews with subject specialists, and respondents were therefore encouraged to express their ideas spontaneously and in their own words. An interview guide was also designed ahead of the interviews, which aimed to probe the key considerations about design framed through the Literature Review and emergent concepts from the case study and survey project. The interview guide also needed to ensure that the research aims and questions were comprehensive to interview participants (Gillham 2005, p.19). The guide was designed to enable questions to be "as open and projective as possible" (Oppenheim 1992, p.74).

Overall, the experts were asked about their background and current work. They were also asked about key themes emerging from the other data, including i) their working processes ii) the outputs of their work iii) how their work takes place and with whom. In addition, they were asked about their perceptions of the strengths and limitations in design activity in strategic contexts, and how they would like to see their work develop.

Two versions of the guide were prepared, one for design practitioners and one for the experts with experience of commissioning design. The commissioners were asked how they had used design and where they first encountered it, whereas practitioners were asked more specifically about their own design practice and working contexts. As the interviews progressed, key themes became clearer and there were some issues that were deliberately not probed in later interviews to allow more time for topics that appeared less frequently in the interview data as a whole.

3.5.8 Data collection for the qualitative interviews

The interviews took place between September and November 2018 and they ranged from 30 minutes to 2 hours. Of the 15 interviews it was only possible to undertake 5 in person, the remainder were carried out as “distance interviews” (Gillham 2005, p.5). For the in-person interviews, the researcher visited the participants at their place of work and the interview was recorded using an iPhone, and typed notes were also taken during the interview. For the distance interviews, the virtual platform Zoom was used, the interviews were recorded and typed notes were taken. There are additional considerations with distance interviews including temporal and spatial dynamics created through internet use (James & Busher, 2009, p.6). Because the researcher had previously met all the interview participants, it was considered worthwhile to carry out interviews at distance in order to reach key individuals.

The process of interviewing often generates story-like vignettes because participants use descriptive strategies to convey a concept or situation. These story fragments occurred in the interviews undertaken for this study, despite the focus on an area of professional expertise, sometimes used by participants as a strategy to express complexity and enrich factual descriptions given in the interview.

Gillham (2005) discusses the process of analysing interview data; he argues that the task is to find substantive statements in the text which become “categories and definitions that make sense to other people as a way of organising and presenting the content of interviews” (p.145).

The approach to analysing the interview data is discussed in Section 3.6 below.

3.5.9 Advantages and disadvantages of qualitative interviewing

There are advantages and disadvantages to the unstructured qualitative interview method. Interviews can illustrate how “social processes, institutions, discourses or relationships work” (Mason, 2002, p.1), which is appropriate to this study of a new area of design practice.

However, interviews are a costly research method, they are time intensive and as Gillham estimates a single transcript can take 6-10 hours to prepare (2005, p.27). Given the prominence with which interviewing is used in social research, Silverman (2005) cautions researchers to reflect on how far they are influenced by wider trends in the selection of interviews as a method. There are also considerable ethical considerations and awareness of the power dynamics at

play in interviews is required by researchers, Kvale (2006) highlights the "qualitative progressivity myth, where dialogical interviews in themselves are good and emancipating" (p.481). Although Gillham (2005) cites the "unique power" of interview data, he also cautions researchers to be aware of "confounding factors" at play in the interview process (p.15).

The role of the qualitative interviews in this study was to generate rich data about the research topic of how design is being used to address strategic challenges in the public and civic sectors. They were used as the principal research strategy because of the depth of data generated.

3.6 Data analysis across the research strategies

The close links between research and practice in this study resulted in a layered research design with multiple research strategies and methods. This approach created different data points to process. Data synthesis and analysis took place in a number of ways.

First, the social investment case study data was processed. Notes were made after each of the three qualitative interviews for the case study alongside research field notes taken whilst the researcher was working on the project. The case study was also written up as a conference paper for the Design Management Academy Conference in 2017[45] in Hong Kong, although it was accepted it could not be published due to its discussion of government policy during the 2017 pre-election period in the UK. Nonetheless the conference paper helped the research write up which took place two years later in 2019/20.

Second, the survey project data was processed. Following the workshop with practitioners in New York in May 2018, the research team captured the participants' comments. These findings were then synthesised with data points from the online survey data and added to a spreadsheet which was used to record and organise key themes from the data under the five survey categories (Fig. 3.X). These were used to draw up a set of eight recommendations about the support requirements of the public and civic sector design field, including identifying the need for a $100,000 pilot fund, to be supported by New York funders such as foundations and city government, for field building activities and the development of common impact standards. The project was written up in full in the academic article *Building the civic design field in New York City* (Buchanan *et.al,* 2019), which also aided the research write up and analysis.

[45] designinnovationmanagement.com/dma2017/

Finally, the qualitative interview data was processed. Digital data analysis programmes were considered to assist the process of analysing the data, including nVivo and Lancsbox, however manual analysis was chosen to allow the researcher to become more familiar with the interview data. In order to analyse the data manually, key points were noted down immediately after each interview and the interviews were transcribed in full. The transcript summaries were read quickly to extract core themes from the interview data - there were six themes in total. The full set of transcripts was then read in detail and key points relating to each of the core themes were highlighted and colour coded. While these themes emerged from the data, the analysis was undertaken after the literature review and key issues in the interview data corresponded to some of the important considerations in the literature, however there was also considerable new insight. The core themes from the interview data were:

1. Design process
2. Making and materiality
3. People (participation and designer's qualities)

Additional tabs were also created for the following categories:

4. Contextual information
5. Limitations to current design activity
6. Future directions

Although the qualitative interview data was collected last, it was the starting place for the overall analysis of the primary data because of the richness of this data set. To analyse and synthesise the primary data, key insights from each interview transcript were pasted into a spreadsheet with different tabs for each of the six core themes. This resulted in a master analysis spreadsheet containing the key insights from the qualitative interview data, captured under the core themes. Through the process of transferring data to the master spreadsheet sub-themes were also identified and organised. The interview data provided a framework to analyse the other primary research. The process was repeated for all the survey project data, including the findings from expert conversations, online survey data, workshop findings and the academic article. Finally, the case study data was read in detail and coded according to the core themes defined from the qualitative interviews, it was added to the master analysis spreadsheet.

From the master analysis spreadsheet key themes and sub-themes from all three tiers of primary data were identified and refined. The original six themes were reworked into five themes and these provided the structure for the data analysis chapters that follow (Chapters 4-8). These chapters include contextual information about public and civic sector design and thematic analysis of the insights from different research strategies. Each chapter draws on all three tiers of primary data. The chapters cover:

- The landscape of public and civic sector design (Chapter 4)
- Definitions of design and the design process (Chapter 5)
- Human qualities, participation and power dynamics (Chapter 6)
- Materiality, making and products (Chapter 7)
- Limits and future directions for design activity in strategic contexts (Chapter 8)

The data synthesis process is mapped out in Fig. 3.12 below.

Fig. 3.12: Primary data, synthesis process

Data used	**Action**	**Outputs**
Case Study	Collect field notes	Conference paper to the Design Management Academy Conference in 2017 in Hong Kong (not published)
	Create interview transcripts from 3 participants	
	Case study write up	
Survey project	Notes from expert conversations taken	Published journal article: *Building the civic design field in New York City* (Buchanan et.al, 2019)
	Survey data compiled using Qualtrics	
	22 data visualisations created	
	Workshop to analyse data held at Parsons DESIS Lab in May 2018	
Qualitative interviews	Interview recordings made	N/A
	Rapid interview summaries made	
	Full transcripts of each interview	

All primary data	Six emerging themes identified by highlighting interview transcript	N/A
	Key themes pasted into a Master Analysis Spreadsheet, (one tab for each theme) and synthesised down into 5 themes	
	Sub themes and quotes relating to each of the 5 key themes pasted into Master Analysis Spreadsheet	
	Process repeated for case study data	
	Process repeated for survey project data	
	Each tab of Master Analysis Spreadsheet used to structure one of the data analysis chapters (Chapters 4-8)	

3.7 Research methods - Conclusion

Chapter 3 set out the research design for this study, which is **qualitative** and **mixed methods**. Four key research strategies and a range of methods are used to examine the research problem, aim and questions through different lenses. The research strategies are:

1. **literature review** of design and policy-related literature;
2. a **case study** of design approaches in UK social investment policy development, drawing on the researcher's professional work;
3. a **survey project** of public and civic sector design organisations and teams, including scoping conversations with 13 experts, an online survey with 16 respondents and a workshop with 25 expert participants;
4. **qualitative interviews** with 15 expert commissioners and practitioners, using design in strategic contexts, undertaken specifically for this research

The research is rooted in the **pragmatist** worldview, where the best strategies and methods were chosen to address the research problem. However, the pragmatist lens is also a result of the close relationship between professional and research activity in this study, which can be framed as **practice-led research**. The approach to research analysis was **inductive** where particular circumstances were observed through professional practice, starting with the case study work, and other research was then pursued to build wider theory. The researcher had close ties to the subject and the subjective role of the researcher is acknowledged in this research.

The combination of research strategies was effective in developing rich, new data about design activity in strategic contexts in the public and civic sectors. The case study of design activity in UK social investment policy development provided an in depth example. The survey project was a 4-month research initiative that resulted in an overview of public and civic sector design organisations, dozens of individual comments by experts and a published academic article. The qualitative interviews also generated a large volume of rich data and the total length of all the interview transcripts was 57,600 words. The qualitative interviews were the key research strategy in the research design because of the depth of insights that they generated.

The layered approach to data collection was both deliberate - to enable an emergent phenomenon to be examined from different perspectives - and pragmatic - resulting from the close link between professional and research activity. There are strengths and drawbacks to this approach. Undertaking professional work alongside this research gave the researcher access to data that would otherwise have been hard to collect, which was crucial to the study of a new and under-researched field. However, the breadth of data made the interpretation of the findings more challenging, and because the research was approached iteratively it also took some time to establish the research design.

The argument put forward here is that the disadvantages of a complex research design are outweighed by the access to data that was facilitated through the professional activities of the researcher. The balance between research and practice is a crucial consideration for research into emerging design activity where applied work is frequently ahead of theory. Thus, research in this context is likely to be advanced by close links to practical design activity, although this may mean that it does not follow the neat course of some social science research.

The following chapters draw on an analysis of the combined primary data sets to discuss emergent themes. Chapters 4 sets out the current landscape of public and civic sector design. This is followed by three thematic chapters about design activity in strategic contexts: Chapter 5 examines definitions and processes; Chapter 6 considers materiality and making, and Chapter 7 discusses design qualities and skills as well as aspects of participation. Chapter 8 considers limitations and future directions for this new design activity. Conclusions are made in Chapter 9. Key points in the analyses at the end of each section in these chapters are highlighted in bold.

Chapter 4

The landscape of public and civic sector design activity

Chapter 4: The landscape of public and civic sector design activity

4.1 Introduction

Chapter 4 sets out the broad landscape of public and civic sector design activity. The chapter provides context for the thematic analysis (in Chapters 5, 6 and 7) by locating design activity in strategic contexts within the wider public and civic sector design field. It also addresses a gap identified in the literature review regarding the paucity of data and evaluation about emerging applications for design.

The chapter draws upon findings from all three tiers of primary data - the case study of design approaches in UK social investment policy development, the survey project of public and civic sector design teams and 15 qualitative interviews with expert commissioners and practitioners. Theoretical positions from the literature are woven into the discussion.

Chapter 4 is organised into three sections. Section 4.2 examines the pathways and rationale for public and civic sector organisations to engage with and deploy design activity - primarily using the qualitative interview data. Section 4.3 then considers the characteristics of the current public and civic sector design field, including features of the design teams delivering this work, the type of design activities and projects undertaken, and funding and procurement models - focusing on data generated by the survey project. Section 4.4 provides detailed insight of design activity in a strategic context through discussion of the case study of UK social investment policy development. Conclusions about the current landscape of public and civic sector design activity are made at the end of the chapter in Section 4.5.

4.2 Entry points for public and civic sector design activity

The primary data from the survey project and qualitative interviews provides evidence about the drivers for introducing design activity into organisations in the public and civic sectors. The data suggests that there are multiple pathways through which public and civic sector organisations adopt design. The reasons given for engaging in design activity are varied, suggesting that there are not yet established mechanisms for public and civic sector organisations to take up this work - both in strategic contexts and more broadly.

Three important entry points for design activity in the public and civic sectors are discussed below. These include, the invention of design activity from first principles, the role of key individuals and demonstrator projects and the influence of a wider innovation environment. The findings provide important context about the emergence and current state of this work, particularly in strategic contexts where the experts in the qualitative interviews were working.

4.2.1 Invention from first principles

The primary data shows that the presence of design activity in the public and civic sectors is, in some cases, the result of individual designers adapting their skills to new contexts.

In the qualitative interviews, two of the practitioners viewed their current engagement with strategic challenges as the result of personal circumstances and discovery. Although all the experts interviewed were in leadership positions, these two practitioners were particularly associated with the early development of service design and design activity in strategic contexts respectively.

One of the experts, running a small design consultancy working for government agencies in New York, described the creation of service design from first principles as a logical development to improving interactions with government entities. In their view, this had taken place in isolation and only later was a wider community of practice discovered.

> *"There was a way in which the nature of the work led us to invent service design from first principles, in our own small way without any community or reference to other people. I think it was just an evolution of people who were thinking in designerly and strategic ways about human interactions with interfaces, and that leading to human interactions with systems, and applying a whole set of human/computer interactions and human built/environment interactions to the context of service delivery."* (INT 6)

The other practitioner, who was now working as a consultant to public sector and multilateral organisations such as the UN, had initially become involved in the design of products for healthcare, only to observe that the challenges in question related to systemic as much as technical considerations. The exposure to strategic healthcare issues was seen by the expert as serendipitous, and the interview indicates the inventive way in which this individual adapted and applied their existing design skills to a new context.

> *"Bringing up the question about stroke treatment in the US, I got very intrigued because like a building, it was a systems question. I felt my intuition was required [for the] reconciliation of technical questions as well as social and cultural kinds of questions. That seemed to benefit from an architect's perspective and so I got involved in this project and to my surprise realised that these were actually design questions, not medical questions. So anyhow, I serendipitously fell into it, and I became invested in healthcare and bringing a designer's perspective to strategic and systems-level questions."* (INT 14)

The growth of design activity in UK government policymaking was also discussed by two expert practitioners, both of whom had worked inside central government as designers. In one case, this was seen as an evolution from service design. In the other, early interactions between the design and policy world were described as being coincidental or serendipitous.

> *"I figured out this method could be used beyond the traditional realms that we apply design to - service design and things like that. Having gone to local government, it did strike me that to have impact and to be accountable for the impact you needed to be early. So, reversing back into policy felt like the most strategic application of the intervention, in order to have impact...that's probably quite a designerly mindset, not to theorise, but to live the practice and test the theory in a lived way."* (INT 1)

> *"It was a complete coincidence that all these things came together. And I think that is an important point that sometimes innovation does come out of these random meetings of different disciplines, or in chemistry, different chemicals coming together and creating something you wouldn't expect."* (INT 12)

These quotes suggest that internal changes to design methods were a response to the new strategic contexts in which designers were working. Rather than design activity emerging haphazardly in new situations, although this was the view of one experts, the consistency between the accounts of invention and re-creation imply that these leading designers were adaptable, and when confronted with new circumstances they applied and developed what they knew from more established design fields - in these cases, urban design, architecture, graphic design and industrial design.

There is considerable discussion in the literature of evolving methods and approaches in design activity in response to the contexts where designers are now working. Manzini (2015) for example argues that emerging design can be distinguished by the methods used, such as those that elicit co-design processes. Wilson and Zamberlan (2015) observe that new design knowledge, processes and methods are emerging in response to new challenges. The expert practitioners interviewed for this study describe a process of adaptation in the application of their design skills to new contexts. The primary data clearly corroborates the now-established argument in the literature that new forms of design activity elicit new processes. However, the data goes beyond many current discussions by illustrating the specific circumstances through which practitioners are adapting and applying what they know from established - notably material - design disciplines to new sectors and strategic questions. The data demonstrates both the inventiveness of individual designers and their perception that the increasing engagement with strategic and system-type issues is a logical progression for design activity.

4.2.2 Key individuals and projects

The role of key individuals was also identified in the 15 qualitative interviews as a trigger for public and civic sector organisations to adopt design activity. Some commissioners reported how their own arrival in an organisation, or that of another individual, had been a catalyst for new kinds of work. Their descriptions included cases where large organisations had initially created job roles for designers without a clear concept of how design activity could be deployed.

> *"So I think it's partly just, they hired me. The honest truth is that's my interest and background. I'm really interested in a design approach in organisations...and in really understanding users*." (INT 4)

> *"Two and a half years ago [omitted] joined as Digital Transformation Lead. Design was one of the things he brought from the Government Digital Service.…and how it could be applied in the field of grant making".* (INT 2)

Small projects or initiatives that demonstrate the potential of design activity in public and civic sector organisations were also seen as routes to wider adoption. In two of the qualitative interviews, experts described how awareness of design activity had been created through a specific project, which had ripple effects once the value of design activity had been proven at the small scale.

"Design has a wider application than first realised, stitched through the work of the Foundation but also interwoven with other things like community organising.... Part of what we are realising is that every piece of what we do can be designed and continually questioned.... I think we have started with a very specific conception of design and it has sort of taken over everything." (INT 3)

"You almost need to demonstrate the worth of design in a small way so you can say we've managed to fix this so let us do this". (INT 5)

Despite a strategic intention to use design activity in some of these organisations - such as this Foundation - there was seemingly no clear idea from the outset of what design activity could deliver, and only when it was seen to work in practice did more strategic adoption take place. This ambition corresponds to comments in the literature that organisations have introduced design activity in the hope that it will spur innovation where conventional approaches have failed (see Ansell & Torfing 2014, p. 2: Bason 2013, p.16). However, the primary data provides deeper insight into adoption processes, whereby key individuals and demonstrator projects are initiating the wider uptake of design activity in public and civic sector contexts.

4.2.3 Influences from the wider environment

Participants in the qualitative interviews reported that design was taken up in their working environment as a result of increasing awareness that a growing community of designers were involved in public and civic sector projects. This also suggests that design activity is sometimes introduced to public and civic sector organisations without a clear intention of what it might deliver.

Several experts described the organic, incremental way in which their knowledge of design in new contexts had evolved. One commissioner working in a large foundation noted how their staff had gained awareness of design activity as an approach to the kinds of challenges they were working on, another commissioner cited the influence of Stanford University's d.School[46] and the consultancy IDEO and yet another commissioner, responsible for introducing design to a large government agency, identified the role of a political leader.

[46] The Hasso Plattner Institute of Design, commonly known as the d.School, is a design thinking institute founded at Stanford University in 2004. See: dschool.stanford.edu

"The entry point was to understand lived-experience better. But it was also organic through exposure of staff members to human-centred design (HCD) and also a wider community in New York City. I had spent a bit of time in the HCD space, another member of the team had spent some time really thinking about human-centred and community-centred design." (INT 3)

"It started about nine years ago when the Ministry started using design thinking, we were first exposed to it through knowing IDEO's work and they sent a group of us to the d.School in Stanford to learn design thinking and how to be facilitators." (INT 10)

"...emphasis on design and service design occurred under the current Mayor...so agile or user-centred design became like a threshold for a modern approach to digital work. It was the first foothold, for the design and human-centred tactics. For us, the start was specifically in relation to tech... So I was generally aware that within NYC there was an organic community of folks who self-identified as designers." (INT 15)

Although the initial touchpoints described by the experts varied in each case, increasing awareness of an emerging design field in the public and civic sectors was an important stimulus for organisations to establish their own relationships with designers and design activity. This data implies growth in a community of design practitioners and commissioners working around public and civic sector issues, including strategic issues.

However, there were inconsistent views about the strength of this community in the data. In the online survey data, respondents suggested that the community of practice around public and civic sector design is still limited. For example, in response to the open question about weaknesses of practice, one respondent to the survey observed that *"there's more and more design happening in government but no effective community of practice"* (SQ 34).

The data shows that awareness of a wider design community was an important stimulant for organisations to initiate their own design activity. However, experiences and opinions about the strength of this community varied amongst the research participants.

4.2.4 Analysis: entry points for design activity

The primary data illustrates a range of pathways through which design activity is being taken up in non-traditional spaces. The variety of motivations and routes to adoption suggest that the mechanisms by which design activity is entering public and civic sector organisations are not yet well established, although, the presence of multiple entry points may also indicate the wide reach of this activity. The resourcefulness of leading practitioners who - at least in the early years of public and civic sector design - reported how they had **adapted knowledge from more established design contexts**, underlines their versatility and inventiveness. However, there were varying perspectives amongst the research participants about the strength and efficacy of the current community of practice of public and civic sector design. The data suggests that whilst design activity in public and civic sector organisations has taken hold in many different contexts, **wider infrastructure to support the field is currently lacking** - such as a connected community of practitioners.

It is important to underline that this section draws largely on the qualitative interviews where the experts were working in strategic environments. It shows that in these contexts, **pathways to adoption are not well established**. Nonetheless, these leading experts saw increasing engagement with strategic and system-type issues as a logical progression for design activity.

The growth of design activity demonstrated in the primary data supports the trends observed in the literature about the growth of design in strategic contexts. However, the literature typically describes design activity in broad terms and there is limited analysis of the specific design methods, adoption processes and conditions that enable designers to operate in new spaces.

4.3 The current public and civic sector design field

The primary data also created a broad picture of the current state of public and civic sector design activity, including in strategic contexts. In both the survey project and the qualitative interviews, participants were asked about their design teams and the types of work they deliver. In particular, findings from the survey project offer a snapshot of the current field - including the features of design teams, projects and funding models. In addition, the data indicates constraints and emerging trends.

One limitation in the survey project is the small sample size of the online survey, comprising 16 design teams in 7 different countries. There is also diversity between the countries and contexts

of the respondents - although this was a deliberate choice. Nonetheless, the findings offer new insights about public and civic sector design which are discussed below. The map at Fig. 4.1 shows the locations and names of the teams surveyed.

Fig. 4.1: Map showing locations and organisation names of online survey respondents (n-16)

4.3.1 Public and civic sector design teams

The online survey data provides information about the types of design teams delivering public and civic sector work. The survey sample was deliberately designed to be diverse and the participants were operating in a wide range of national contexts. Overall, the data suggests that these design teams are a relatively new phenomenon, operating in small team sizes and with a young, predominantly female, workforce. Their position in relation to government varies, although the majority were located inside the public sector.

One of the most significant findings in the online survey data relates to how long teams in the sample had existed; on average this was 6.5 years, with the newest existing for just 6 months and the oldest for 24 years - although this design team was a research centre within a university - all others had existed for 10 years or less (SQ 7).

Generally, design teams were small. The average team size was 15 people (discounting one outlier in the data), with the largest team reported to be 40 people and the smallest team only 3 people. Over two thirds of design teams had a majority of female staff (SQ 37), and two thirds also reported wide age ranges amongst staff members, with the widest range as 28-65 although staff were predominantly in their 30s (SQ 37).

The 16 respondents to the online survey represented varied organisation types - the largest group was operating inside government (seven of the design teams). One respondent was a single designer embedded in a government team. The remaining teams were located in a wide range of contexts, including universities, a for-profit organisation and a foundation (SQ 10).

The number of design teams located inside government institutions suggests legitimacy within bureaucracies has been created for design activity. Of these seven teams, three were located in federal or central government and four were located in city governments (SQ 1), suggesting that an enabling environment has been created for design activity in a wide range of administrations.

The qualitative interview data provides further insight into the strategic contexts where design activity is now taking place. Although the interview sample deliberately targeted individuals in leadership and other strategic roles, the descriptions of their working contexts underline the scale and reach of design activity in the public and civic sectors - for example influencing large-scale funding decisions or the design of national charity programmes. Of the 15 experts interviewed, five were 'commissioners' responsible for procuring or establishing design activities in their organisation. None of the commissioners had any formal design training and yet each saw the potential of using design methods to address complex, strategic challenges.

> *"I work for the [omitted] which distributes money for good causes - £500-600m per year. I'm Senior Head of Development for the [omitted]. I oversee overall goals for funding, through to design of funding products."* (INT 2)

> *"I work inside an organisation called [omitted]… it's a public charity here in the US, that is focused on sustainability and measurably lifting NYC communities out of poverty. The foundation has about 90 people in it. With an annual budget of $150m."* (INT 3)

> *"I direct the [omitted]. It's a unit within the Mayor's Office, we have about 65 total staff within a government that has 300,000 employees."* (INT 15)

> *"I work in a national charity providing service delivery, we have different kinds of client groups from young people to older adults. We work with people with complex needs around substance misuse, mental health and addiction in a broad sense."* (INT 4)

Despite the relatively recent establishment and small size of most public and civic sector design teams sampled in the online survey, the location of nearly half of these teams inside government institutions implies that a certain legitimacy for design activity has been built. In addition, three of the teams in the survey sample were located within federal or central government - combined with the descriptions from the expert commissioners in the qualitative interviews - this underlines the strategic contexts of new design activity. The emergence of design in the public sector tracked in the literature dates back to the early 2000s (Mulgan, 2014). However recent mapping studies show a growth in public and civic sectors in the last 5-10 years (Roberts & Dahl, 2017). The survey data is consistent with this growth.

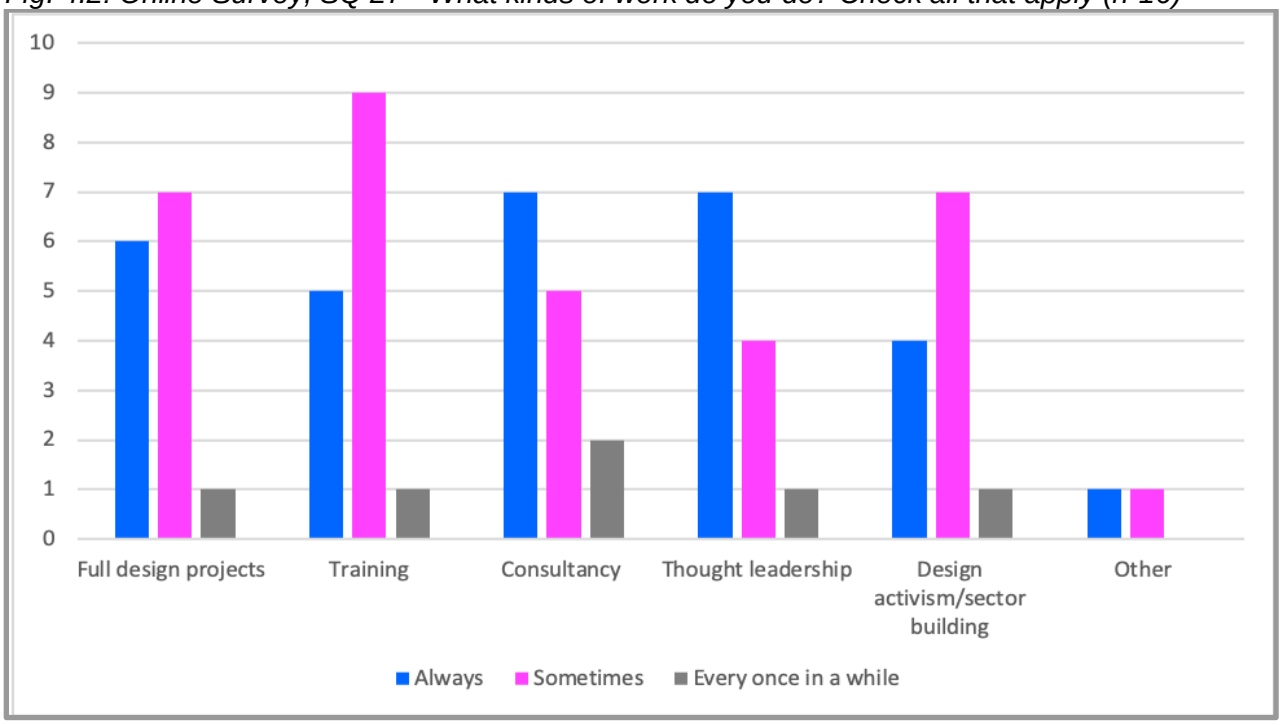
4.3.2 Design activity, projects and outputs

The primary data also provides insights about the types of work that design teams are undertaking and the outputs they create.

The online survey included questions about the projects and outputs of design teams, although it did not ask for information about the specific issue areas where they focus, which would be useful in future research.

The data indicates that projects are an important, although not the only vehicle through which design teams deliver work and many of the survey respondents also underlined the significance of their activities to deliver training for non-designers (SQ 27). The survey data shows that these projects are relatively small and low budget (SQ 17 and SQ 18). From the sample, nearly half of the teams reported that they "always" do full design projects, meaning projects from research through to the design of a solution (SQ 27). However, "thought leadership", "consultancy" and "designing training" featured relatively often in the types of projects that respondents reported (SQ 27), see Fig. 4.2. The focus on training and thought leadership may imply a need within these design teams to undertake activities to establish their own legitimacy and that of the field itself.

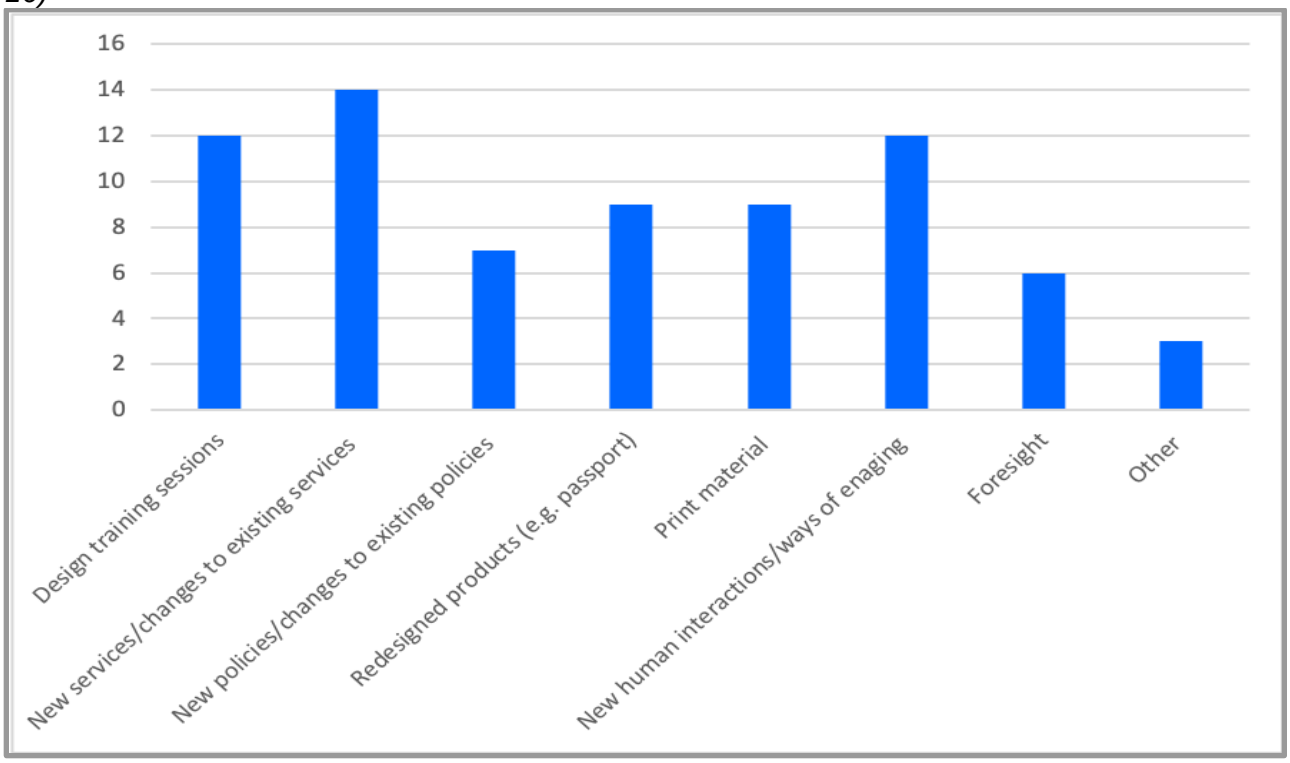
Fig. 4.2: Online Survey, SQ 27 - What kinds of work do you do? Check all that apply (n-16)



The online survey indicates that design teams delivering public and civic sector design work complete only a handful of projects each year. The majority of respondents reported that their team delivers 10 or fewer projects per year, although there were some outliers (SQ 15). Small budgets for design projects tended to be about USD 20,000 (SQ 17), and larger project budgets about USD 300,000 (SQ 18). Projects varied in length but most were relatively short term; between one day (for a workshop) and six months for other short projects (SQ 29). Longer projects ranged from four months to six years (SQ 29). Despite the variation in project budgets and duration, in the context of government or large-scale funder/charity programmes the design projects were relatively short-term and low-budget.

There was also a question in the online survey about the 'outputs/products' that design teams deliver. Nearly all respondents reported that they deliver "training", "new services" and "new types of interactions"; these ranked above more conventional design outputs such as "print material" and "products" (SQ 28). Importantly, instances of "new policies or changes to existing policies" were also reported as outputs by design teams, just under half of the respondents reported that their team delivers this kind of strategic work (SQ 28), see Fig. 4.3. These are significant findings, showing that although most of the work of these teams is in the design of services and interactions, a substantial number are also working on strategic issues, such as policy development.

Fig. 4.3: Online Survey, SQ 28 - What products/outputs do you create? Check all that apply (n-16)



In the qualitative interviews, a number of the 10 expert practitioners interviewed also reported a high degree of diversity in the work that they undertake, and many underlined the significance of training non-designers in design skills as part of their activities. For example, one of the practitioners, a consultant, argued that they deliberately focus on broad issues of innovation and well-being. This underlines the notion of design activity as a broad approach to problem-solving which seeks to influence thoughts, actions and the material world, see Chapter 2, Section 2.3.

> *"My focus, my passion, is helping the public sector to innovate. The public sector, I define very broadly, not just municipal state organisations, but also transnational organisations. Institutions that, at the end of the day, are working in support of social governance and wellbeing questions."* (INT 14)

Ideas about the expansion of design activity to new issues and ways of working (i.e. moving from product to systems, and from product creation to facilitation) were identified in Chapter 2. For example, Buchanan (2001) nearly 20 years ago began to write that the design product/output had shifted to "action and environment" (p.11). Similarly, Manzini (2016) observes the focus on "ways of thinking and doing" in his theory of emerging design (pp.52-3). The online survey data clearly illustrates this shift - training was commonly reported by

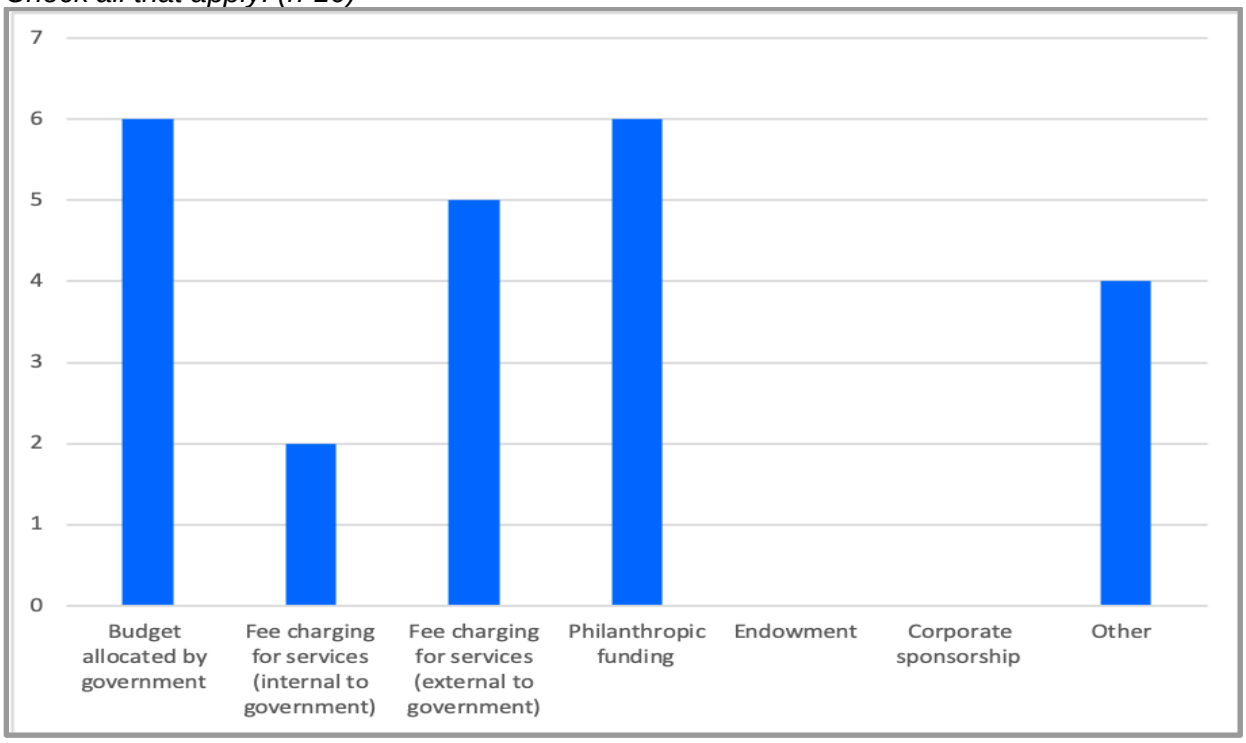
respondents - but it provides far more granular information about the range of products from design activity than is cited in most of the current literature.

4.3.3 Funding and business models

Insights about the funding and business models of public and civic sector design teams were also in the primary data.

The online survey data showed relatively high annual budgets for design teams, with nearly half of the respondents stating their annual budget is more than USD 1,000,000, although this figure is potentially distorted by responses from internal government design teams referring to an agency or departmental budget (SQ 16). Around a third of the respondents to the online survey reported that philanthropic money is present in their team's funding model. The same number also reported that they receive a budget allocated by governments. However, only two respondents located in teams within government mentioned that they operated fee-charging models (SQ 13), see Fig. 4.4. The presence of philanthropic and government funding indicates that some form of subsidy is required to undertake design activity in the public and civic sectors; it may also suggest endorsement for design activity from large institutions.

Fig. 4.4: Online Survey, SQ 13 - Which of the following best describes your funding model? Check all that apply. (n-16)



Financing came up repeatedly as a barrier to public and civic sector design work identified by the survey participants, one cited *"having the right budget to do this well"* and another identified *"limited budget"* as barriers to their work, one respondent commented that *"initial funding/procurement [is] often painful"* (SQ 33 & SQ 34).

The importance of financing as a topic for discussion was reinforced by the 25 attendees to the practitioner workshop following the survey data collection. The workshop participants expressed strong interest in understanding different funding models for design organisations, teams and projects. Participants in the practitioner workshop were also interested in funding sources (e.g. government agency / philanthropy / investment) and wanted to know more about the budget breakdown of public sector design projects. Workshop participants also showed a strong interest in understanding the growth of design functions, including models of how design teams enter into the public sector and evolve over time.

A wide range of mechanisms through which design services are being procured were also described in the online survey. Teams located within government reported providing both *"free and fee-for"* services to government agencies. Some participants reported that their organisation or team relies on conventional procurement routes such as *"frameworks"* and bids to *"public sector tenders".* Other procurement routes included services that are developed in partnership with government agencies *"so typically they don't involve procurement processes"*, as well as proactive pitches *"to all of the above [government / NGOs/ philanthropy] to do the work we think is needed"*. There were also cases of open-source service or training provision and active recruitment of local government agencies to join projects; one respondent reported that they offer *"open-enrolment and custom-built design education products to US Federal employees"* (SQ 14)

Granular information about how design teams are operating is also a gap in the academic literature, although there are some references to funding challenges. Bason (2013) for example identifies the challenges in "creating an authorising environment" and "ensuring funding" as barriers to design-led innovation around the world (p.17). The primary data generated for this study suggests that the gap in knowledge relating to funding is still present. The online survey data suggests that the public and civic sector design field is still defining its business and funding models. The strong interest in funding models from participants in the practitioner workshop also implies a current knowledge gap around funding and business models for public and civic sector design practitioners.

4.3.4 Analysis: the public and civic sector design field

Data from the online survey and the expert qualitative interviews offers a picture of the organisations, teams and sectors in which emerging forms of design activity are taking place - although the online survey was designed to create a broad view of public and civic sector design activity, it also underlines strategic aspects of this work. The survey data provides granular information about operational aspects of public and civic sector design teams which is a current gap in the literature, identified in Chapter 2.

Overall, the data suggests a **relatively young public and civic sector design field**, with a small portion of work dedicated to policy and strategic issues. It is an important finding from the research that teams in the survey sample had existed for an average of 6.5 years and that they employed an average of 15 people. The high levels of training activity reported by online survey respondents, perhaps imply that deliberate activities to assert the value of this design activity are required. In addition, a third of survey respondents reported that philanthropic budgets are present in their organisation's funding model and a third reported the presence of government budgets, possibly suggesting some form of subsidy is needed in the field. Procurement routes were highly varied implying that there is little standardisation to buying and commissioning design. The significant interest in funding models at the survey project workshop and varied procurement routes highlight the **absence of strong sector infrastructure** and knowledge about practical and administrative aspects of public and civic sector design activity. Further research is required into funding models and subsidy for public and civic sector design.

Despite the emergent nature of these design teams, the survey data shows that some are located in strategic contexts and undertaking complex work to stimulate innovation on multi-million pound/dollar projects. It is an important finding from the online survey that a significant number of teams are located within government, implying that **design activity is now supported by a wide range of administrations**. Interestingly, the survey data shows that design teams are focused more on the creation of services and interactions than conventional design products such as "print material", and that **nearly half are engaged in strategic work** such as "policy development". Both the online survey and interview data show the breadth of outputs and institutional contexts for public and civic sector design activity, discussed further in Chapter 6.

4.4 Case Study: UK social investment policy

Thus far, Chapter 4 has used the primary data to explore how and why the public and civic sectors adopt design activity. The chapter has also considered broad themes about the current state of this field.

The final section of Chapter 4 now examines a specific case study of design activity in policy development, and the wider environment that enabled this approach. The case study discusses three phases of design activity which took place between 2014-17 led by the UK government and the UK social investment sector. The researcher was the commissioner for the second and third design projects (Sections 4.4.4 and 4.4.5).

4.4.1 Policy Context: Social investment in the UK, 2010-2017

Social investment can be defined as "the use of repayable finance to help an organisation achieve a social purpose" (Good Finance, 2020). This case study concentrates on one aspect of social investment, the provision of loans - known as repayable finance - to social organisations such as charities and social enterprises from intermediary organisations or by direct investment. This has been described as 'finance provided for VCSE [voluntary, community and social enterprise] organisations, which the investors expect to both get back and to create social impact' (Big Lottery Fund *et al.* 2014, p.3).

During the 2000s, the UK government created several funds and capacity-building programmes to widen funding options for the social sector and concepts of social investment began to take shape. For example, the Futurebuilders Fund[47] ran from 2004-10 and provided £117m of loans and £28m of grants to 369 organisations. It was set up to "persuade the voluntary and community sector to make greater use of repayable finance" (Boston Consulting Group, 2015).

Between 2010-2015, the UK Coalition Government developed large-scale social investment initiatives, for example, establishing Big Society Capital[48], the world's first wholesale social investment institution (Cabinet Office 2014): Big Society Capital invests in intermediary organisations and investors that lend on to social organisations. In 2015 the UK government created a second independent organisation called Access: The Foundation for Social Investment[49] to provide smaller loans and to build capacity with social sector organisations to take on investment.

[47] Future Builders Fund. See: https://www.sibgroup.org.uk/futurebuilders-england
[48] Big Society Capital. See: https://bigsocietycapital.com/
[49] Access. See: https://access-socialinvestment.org.uk/

By 2013 opinion in the social investment sector suggested that, despite the provision of capital into the market, social organisations still struggled to identify and obtain investment. The work to understand the investment challenges of charities and social enterprises entailed the use of new approaches, including design activity.

4.4.2 Awareness of design activity

The UK government was the original commissioner of design work, but the projects involved a wide range of organisations. The policy team that commissioned the initial design work, the Social Investment & Finance Team, was located in the UK Cabinet Office.

According to the policy team, design was initially deployed in order to understand the needs of individuals and organisations from the social sector who were seeking investment (Design Council, 2014, p.7). In an interview to develop the case study for this research in 2016, one of the original commissioners from the policy team reflected back on the first motivations for working with designers.

> *"The initial 'design' approach was much more of a user-centred approach than a design one - to see what is really going on here"* (CS 1)

The desire from the policy team to interact with design activity was influenced by wider changes in UK government policy. In 2012 the Coalition Government published the *Civil Service Reform Plan*, a strategy document which aimed to make the civil service more skilled and less bureaucratic. The plan stated, "we need better skills, better technology and a mindset that revolves around the user, not the producer" (HM Government, 2012, p.3). Another quote from the original commissioner makes reference to the environment inside the UK government.

> *"…we had a certain license to see what was going to be creative and transformative in others, and the Design Council gave a talk on some of the work in service design that they had been doing. All conversations were talking about users."* (CS 1)

These quotes and the wider context in the UK government suggest that the awareness of design activity was initiated as a result of a shift in approaches to policymaking towards innovative strategies. This raised awareness about approaches such as 'being user-centred' in the policy team, and about design as a potential tool to understanding people on the receiving end of social investment policy.

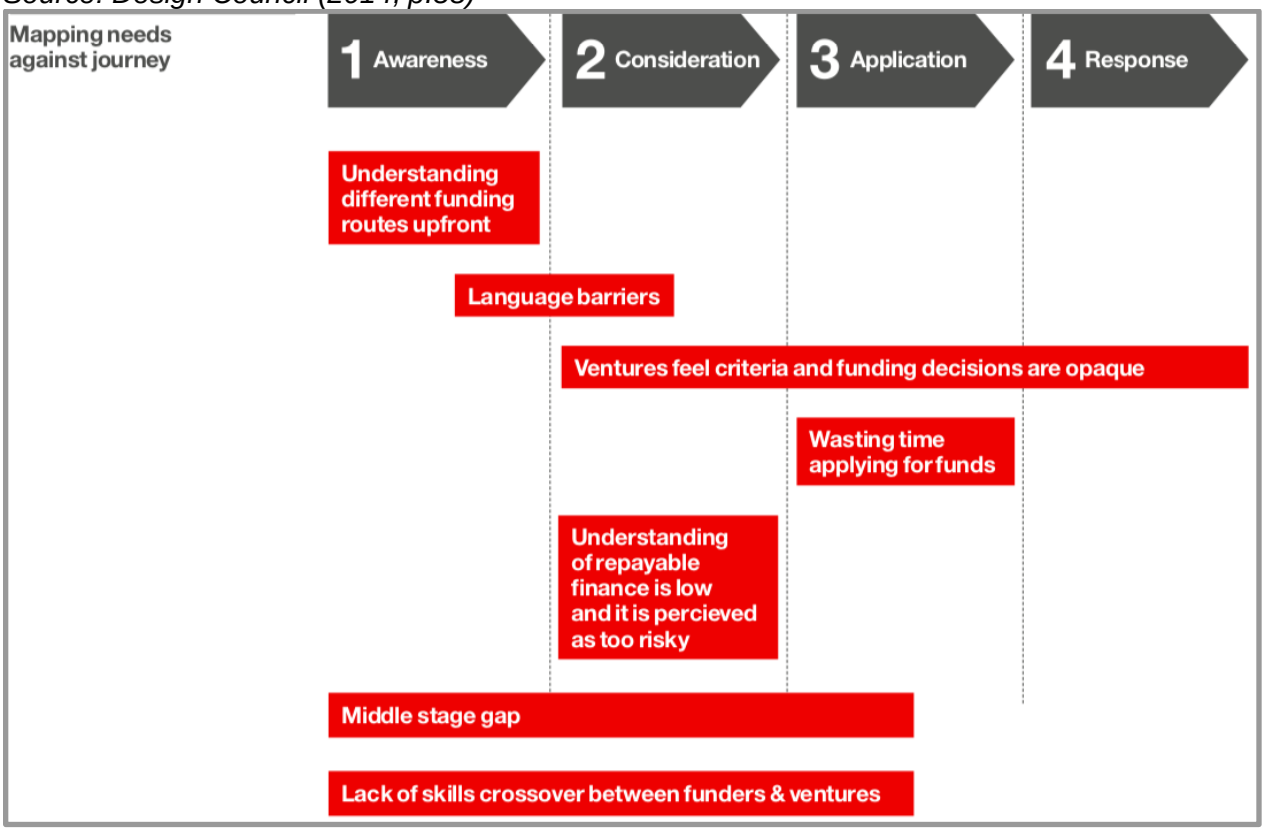
4.4.3 Phase 1: Initial design activity

The first phase of design work was a qualitative research project commissioned by the Social Investment & Finance Team and undertaken by the Design Council. The project brief was described by one of the policy commissioners:

> *"…to better understand the experience of ventures [social organisations] in taking on social investment."* (CS 1)

The project was carried out by a small research team at the Design Council over a 10-week period and findings were published in 2014 the report *Social Finance in the UK: designing the experience for social ventures* (Design Council, 2014). The research comprised a literature review, interviews with 12 funders and 20 social organisations, and separate focus groups with 6 social organisations and 15 funders (p.7). The research team used the design tool of a User Journey Framework, shown in Fig. 4.5, to map out key needs of social organisations on their investment journey.

Fig. 4.5: Key needs of social ventures mapped against the stages of applying for investment. Source: Design Council (2014, p.58)



The project highlighted challenges for social organisations such as knowing about "different funding routes upfront", and "language barriers". It also found that "understanding of repayable finance is low and it is perceived as too risky" by social organisations (Design Council, 2014, p.58). The final design brief proposed by the research team was "a solution that allows social ventures [social organisations] to find their best fit in the most efficient way" (p.61).

Interviews with the policy team who commissioned the design work show that the extent of work required was unclear from the outset and that user insights were difficult to interpret.

> *"If you had found me immediately after the first piece, I'd report that I was disappointed with progress. Find me now, more familiar, with the benefit of time, some things have panned out that I'm very happy with. Maybe there's something about explaining. I imagine many people like me might go through something similar. [they need to] see ideas explained - "ah, that is an angle that might help me with the sort of thing I know I'm struggling with"."* (CS 1)

The Design Council project was the first of its kind for the policy team and the UK social investment market. Although it was challenging for both the policy and design teams, it also set the ground for two later design projects.

4.4.4 Phase 2: Prototyping activity in the UK social investment sector

In 2014, the Social Investment and Finance Team commissioned a second design project. Work took place between January and June 2015 and was carried out by two consultancies, The Point People and Snook. The project and findings are published in the report *Designing Social Investment: Prototyping and testing solutions to improve the social investment sector* (The Point People & Snook, 2015).

Whilst the first design project led by the Design Council focused on the needs of social organisations, the second set out to work with investors and funders. From the outset, work was conceived as finding ways to strengthen the "overall effectiveness of the ecosystem" (The Point People & Snook 2015, p.4). The researchers aimed to "align the ventures' [social organisations] needs expressed in the Design Council report with the context within which funders operate", thereby building a more complete picture of the social investment sector (2015, p.6).

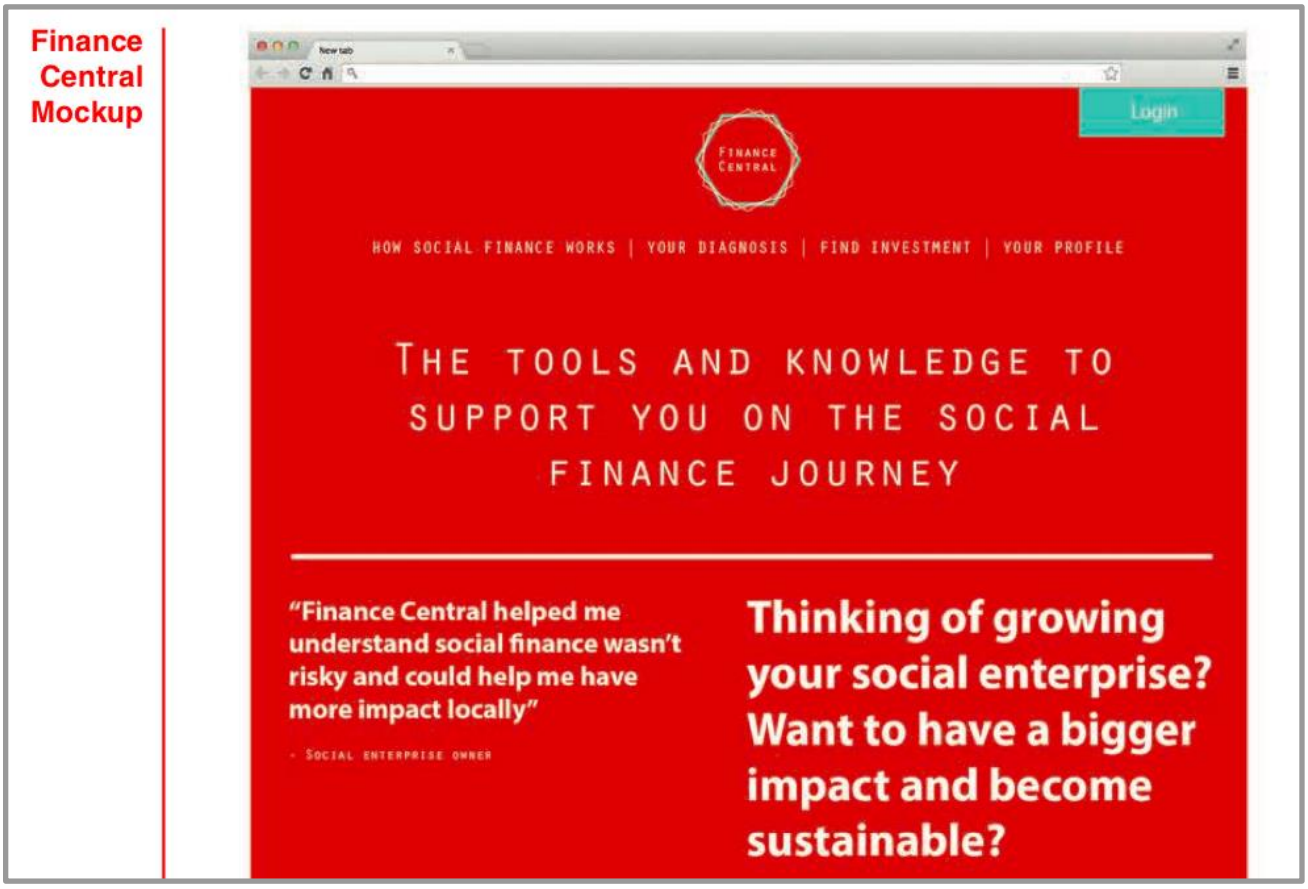
The initial project workshop included 12 investors and funders, and participants split into four

groups, each developing one of four ideas: improving peer-to-peer support between social organisations; opening up and sharing data; creating digital signposting and guidance about social investment, and improving investors' approaches to due diligence (2015, p.5). The designers then used prototyping to help investors and funders develop their ideas into practical solutions. The project was the first time that prototyping had been used in the social investment sector and there were practical and cultural barriers. The investors and funders had limited time and were initially unclear about the commitment that would be required of them, and the design team found that prototyping was not a '"natural" process (2015, p.24). Nonetheless, the approaches taken resulted in new insights from the perspectives of social investors and funders. At the end of the project a workshop was also held with social organisations to gather their responses to the prototypes.

The project operated on two levels. The team set out to create tangible initiatives that could be readily implemented. However, by putting practical ideas in the form of prototypes in front of investors and funders, their work also prompted participants to make much wider observations about the social investment sector. From the research, the team developed broad principles about the working relationship between investors and social organisations, such as "empowering social ventures with knowledge" (2015, p.7).

One of the four teams found that language, education and navigating to the right investment opportunities were all challenges for social organisations seeking investment. They developed a digital prototype called Finance Central, which was a "simplified user interface unpicking the social investment landscape, educating the sector about the marketplace and creating a succinct digital offer around preparation for investment" (2015, p.27). Of the four concepts Finance Central was prioritised for development in the third phase of design work. A wireframe for the Finance Central website is shown in Fig. 4.6.

Fig. 4.6: prototype of the Finance Central digital resource. Source: The Point People and Snook (2017)



4.4.5 Phase 3: Value from design activity, building a digital platform

The work to develop the Finance Central prototype created a set of insights about social organisations' desire for simple language and explanations of social investment. However, more work was needed to understand how the idea could be implemented.

In March 2016 the Cabinet Office's Social Investment & Finance Team commissioned the design consultancy Snook, who were also involved in the second design project, to undertake a third phase of work to develop the Finance Central concept. Big Society Capital took this third phase of work through to delivery, setting up a Steering Group of sector organisations, and pairing Snook with the digital development agency, New Digital Partnerships. The name of the project was also changed to Good Finance, which was published as a beta website with basic information about social investment in March 2016. The fact that the project was implemented by a social investment organisation - Big Society Capital - indicates that they, and the steering group, were convinced by the value of using design approaches in the first two phases of work.

Work ran for six months and key insights are captured in the report *Designing Social Investment: Good Finance User Research Report* (Snook, 2017). The research confirmed findings from the earlier phases of work, particularly regarding the relationship between investors and social organisations. One social organisation interviewed by Snook for the project commented "the stars haven't aligned to allow corporate financiers to work with social enterprises" (2017, p.13)

Initially the project team from Snook and New Digital Partnerships worked with the Steering Group to focus the research around key groups of people who were most likely to use social investment and the website. In the course of the project, the design teams conducted 19 interviews with social organisations and intermediaries, they also received 83 responses to a survey about attitudes to investment and preferences for accessing information (2017, p.4). The team was able to identify five areas of friction between investors and social organisations including: mindset: language: knowledge: connection, and influence (2017, pp.14-20). For example, participants in the research commented:

> *"I see it as a necessary evil - a fast fix. But the stimulant will wear off after a while and you're left with debt."* (2017, p.14)

> *"I'm having to get to grips with the finance/ corporate sector language."* (2017, p.15)

> *"I wouldn't shy away from borrowing. You have to be sustainable."* (2017, p.28)

In the final phase of the project the design team held workshops with social organisations to refine the features for the website. They then quickly moved on to digital prototyping. The project finished with a specification for the website and design principles for future work, including "straight forward", "trusted' and "empowering" (2017, p.60). Snook also made recommendations to sustain the website, including recruiting a dedicated project manager, maintaining the Steering Group and funding the Good Finance platform for five years. Fig. 4.7 shows the live Good Finance website.

Fig. 4.7: Screenshot of the front-page of the Good Finance website, April 2020. Source: goodfinance.org.uk

The design activity had a significant impact on the policy team and wider social investment sector. After the first project, the government team employed a full time member of staff to build design activities into their wider work – the author of this research. Big Society Capital, has since commissioned and continues to use design activity. At the time of writing in 2020 Good Finance is still in operation.

4.4.6 Analysis: social investment case study

This case study sets out a sustained set of design projects in UK social investment policy, and it illustrates the **entry points, activity and value** created by this design activity in a strategic context. The design projects indicate how design activity was deployed in UK government policy development to understand a complex sector and to articulate a specific area of need - around 'education and language' about social investment for social organisations. It shows how this need was translated into a practical resource, through the creation of a new digital platform called Good Finance.

At the beginning of the projects, the policy team were unfamiliar with design activity and it was difficult to find a starting place for the work. The wider introduction of design activity to UK Government policymaking through the Civil Service Reform Plan was a crucial catalyst for them to experiment with design approaches. Social investment is a complex sector with its own

terminology and for the designers it was challenging to quickly grasp the issues whilst introducing new approaches, like prototyping. The three stages of work between 2014-17 also demonstrate the significant time it can take to translate user insights into a practical design output in a complex, strategic context.

Nonetheless, in this situation **design activity was deployed to understand a strategic challenge** relating to the uptake of social investment amongst social organisations, to **frame a policy goal** around better understanding the needs of social organisations, and to **develop a design-led response** in the form of Good Finance.

4.5 Chapter 4 - Conclusion

Chapter 4 examined the landscape of design activity in the public and civic sectors using the primary data, and underlined strategic aspects of this work.

Overall, the data points to a still **emergent, although increasingly established,** field of public and civic sector design. Nearly half of the teams in the survey sample were within government, implying that **legitimacy for design activity** has now been built within bureaucracies. The data also demonstrates how wider innovation environments have led to the adoption of design activity, for example the policy team in the social investment case study were influenced by changes in UK government policy development in their decision to work with designers.

However, **sector infrastructure is currently not well-developed**. Design teams were relatively young and small scale, and the significant input of government and foundation money may suggest that they still require some form of outside support or subsidy to operate. Furthermore, in the practitioner workshop for the survey project there was significant interest in the funding and business models of design teams, suggesting that practitioners are seeking shared knowledge about how to expand their teams. The data also shows that pathways to adoption are not well established, ranging from invention from first principles to small demonstrator projects which act as catalysts for design activity to expand within organisations. The interview data also underlines the inventiveness and versatility of leading designers, to adapt their knowledge from more established design fields to new strategic challenges in the public and civic sectors.

Significantly, there was strong evidence in the primary data of strategic work within the wider public and civic sector design field. It is important that nearly half of the respondents to the online survey reported that policy development takes place as part of their work. Furthermore, the social investment case study demonstrates a sustained example of design activity in a policy context, demonstrating how design was used to **understand a strategic challenge**, **frame a policy goal** and develop a **practical response**.

The aim of Chapter 4 was to provide a picture of public and civic sector design from the primary data, as well the environments where this research took place, in order to contextualise the thematic analyses in Chapters 5-7.

Chapter 5

Definitions of design and the design process

Chapter 5: Definitions of design and the design process

5.1 Introduction

Chapter 5 is the first of three thematic analysis chapters that extract and interrogate core themes from the primary data about design activity in strategic contexts. The chapter considers broad definitions of design identified by the research participants, many of which centre on the concept of design as a 'process'.

There are deep associations between design and problem-solving in the academic literature. However, some design theory also shows that problem-solving is not a sufficient definition of design, which also entails problem-framing, creativity and social interaction. In this research, multiple notions of design emerge from the primary data and the research participants often held sophisticated, plural concepts of their design activity.

The chapter is organised as follows. Section 5.2 explores conceptions of design as a problem-solving and process-driven activity, where creativity and imagination play an important role. Section 5.3 discusses the key stages that comprise the design process and, significantly, notes the consistency between the design processes described by the research participants even those working in markedly different contexts. Section 5.4 discusses concepts of design activity in strategic contexts from the primary data. Conclusions are drawn in Section 5.5.

5.2 Definitions of design

The following section examines definitions of design activity and strategies for explaining design to non-designers described by the research participants. Concepts of design as a process and links between design and problem-solving were frequently established by the participants. However, notions of design were not reductive and its creative aspects were emphasised alongside the technical skills that it entails. Language barriers and strategies for explaining design to non-designers were also prominent themes in the data.

5.2.1 Conceptions of design activity as a problem-solving 'process'

In the 15 qualitative interviews, a number of the experts drew on definitions of 'design as a process' in order to explain their own design activity. These descriptions conveyed a sense of purpose and pragmatism which was partly linked to the material and making aspects of design activity (discussed in Chapter 6). However, explanations of design as a process did not eclipse

other definitions, and several of the experts held plural conceptions of design. The impact of design activity on process improvement in the public and civic sectors was also underlined.

> *"Design is a process which is about materialising an idea and making it real and you then have to follow a certain process, an iteration process, to know what works and what doesn't work."* (INT 7)

> *"It's not about the service it's about the design of it. So it's interesting, one of the key values that we try to show at the end - so we start with design and without design, using these design devices and mindset and tools. That has an impact on the result but also on the process."* (INT 8)

> *"One thing designers make better is the process of how a project unfolds. There are so many bad meetings - people come and there's the agenda and they talk and there's the unstructured conversation and moving them forwards is hard."* (INT 15)

The experts also made links between concepts of 'design as a process' and its potential to clarify and develop practical responses in complex situations. One commissioner discussed their experience of working in a new leadership role at a national drug and alcohol addiction charity in the UK, where they observed a lack of knowledge about the needs their organisation was seeking to address. Design activity was then introduced as a strategy for understanding issues that were not previously visible about the people who were using the organisations' services. Another practitioner working in a leading design consultancy in the UK, offered a succinct view of design activity as a way of making things work better. Whilst the definition is concise, the concept conveyed is a broad and practical approach to problem-solving that is not confined to a specific subject matter or medium. In both cases, the experts underline the role of design activity in building new knowledge - 'problem-framing' - and its pragmatic potential to create new solutions - 'problem-solving'. Notions of purpose, intention and construction are evoked by these descriptions of design.

> *"I arrived at this organisation and quite quickly felt that this was a design challenge. We weren't clear about the problem space we were trying to operate in. We weren't clear about our product, we didn't understand our users very well, and we didn't have a way of coming up with and exploring new ways of working. It just felt like we'd done everything the same way for years."* (INT 4)

> *"We work for all types of organisations large and small, public, private and third sector. We don't specialise in an industry, we just look to make things work better…I just see design as problem-solving effectively, that is what I see it as."* (INT 5)

Similarly, in the social investment case study, 'problem-framing' was the initial motivation for the commissioning policy team to work with designers (Chapter 4, Section 4.4.3). In this situation, the policy team were using design-led research to better define the problem they perceived about the lack of demand for social investment, which they sought to address by understanding the experiences of social organisations.

> *"It took us a while to come to the brief...I think it was more difficult than either of us [designers or the policy team] expected: 'To better understand the experience of ventures [social organisations] in taking on social investment'. Research was noticeable in its absence of that kind. What did exist, was people who had a point they wanted to make and then would find the social venture experience to fit it. You had the impression they had just found people to sign up to whatever they were saying, it didn't feel venture-led."* (CS 1)

The primary data evidences the importance of problem-solving in design activity in today's strategic contexts, but it also demonstrates expanded notions of problem-solving in design. Several of the experts in the qualitative interviews described the use of design activity to build new knowledge and understanding, even where there was no intention to build a design output. For example, when design activity was initiated by the Social Investment and Finance Team it was used as a research strategy (Chapter 4, Section 4.4.3).

These conceptions of design as a process in the primary data chime with the shift in value from design 'objects' to the design 'process' observed in contemporary literature (see for example Hunt, 2012). The significance of problem-framing as well as problem-solving to the research participants corresponds to more mature understanding of design in the literature, which developed after Herbert Simon's problem-solving paradigm of the late 1960s. This later literature points to a more limited role for problem-solving in design activity, where human interaction and the creation of new knowledge through the design process are seen as important additions to the problem-solving paradigm (see Dorst 2006: Hatchuel, 2002: Huppatz 2015). Clearly, in the practical contexts in the primary data, the 'problem-framing' aspects of

design activity are valued as much as 'problem-solving'. Furthermore, the data illustrates how design activity is resulting in wider process improvement in strategic environments.

5.2.2 Creativity in the design process

In the primary data, several experts also highlighted the crucial role of creativity and invention in their work. One of the experts wrested design away from associations with art, which they saw as abstract by comparison, but nonetheless the importance of creativity was emphasised. Another expert specifically brought together the process-driven and inventive aspects of design by acknowledging the central role of creativity in the design process. However, this was described as a managed and applied form of creativity.

> *"I think of design as purposeful creativity. I start with the presumption that everyone is creative and so everyone can design. But it has to have a purpose, and that makes it different from art, and art comes from a different starting point."* (INT 1)

> *"I still see too much of a managerial spirit rather than a creative spirit [in the public sector], which in my opinion is at the core of this. I am very interested in what I call applied creativity - because the type of creativity in this context is not pure creativity as in art, it's applied, it is purpose driven."* (INT 11)

One practitioner working in a small design non-profit in New York devoted considerable time to explaining their experience of the creative process in design. Notably, they made clear their discomfort in discussing the role of creativity in their work because of the seemingly flimsy quality this lends to design activity. Nonetheless, moments of creativity and invention were identified by this practitioner as being crucial to connecting knowledge in new ways and to the development of design outputs.

> *"This is a process that is informed by thoughtfully and professionally collected knowledge, but the actual insights and opportunities often spring from a moment of invention where some raw material of knowledge is transformed into something different through the application of a creative and intuitive non-linear process. So, there is something about making a leap - an informed leap - but this is what I think defines this in some ways as a creative process not purely a research exercise. We are comfortable with the idea that we are going to make claims for which we have circumstantial evidence. We are going to identify and propose opportunities for action which no-one has requested or suggested. But rather we as professional inventors see an opportunity*

and can imagine a solution that isn't currently named or existing…there is a feeling that one consistently taps into...where you try to be not noisy in your own mind...and then what will happen is out of that stillness is that things will present themselves. I want to talk about my anxiety about talking about that." (INT 6)

The relevance of creativity to the working approaches these experts described, implies that parallel systems are at play during the design process: first, the application of professional and technical knowledge which is applied to situated contexts and the issues in question, and second, the skill of the designer to imagine what is not there and to create new possibilities.

There are echoes in these descriptions of discussions in the literature about the cognitive processes that designers undergo during design activity. Jones (1992) in his early codification of the methods involved in designing acknowledged the creative and rational knowledge that is required in the design process. Lawson (2004) emphasises the "outside knowledge" that designers apply to contextual problem-solving, underlining the role that designers' experiences and imagination play in the creation of design products (p.13). Beckett (2017) describes design as a subjective act before it becomes a material one, arguing that the designer must first conceive a solution before it is built.

Based on the expert's accounts in the interview data, the skill and imagination of individual designers is an important aspect of design activity in strategic contexts. However, the data highlights challenges in defining the role of creativity in design activity, because of the tacit and subjective knowledge this entails. The data also suggests that leading practitioners are wary of emphasising the significance of designers' individuality and creativity in their work with sectors where professional and quantifiable knowledge is usually privileged. This presents a possible challenge for practitioners working in strategic contexts, relating to how they defend space for creativity in design activity whilst also presenting design as a valid approach in these new environments.

5.2.3 Plural definitions of design

Plural conceptions of design as both an 'output' and 'process' - which includes technical knowledge as well as creativity - were held by many of the participants, leading to sophisticated and multi-faceted understandings of design. Nonetheless, some of the research participants

described challenges with the language of design, particularly in strategic contexts, and shared their strategies for explaining design to non-designers.

The experts talked about different approaches to explaining their work. Several reported drawing on conventional ideas of design in order to emphasise the differences in their own strategic activity. One participant had moved away from using design terminology, but found that it re-emerged when the design activity in their organisation - a large foundation where they were working as the only designer - had matured. Another expert used the familiar example of applying for a new driving licence to explain their service and system design activity. For more than one expert, exposure to the design process through involvement in a design project, was seen as the only real route for non-designers to understand design. In all of these cases, the experts used culturally familiar concepts about design or analogies to define their own strategic practice, rather than seeking to explain this directly to non-designers - implying a lack of confidence in defining emergent design activity, and the current absence of shared vocabulary.

> *"I started with design, then I let it go. Then I'm able to come back to it again."* (INT 13)

> *"I do use the word design, but I probably start off going "usually when you think about design you think about a beautifully designed car or an object, whereas we see design as a problem-solving tool a creative problem-solving tool" is probably the phrase I would use."* (INT 12)

> *"I have a standard little example story because I find the easiest way is to make it tangible and applied - as opposed to 'ethnographic research', 'design ideation', that doesn't mean anything - the example I use is the experience of renewing your driver's licence at the Department of Motor Vehicles....and I say to them - each one of those things, driver's license, letters, office - all of those things could be designed and they existed over time".* (INT 6)

Confusion relating to the language of design, particularly in strategic contexts, also appears in the social investment case study. One of the policy commissioners from the Social Investment and Finance Team described their bewilderment at the terminology used by designers. Only after experiencing design was the policymaker able to feel more confident in their understanding.

"You are saying words that I understand but I genuinely have no knowledge of them. I genuinely don't understand." (CS 2)

Language barriers were also mentioned frequently by participants in the survey project, although they were using design more broadly than the narrower focus on strategic contexts covered in the qualitative interviews and case study. Participants in the expert conversations at the start of the survey project referred to a lack of common professional language, and the absence of clear job descriptions for design roles in the public sector. In the online survey, one of the respondents highlighted the challenges that designers face in explaining the value of their work in rational and technical organisations, such as government departments.

"designers can have a hard time talking about the value of design in a way that resonates with people who are driven by concreteness and numbers." (SQ 34)

Various labels and frameworks are associated with the new strategic design activity in the literature, such as 'fourth order design' (Buchanan, 1992) and 'transdisciplinary design' (Hunt, 2012). The primary data also underlines the diversity in current terminology regarding design activity in strategic contexts, which is problematic for the field when it creates confusion for non-designers, as noted in the social investment case study (Chapter 4, Section 4.4). The lack of clarity around language suggests the current emergent nature of design activity in strategic contexts. The data also suggests that there is work to do for practitioners and advocates of design activity to develop comprehensive explanations of their work for non-designers.

5.2.4 Analysis: definitions of design

Definitions of **design as a process** and clear links to problem-solving are established by the primary data. Whilst the data shows that problem-solving is an important aspect of design activity, building new knowledge through 'problem-framing' was also highly valued. In addition, creativity and invention were identified as crucial aspects of the design process - suggesting that technical and methodological aspects of design are only part of how the research participants understand their work. The significance of individual creativity presents a potential challenge for designers to justify the value of their work in technical and bureaucratic environments.

Despite their apparent comfort in holding **plural and expansive notions** of design, language barriers and explanations of design to non-designers emerged as clear challenges for the

research participants, and some experts showed a lack of confidence in describing new design activity. Nonetheless, the data suggests that the participants view **design activity as a broad and practical approach to 'problem-framing' and 'problem-solving', where imagination and creativity play a central role**.

This data supports notions in the literature that design activity entails problem-framing and problem-solving as well as creativity and social interaction (Dorst 2006: Hatchuel, 2002: Huppatz 2015). It also adds to the literature by showing that in new strategic contexts problem-framing is valued as highly as problem-solving, even where there was no intention of creating a design output.

5.3 The design process and methods

The following section examines aspects of the design process from the primary data. Importantly, there was significant commonality in the design processes described by the research participants; which was broadly seen as a four-stage model involving **research**, the **synthesis** of ideas, **testing** or prototyping and **implementation**. Although the design process was valued by many of the participants for the structure it provides for working on complex problems, the presence of design activity was not always made explicit and in some cases it was seen as an underpinning framework which is frequently fused with other disciplines.

5.3.1 Common stages of design activity

Several of the experts in the qualitative interviews discussed the stages that comprise their overall design processes – although they did not always describe these stages in equal detail or in the sequence in which they occur.

The first stage of the design process was broadly viewed as a **research** activity, with emphasis on understanding the lived experience[50] of individuals around the problem in question. Research with people delivering and on the receiving end of policies and services was seen as a crucial aspect of 'problem-framing'. The research stage of the design process was also viewed as an important way of representing experiences that are not usually visible inside large bureaucracies and systems. This was thought to be a distinguishing feature of design activity.

[50]Lived experience research is understood in qualitative research as research representing human experiences such as emotions, perceptions and choices.

"The activities tend to be a series of research engagements, with various stakeholders in the space in which we are investigating, sometimes subject matter experts, policy leaders – the leadership in operational units that touch on the work we are investigating. One thing that sets our work apart from a management consultant approach to these kinds of strategic questions in the public policy realm, is that we also engage deeply with frontline service providers and members of the public, who are using services." (INT 6)

"...rather than just jumping to the solution you do research first, and you do that research not just with books but with users, and you go out spending time with people experiencing the problem to understand how they are experiencing it. That will often lead you to reframing what the problem is." (INT 12)

Similarly, in the social investment case study the initial motivation for the commissioning policy team to engage designers from the Design Council was to uncover new knowledge about the experiences and needs of people working in social organisations (Design Council, 2014). Despite the importance the policy team placed on lived experience research, this also emerged as an area of tension and it was challenging for them to know how to act on the basis of user insights.

"What was difficult about the first project was, I don't think from a policy perspective that we had a clear enough view of the user chain. If you're not really used to talking about users, which I think most people in central government policymaking aren't, and if you work with people who are very user-focused, it's easy to have confused conversations. We were talking about chains from the Cabinet Office. I remember being frustrated that insights from the research were feeling like just half the picture - they weren't solutions, they were observations. A lot of policymaking sees itself in the world of solutions. More than it ought to." (CS 1)

In the online survey project, user research was also identified as both a crucial and challenging aspect of design activity. One of the online survey respondents highlighted the potential to uncover knowledge which is latent or hidden from view through research with people affected by public policies and services. However, they also described this as a challenging aspect of the design process to deliver.

> *"Through conducting user research you can uncover different types of knowledge - explicit, tacit, latent. Uncovering the latent, unknown needs is challenging and not always recognised as being so."* (SQ 35)

Increased emphasis on participatory methods in present day design activity is observed in the academic literature. Manzini (2016: 2015) and Sanders and Stappers (2008), as well as many other theorists discuss the increasing agency of non-designers in the creation of design outputs. The ethics of increased participation, and specific design methods, are also explored in the literature. Massanari (2010) for example discusses the potentially problematic aspects of 'personas' which can be used as stand-ins for real people. The participants in this research clearly recognised the potency of bringing lived experience insights into their design activities. However, this stage of the design process was not discussed by the participants in relation to ethics, implying a gap in critical debate about the agency that designers have to select and curate insights from participants.

The second stage of the design process was broadly described as **synthesis**. In the qualitative interviews, the experts described how they synthesise key themes and insights from lived experience research and other forms of evidence. This was used as a way of identifying patterns or themes in the data and holding on to multiple or conflicting ideas before honing in on a specific solution. For one expert, the synthesising aspect of design activity was a creative process specific to design, where new connections are made and meanings or possibilities are inferred from the research. However, another expert argued that synthesis is also part of policymaking. Descriptions of the synthesis phase underline the curatorial role of the designer who has the agency to decide how research insights are selected, combined and interpreted.

> *"There is a process of synthesising the knowledge, and there is also a desk research piece to that work as well. And a kind of horizon scanning often goes on - who else is trying to solve this problem, how are they solving it? All that leads to a place where we have collected a bunch of knowledge and we try to put it all together and identify some meaningful clusters, themes or insights which suggest opportunities for action or creation. I would say both the insight identification and also opportunity identification involve a set of creative processes that again are not necessarily common outside a design context."* (INT 6)

"But I also think of design as a synthesis - that's very common in the policy world - you've got all these competing constraints, as you have in a design brief. How do you bring them together and form something that accounts for the trade-offs?" (INT 1)

The descriptions of synthesis in the design process evoke ideas of 'abductive reasoning' and 'framing' discussed in the literature (see Dorst, 2015 & 2016: Wylant, 2008). However, the participants did not have a succinct way of describing how ideas come together in the design process - which evidences the significance of tacit knowledge, the mindset of the individual designer and the absence of adequate language to describe their design activity amongst participants. Again, this illustrates the importance of individual designers' creativity and experience in design activity. The ambiguity in participant's descriptions at this stage of the design process may also indicate the current immaturity of relevant theory and codifications of design activity for these practitioners to draw on to explain their work.

Rapid **testing or prototyping** of potential ideas comprised the third stage of the design process identified in the primary data. This was frequently described as prototyping. Testing and prototyping were mentioned in many of the qualitative interviews and were seen as a way of tying strategic ideas to delivery - because the process of making and testing forces ideas that are conceived at the strategic level into the real-world. The prototyping process was also seen as something specific to design.

"Then we get into prototyping where we quite rapidly physically manifest policy touchpoints that might exist in future, hypothetical, speculative, we take those out and test them." (INT 1)

"We see most of our projects and experiments as prototypes, and in that way we have some kind of opportunity to fail, in a way, which is great." (INT 7)

"You've got this idea and this crappy terrible version of the thing and you're out trying to use it and see how it fits into the world." (INT 3)

"I think something we would all share and understand, the value of being in a very iterative process between actually making stuff and reflecting and rethinking. If you separate these two things as we do in the public sector you won't get a new set of insights that I think are necessary to change the current dynamic." (INT 14)

Prototyping also had a prominent place in the social investment case study. The second design project was framed explicitly as a prototyping exercise (The Point People & Snook, 2015, p.4). Prototyping had never been undertaken before in the UK social investment market and the design team built rich insights about this way of working. Significantly, the team observed the importance of neutrality in prototyping and they argued that there is a clear role for a third or objective party to undertake prototyping, particularly where there are power discrepancies - as they argued was the case between social investors and social organisations (Chapter 4, Section 4.4.4).

> *"The approach of working with SIFIs [social investment finance intermediaries] to prototype solutions for the field was designed to give them ownership over the solutions so that they would be more likely to implement them. However, by working in this way the team largely lost the ability during the prototyping process to hold two conflicting agendas in tension, instead it became a job of keeping SIFIs open to venture [social organisation] needs. Only in writing this report have the design team been able to stand back again and play that neutral role. Going forward, if the user is to be truly at the heart of the design process in terms of shaping solutions, the legwork of designing, prototyping and testing solutions needs to be done by a neutral party."* (The Point People & Snook, 2015, p.24)

Similarly, the significance of prototyping and making skills were emphasised by many of the respondents in the online survey project. One respondent, associated their value as a designer in the public sector specifically with their making skills. They described the constructive, reflective process that prototypes engender and argued that creating prototypes is a role for trained designers.

> *"I would say that my role has been useful as a prototyping designer – for example, I take people's ideas that come out of a meeting, synthesise them, and prototype their ideas into a tangible artefact. Then when they come back and see the artefacts, they can be more critical of them because they're seeing them in person rather than in their heads. I have found that it's more efficient for someone with strong design skills to prototype ideas rather than asking people to create senseless items out of pipe cleaners and glitter. The silliness that goes along with this kind of making prevents people from being meaningfully critical of ideas."* (SQ 24)

Implementation was the final stage of the design process identified by participants in the primary data and was sometimes seen as an area of friction. In the qualitative interviews, a number of experts expressed their frustration at the difficulties they experience implementing their work. One of the expert commissioners identified hesitancy on the part of designers to move to implementation, perhaps signalling a lack of confidence in the current early stage of design activity in strategic contexts. Some of the commissioners also reported difficulties in translating the recommendations from design-led projects into ideas that can be implemented. The project-led and consultancy model of current design activity, where a design team moves on once a recommendation for a design output has been made - often before the work of implementation takes place - was thought to be at odds with the complex and long-term nature of system change often required in the public and civic sectors. This insight indicates an area of tension in current design activity in strategic contexts, where design research can reveal the requirements for wholesale system change but designers are not always empowered, or capable, of delivering work of this scale and complexity.

> *"I think we sometimes find, certainly with our designers, a hesitancy to close and to put a stake in the ground because it feels like the good ideas have gone some place to die. The world continues to be ambiguous and the process of closing is the way you move forward and open again in an interesting way. It can be easy to get stuck in a place where you are trying to be expansive and, or even just nuanced and inclusive and understanding all the complexity of a thing, in a way that sometimes ends up being inefficient because you have spent so much time trying to come up with the best version of the thing that you have yet to throw it against the wall and feel the ways it breaks."* (INT 3)

> *"As agencies we really struggle to see things through, maybe because we are only procured to do a part of it. Perhaps that's because we are not in there ripping apart politics and bureaucracy - that sometimes gets in the way of things going any further. But I think getting stuff implemented at scale - that's such a weakness. You run off and have a party and forget the fact that you are supposed to be measuring what you've implemented and what impact it is having. There is a real lack of follow-through sometimes."* (INT 5)

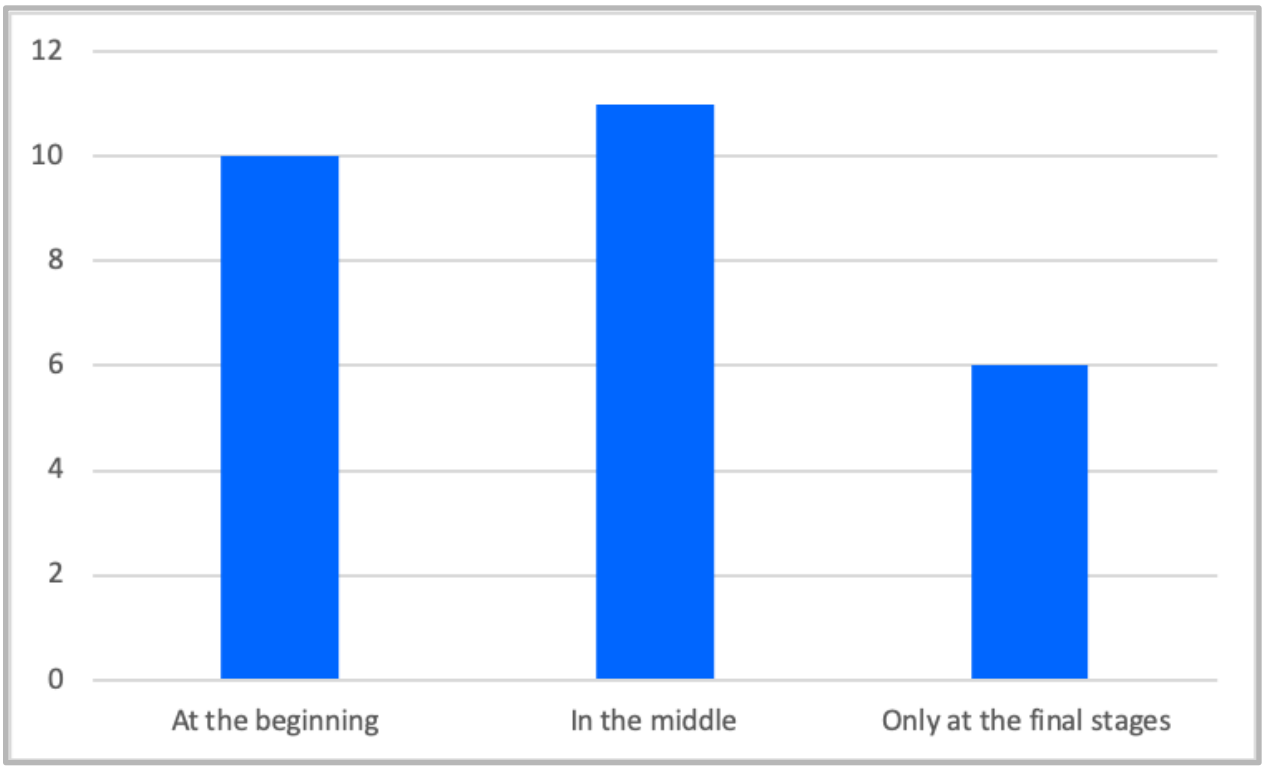
> *"In many cases I am brought in because there is a problem, and as in many design processes you realise the problem can't be fixed by the logic that created it. So*

invariably you find yourself having not just to solve the problem but to help the organisation also create a new logic. Then coming to the realisation that the problem is only a symptom of something much bigger." (INT 14)

Significantly, this data implies that in strategic contexts the design process is not bounded or finite, and several of the research participants described the 'opening' of new knowledge and problems which takes place during design activity. There are echoes here of the design theory, which argues that designers must define 'subject matter' in the situations where they are working (Buchanan, 1995) (Chapter 2, Section 2.3.3).

Challenges with the implementation phase of design activity are also evident in the online survey data, which shows that design interventions tend to take place at the middle stages of the policy development and implementation process, see Fig. 5.1. This data is too high-level to be conclusive. However, it implies that the work of the public and civic sector design organisations in the sample is weighted towards the early-stage development of policy work, rather than setting policy goals or working through to the implementation of design outputs.

Fig. 5.1: Online Survey, SQ 30 - In the life cycle of policymaking please indicate at what junctures your team/organisation tends to do the most work? Check all that apply. (n-16)



The commonality in stages comprising the design processes, described by the research participants is important, although these stages were not undertaken without challenges. This consistency in working processes ties new design activity to the origins of design theory where the stages in the design process were set out by Jones (1992) and others in the design methods movement of the 1960s - and have been reflected by organisations such as the Design Council and IDEO in their own popularised schema of the design process (Chapter 2, Section 2.2.3). Despite the emergent and underdeveloped nature of many aspects of the new design activity investigated in the primary data, its working processes are clearly rooted in the design field and it is broadly following an overarching process which has long been codified in design theory. However, the methods used within this process in new strategic contexts frequently draw from other disciplines, as discussed below.

5.3.2 Design as an invisible and underpinning process

The primary data illustrates striking commonality between the design processes that are being deployed in a wide range of different contexts, including government policymaking, national foundations and large charities. In several of the qualitative interviews the design process was described as providing an underpinning framework for public and civic sector projects to take place. However, design was sometimes seen as being an invisible or underpinning process, and although public and civic sector teams were working along the broad stages of design they were not always aware of its presence.

> *"It hasn't been that explicit. Design has been there all the time as a framework, but it hasn't been explicit."* (INT 7)

> *"It has happened that you start talking about design and then you are working with the Ministry of Environment - they really don't care about design - they care about doing things that have a data backup, design is useless for them. Even though they are not seeing that you are following a design process, they think that talking about design is useless because they have this idea that design is about doing graphics."* (INT 7)

> *"I don't think anyone sees themselves as doing design work, but when the Behavioural Insights and Design Unit reviews any work process it is run along a design approach."* (INT 10)

The notion of design as an invisible process in some situations is echoed in the online survey data, where one respondent commented that their work is stronger and better integrated into the public sector if it is seen as part of the *status quo,* rather than a markedly different approach.

> *"I don't really worry about recognition. In fact, it is best when the changes that we create go under the radar, and everything seems status quo. Our job is to make things better and enhance experiences both for internal officials and the serviced public. We are actually most successful when we get things done and no one really notices!"* (SQ 35)

Although design was frequently described by participants in the data as a guiding framework or structure for projects, the methods and approaches used during the design process were not always from design fields. Instances of design being integrated with other disciplines were relatively common in the qualitative interviews. One practitioner saw their team's approach as a hybrid activity including other disciplines as well as design. Another practitioner described their desire for a more integrative approach to design in their organisation. The fields that were typically integrated into the design process included behavioural insights, social research or ethnography and data science.

> *"For a start, we're a hybrid, we combine design, digital and data. But we also bring in systems thinking and sociology to the ethnography so it's never a pure design practice."* (INT 1)

> *"That is my vision, to have an innovation process that really melds design behavioural science, data analytics."* (INT 13)

5.4.3 Analysis: the design process and methods

The **commonality in design processes** described by the research participants is an important finding from this data, suggesting that the working processes of this new design activity are rooted in the design field drawing on approaches which have long been codified in design theory. The data shows relatively consistency in how design activity is being deployed in new strategic contexts - common stages were research, synthesis, prototyping/testing and implementation - despite the diversity of situations described and the varied terminology used. Areas of tension within the design process are also highlighted in the data, particularly relating to the challenges faced by people who commission design activity to act on the insights from lived-experience research and at the implementation phase of the design process.

The insights relating to the role of the designer are also interesting, both **designers' agency in curating and deciding** stages and outcomes in the design process, and their need to maintain distance in order to act as a steward for non-designers to participate in design activity were described. However, research participants were largely silent in relation to ethics about the role of the designer, implying a gap in critical debate about practical design activity. Finally, although design was thought to be valuable because of the structure and clarity it provides to complex projects, it's presence was not always made explicit by practitioners leading the design process and it was described as an **underpinning process** which is frequently fused with other disciplines.

5.4 Design activity in strategic contexts

The following section examines how the research participants attempted to define and distinguish their strategic design activities. Explanations given by the research participants did not coalesce around a common set of definitions, unlike the perspectives of the design process which were highly consistent. Nonetheless key themes that help to define this new design activity can be drawn from the data.

5.4.1 Decision-making

In the qualitative interviews, design activity in strategic contexts was seen by some of the experts as a way of setting direction and deciding how to deploy resources. For example, one of the practitioners viewed this design activity as a means to organise resources in order to achieve a specific purpose. Similarly, an expert commissioner in a senior role at a large foundation in the UK described how design activity had been used to make funding decisions for the whole organisation rather than solely for discrete programmes - the use of design was seen as a way of defining an overall mission, and 'funding' was the resource used to fulfil this mission. Although these descriptions were not entirely clear, the term **'strategic design'** was used by four of the experts, suggesting that they were attempting to demarcate a specific form of design practice. The concept of **decision making** - relating to people, finance, and purpose - is present in these definitions as well as the idea that the decisions being informed are at the 'strategic level', for example developing a strategy for an organisation or a large-scale funding programme.

> *"I like this definition of strategy - a strategy is the organisation of resources to fulfil a particular purpose in time - I think that's an interesting way of saying what strategy is. Resources, meaning effort, power, people, money. You have to organise that in time so*

you can achieve a strategic goal. That's my understanding of strategy, so strategic design is helping organisations to do the strategy, organise resources for a particular purpose, but from a design perspective...That is strategic design, reorganising resources to achieve a particular purpose. That could be anything. It's basically to decide what to do". (INT 8)

"Elements of it weren't a structured design process. There are bits for our funding - discovery and broadening out and what should our overall strategy be? This then fed back into a strategic framework, then that goes back out into other stages of discovery. Again that germinated things, previously we'd had funding goals at a programme level. It was hard to aggregate up to the portfolio level. Rather than thinking of lots of different goals, which was confusing for people, we asked 'what should we be doing?'" (INT 2)

"I think the strategic design work brings the whole thing together and helps to shape things. It's not just about bringing together - you are shaping as you are bringing together - that's really abstract!" (INT 9)

The potential for design activity to set strategic directions was also reflected in the survey project. For example, one respondent to the online survey argued that an unrecognised aspect of their work relates to defining and paving the way for strategies to be realised.

"Strategy - consistently providing direction on what to do/where to go." (SQ 35)

5.4.2 Integrative potential

Design activity in strategic contexts was also described as a way of bringing things together. Some of the experts underlined the aggregating or **integrative potential** of their design activity. Concepts of strategic design as an overarching discipline which ties together elements of large scale problems appeared in several of the interviews, and there was a sense in which this design activity provided a means to maintain both overarching and detailed perspectives. These strategic and detailed modes implied that the practitioners are providing an overview of an organisation or system, whilst also creating pragmatic and specific responses to problems.

"I suppose what I have not talked about at all, is that even if you are doing this big strategy piece there is still a way that links back to the micro of how a designer might operate. You are doing the strategy in an iterative, testing way - you are using that approach which is the way anything should be done when you are spending a lot of money." (INT 9)

"Mexico City is such a complex city that we cannot just isolate ourselves and we have to connect many resources and people in such a way that we can have this local perspective about the things we are working with but also a more global perspective about the things that are happening in the city. This connection and tension, between the formal and the informal, is really unique." (INT 7)

5.4.3 Human and participatory aspects

The **human and participatory aspects** of design activity in strategic contexts were also underlined consistently in the data. In the qualitative interviews there were descriptions of the facilitation and guidance that designers provide in order to enable participation in complex systems; creative and inventive aspects of the design process were also emphasised in relation to its human orientation.

"So I see myself as a designer and I see myself doing all this design process, documenting this design process it in a structured way, materialising the design process so that other people can see what they are doing and connect their efforts and visions about the city they want to live in, and navigating across all these resources we have in the city as well - and using them because they are many." (INT 7)

"...how would I describe this area of strategic design? Trying to see the things we do that are automated and things we do that are purely creative or human, if you will." (INT 11)

5.4.4 Distinguishing design in strategic contexts from other design activity

The ambiguity surrounding definitions of 'strategic design' in the primary data raises an important question for this research relating to the distinctions between design activity in strategic contexts and other forms of design.

In the qualitative interview data, the experts put forward different arguments. Some experts argued that all design activity should be viewed as strategic, rather than reinforcing specific design sub-disciplines. For example, one of the practitioners highlighted the strategic questions raised in all design activity and contested the notion of strategic design as distinct from or a precursor to other forms of design. Another practitioner advocated directly for an integrated view of design disciplines.

> *"The thing I don't like is the concept of strategic design happening first. I think all design is strategic throughout the whole process and I think good designers should be able and need to zoom in and out constantly...what I don't like to think is that strategy would happen first and strategy would be a tangible thing like a document that you give to a designer who would bring that strategy to life, and it would get thrown over a fence."* (INT 5)

> *"I don't know, there are so many different labels on all the kinds of design we do, there's service, strategic, product. I understand why it is important to have the segmentation but I want it to move to that more integrated place because that makes design more powerful and impactful".* (INT 13)

The qualitative interview data evidences how design activity with a discrete focus, such as product and service design, touches upon strategic issues. One practitioner described how their design process had evolved from the development of medical products to the design of healthcare organisations. Another expert described how their service design activity frequently unearthed wider organisational questions. These comments indicate how even relatively small-scale and tangible design activity involve strategic considerations.

> *"But then I began to realise that the problem in the medical field was not just about the product itself. It was a much broader strategic systemic question where you had to rethink not just the product but the organisational logics, the incentive structure, what do we mean by good outcomes and I realised there was a bigger question to be had."* (INT 14)

> *"I have done a lot of service design in [omitted, design consultancy name] but a lot of it is wider than service design, thinking about how that sits in an organisation."* (INT 12)

However, the qualitative interview data also shows how design activity in strategic contexts can be viewed as a specific form of design. For example, one practitioner argued that design activity in strategic contexts takes place at the level of systems and organisations, and is frequently followed by more discreet forms of design.

> *"...you use strategic design to find the right problem but you use service design to give form to the solution of that problem…*" (INT 8)

This description is not necessarily in conflict with the idea put forward by other experts that all design is strategic. Rather it implies that design activity at the strategic level has a different focus - for example, the development of strategies or organisations. The data also suggests that strategic design deploys different resources or materials - ‘money’ and ‘people’ were mentioned variously by the experts. The notion of design activity as an expansive iterative process is also established in this description, which suggests that design activity at the strategic level can lead to other more discreet design processes and outputs, such as products and services. The wide ranging design outputs from strategic design activity are explored further in Chapter 6.

The process of design at the strategic level leading to discrete outputs is evidenced in detail in the social investment case study, where design research by the Design Council (2014) led to a second more practical project to test and develop ideas (The Point People & Snook, 2015). Finally, the digital platform Good Finance was created, but only once work had taken place to understand the challenges at the strategic level (Chapter 4, Section 4.4).

In the academic literature the presence and potential of design as a strategic tool has been recognised for several decades. As early as the 1970s, Rittel and Webber (1973) set out a theory of “wicked problems” which has been used to argue that all but the most discreet design problems are systemic in nature. Buchanan (1992) in his theory of the ‘four orders’ of design created a framework for understanding the holistic role of design in shaping human activity ranging from defining the symbolic world through graphics, to the definition of environments and systems in more strategic design activity. More recently, authors such as Banerjee (2016) and Hunt (2012) identify the emergence of new strategic forms of design. In addition, new areas for design activity such as its involvement in policymaking are being tracked in the literature by authors such as Bason (2014) and Ansell & Torfing (2014).

The primary data illustrates two issues. Firs, in new strategic contexts applied design activity is catching up with the strategic potential which has long been articulated in theory. Second, practitioners are navigating a fragile and fledgling form of design which does not yet have a common or clear definition. Despite the claims for strategic design in the literature these are meta theories of design and the primary data shows that in applied contexts strategic design activity is still emergent and ill-defined.

5.4.5 Analysis: design activity in strategic contexts

It is an important finding from this research that there was **no common or concise definition of design activity in strategic contexts** in the data, although the research participants were clearly attempting to articulate an emerging form of design and there was some overlap in the descriptions they gave - relating to factors such as **decision-making, integrative potential and participation.** The primary data suggests that design activity in strategic contexts has much in common with other forms of design, but the field for this activity is strategic level issues. The data also shows that strategic design deploys resources such as 'money' and 'people'.

The position taken in this research is that while design activity more broadly can touch upon strategic issues, an emerging and **distinct form of design is focused on designing at the strategic level** to, for example, develop strategies and policies. Although the claims for design activity to operate at the level of strategy, systems or environments are present in early literature, the primary data suggests that in applied contexts strategic design is still only a fledgling area of design activity.

5.4 Chapter 5 - Conclusion

Chapter 5 examined the definitions of design activity that emerged from the primary data, and within this, explored direct references design activity in strategic contexts.

In their attempts to define design, the research participants lent heavily on concepts of design as a **problem-solving process**, however **problem-framing was also a highly valued** aspect of design. The participants were not reductive in their definitions of design and the crucial role of more intuitive and ill-defined factors such as creativity and invention were emphasised. Rather than this leading to confusion the research participants held sophisticated ideas of design and were comfortable with plural and nuanced definitions.

A significant finding from the primary data is the **striking commonality of design processes** - including **research, synthesis, testing/prototyping** and **implementation** - that the research participants described. This included both the strategic work referred to in the qualitative interviews and case study as well as the broader design activity captured by the online survey. Although there was consensus around concepts of the design process, several research participants also explained how their design practices fuse with other disciplines.

The commonality in the design processes described, suggests that design activity in strategic contexts in the public and civic sectors is firmly rooted in the wider field of design. However, little work has taken place to assess and codify this practice. Significantly, there was **no concise definition of strategic design** in the data. In the qualitative interviews, several of the experts seemed to be testing ways to describe their work and there were common themes in these descriptions - relating to **decision-making, integrative potential** and **participatory aspects.** However, confusion around terminology implies a lack of confidence and the emergent state of the design activity that the participants described. It also implies that practitioners do not have adequate design theory to draw upon in order to explain their practice.

Although the qualitative interview data highlighted commonality between design activity in strategic contexts and design more broadly it also underlined the **emergence of a new form of design activity focused specifically on strategic issues**. From the data, design activity emerges as a broad and pragmatic approach to problem-framing and problem-solving, which when applied at the strategic level has particular value in defining purpose and providing a structured framework through which to define practical design outputs.

Chapter 6

Materiality, making and design products

Chapter 6: Materiality, making and design products

6.1 Introduction

Chapter 6 explores the role of materiality and making in relation design activity in strategic contexts. The primary data is used to form new perspectives about the products and processes of this design activity, with reference to arguments about the 'making' and 'material' aspects of design explored in the literature in Chapter 2.

The research participants were working in new spaces for design, even when many of them had formal design training. Nonetheless, making and materiality are prominent themes in the primary data and retained huge significance in complex, systemic environments. Making and working materially were seen as part of the culture of design and as essential aspects of the design process. Despite the clear significance that the research participants attributed to working in a material way, they held multiple perspectives about the varied roles that materiality plays within their work and of its material outputs. These issues are examined in the following chapter.

Chapter 6 is organised as follows. Section 6.2 discusses the material outputs of strategic design activity. Section 6.3 considers the role of materiality in the design process. Section 6.4 explores connections between materiality and the culture of design, including the strengths and barriers to working in a material way in strategic contexts. Conclusions are made at the end of the chapter in Section 6.5.

6.2 Design products and outputs

The following section examines the varied products and outputs of design activity in strategic contexts identified by the research participants. Materiality and making were prominent themes in all three tiers of primary data. However, the participants had diverse understandings of the material results of their design work.

6.2.1 Image making and material outputs

In the qualitative interviews the expert commissioners and practitioners were asked specifically about the role of materiality in their work and they discussed the outputs that they develop or commission.

Making and working in a visual way were seen as part of the culture of design itself and the power to create images and visualise ideas was identified as a distinct design attribute. Although there was significant variation between the skills and working contexts of the experts, many described the importance of image making and simple visual representations. Image making was seen both as a means to establish the presence of design activity and to evoke alternative futures, which is a key part of the design process (Chapter 2, Section 2.4.4). One practitioner voiced concern where the appearance of design outputs is neglected.

> *"...what designers bring to the table on top of creativity is in a way a human capacity, it's the ability of imagination of creating images. Images, even though they are not tangible in the sense we can touch them, are the main materiality of what we do. Images - meaning a slide, a narrative, story, even the set-up of a particular workshop - all those things are about creating this imagined future, or imagined situation. This is at the core of what we do, and that is distinctive in design from other disciplines. The provision of images and the creation of images."* (INT 8)

> *"Well, communications related stuff...the visual and visual design stuff, that is the secret weapon of designers. Everyone likes things when they look good."* (INT 15)

In some cases, visual artefacts were intended solely for use inside organisations, for example as an aid to policymakers, and the experts reported creating images and artefacts before they made a final design output in order to facilitate understanding or to move a design project along - this was also linked to the prototyping and testing phase of design. In other cases, visual outputs were developed to enable or improve interactions with people outside their organisations, such as service users. Simple, paper-based visual tools were also a significant part of the design process.

> *"Sometimes...we create materials that will actually be used by the public or by frontline service providers. Those materials are sometimes mechanisms for delivering information - sometimes they are tools to help staff or members of the public make decisions or take actions...Finally...we create digital and hardcopy representations of systems and decision-making environments to support them* [policymakers] *to act on our recommendations."* (INT 6)

Beyond image making, a diverse range of other material outputs were described by the experts - including a book, new digital interactions and a physical map.

> *"...we created a book...which was about women and other minority groups writing about science fiction and the futures they imagine. And we've been sending those books to male CEOs of tech companies. That's more about using design to influence change, but again a very tangible and purposeful and intentional thing that we are trying to do."* (INT 9)

A diverse range of material outputs was also described by the 16 respondents to the online survey (Chapter 4, Section 4.3.2). The survey project looked more broadly at organisations using design methods and approaches to shape public policies, government services and citizen engagement, but evidence about 'making' in strategic contexts can also be drawn from this data.

The online survey included a multiple choice question about the 'outputs/products' of the participating design teams. The answers covered a number of different categories, and there were some outputs that almost every organisation in the survey sample reported they delivered. The highest ranking output recorded in the online survey was 'new services / changes to existing services'. The data also shows that these design teams deliver more conventional design outputs, nearly two thirds reported that they make 'print materials' or 'redesigned products'. There is also some data to indicate work in strategic contexts; just under half the survey sample reported that their organisation or team delivered 'new policies or changes to existing policies'. Finally, just over a third of organisations reported that they deliver 'foresight' (SQ 28).

The findings about outputs and products from the online survey are important. They show that, whilst these teams deliver diverse products, the majority of these relate to the design of services and interactions. Although more conventional design outputs, graphics and products, were still highly represented in the sample. It is significant that some of these teams deliver more strategic outputs, including new policies and foresight. The data shows that the participants view the products and outputs of their work in highly diverse terms, ranging from graphic representations to new policies.

6.2.2 Less-tangible outputs and meaning-making

The experts in the qualitative interviews also identified less-tangible outputs of their work as material, such as the creation of 'relationships' or 'influence'. One practitioner employed in a newly created advocacy organisation used almost the entire hour and a half of the interview to discuss concepts of materiality and the role it plays in their work. They viewed materiality as a way of both shaping the new organisation and as a deliberate design-led strategy to influence policy change. Several other participants also reported that they produce recommendations or advice, especially where the outputs of design activity were intended to create the conditions for further work, to encourage a specific course of action or to foster new interactions and relationships.

> *"There were two things that I feel like I was helping to build. One was an organisation and the other was influence...we did at times actually build prototypes, we made physical things. Which I guess were more like speculative design...I felt we were building...I would say relationships - not relationships just as a nice 'oh it's really nice that we build good relationships', rather very strategically designing what is the ecosystem of relationships that we need to be in place to try to influence change...There are lots of reasons for seeing building relationships as a strategic design practice."* (INT 9)

> *"There are times when we are asked to provide guidance, people are looking for recommendations about what to do, or even some clarity on what is going on and how they could respond to it."* (INT 6)

> *"I have been asked to do stuff 'I'm a TV channel and I need to move to digital'. They asked me to do a state of the art of business models that are connected with the reinvention of companies. That is the output."* (INT 8)

> *"A lot of our work could be changing face-to-face interactions, so for example how do our inspectors interface with companies."* (INT 10)

In the qualitative interviews, the experts referred to both the physical making and the meaning-making aspects of design. They identified the creation of physical objects, both by designers and participants to the design process - such as books or maps - as an important part of their work. However, they also viewed these objects as a strategy for creating meaning, for example by visually representing a complex system to aid policymakers. In addition, they viewed the

creation of new meaning itself, as much as the creation of physical objects, as a product of the design process - evidenced by their descriptions of ‘guidance’, ‘influence’ and ‘relationships’ as material outputs of their work.

There are echoes of Krippendorff’s (1995) theory of product semantics in this data, where design is seen as a primarily sense-making discipline. For Krippendorff, the technical and functional aspects of making in design has been overemphasised at the expense of recognising its sense-making potential (p.156). Krippendorff argues that the material presence of artefacts cannot be separated from the meaning that is attributed to them - i.e. from their “product semantics” - and that meaning is derived by the user and the designer of objects by interpreting and placing them in different contexts (p.159) (Chapter 2, Section 2.4.2). In the interviews, the experts were clearly articulating both the material and social aspects of some design outputs.

One practitioner with a background in architecture reinforced the idea that even experiential design outputs such as service interactions can be viewed as material. In their view, if something can be designed to fulfil a specific purpose - be it a product or service - it is a ‘material’ output. Here, the practitioner argued that the ‘thing’ being designed is the conditions in which a relationship or interaction can take place. Another expert also viewed design in strategic contexts as material, but struggled to articulate why - nonetheless the material aspects of their design activity were considered important even where the outcome was not an object or product.

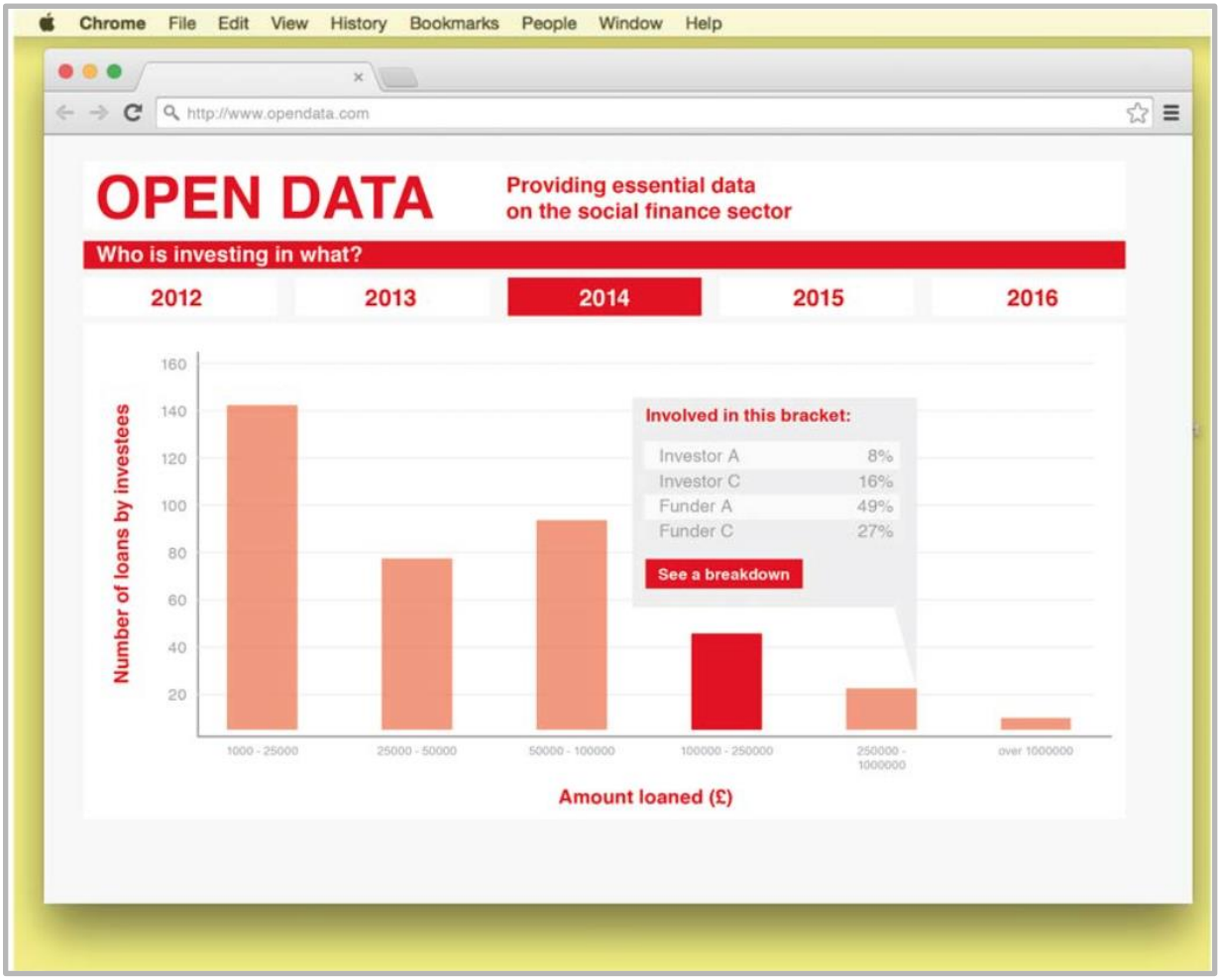
> *“In my view the materiality of services is not related to their tangibility but is related with the role they play in the construction of an experience and the capacity we have of giving shape to that service so it can serve that purpose...”* (INT 8)

> *“I see it as completely material and it's not that way. We don't really make things at the Lab. We looked into acquiring some 3D printers, but we don't have a shop or a workshop where we actually make things. We print things but we rarely make things. But I see that as an essential part of this, and I still don't know how.”* (INT 11)

Further evidence of ‘making’ both physical products and new meanings is in the social investment case study. The designers in this project were creating new meaning using material and visual strategies including ‘prototyping’. For example, one of the four prototypes tested in the second design project led by The Point People and Snook was a mock-up of an ‘open data’

platform - this served to illustrate a potential solution to the challenges social organisations experienced in understanding the social investment market but it was also a research strategy to learn more about investors' and social organisation's perceptions of the market (Fig. 6.1). At the end of the project during the workshop with social organisations, participants commented that they would prefer to see 'raw' investment data suggesting the significance they placed on transparency (Chapter 4, Section 4.4.4). Importantly, the final product of these design processes - the digital platform Good Finance - is itself a communication device, and was designed to enable social organisations to understand and navigate the social investment market more easily.

Fig. 6.1: Prototype of the Open Data platform. Source: The Point People and Snook (2017)



Plurality of design outputs is discussed by Buchanan in his theory of the four orders of design (1992) - symbolic and visual communications: material objects: activities and organised services, and complex systems and environments (p.7) - which can be seen as a taxonomy describing the levels at which design can operate. Buchanan does not draw a hierarchy between the four orders, instead he argues that they can be interconnected - products for example can enable or inhibit activities, and signs and symbols can help to interpret systems and environments (Chapter 2, Section 2.4.1).

However, in this theory Buchanan does not explicitly identify the meaning or sense-making aspects of design as an output of the design process, which came across clearly in the qualitative interviews. Nor does Buchanan discuss the way in which the process of making informs the final design output or the highly plural way in which designers combine, reinvent and move between the different orders of design. This practice-led research adds to knowledge about the outputs of design in strategic contexts, by highlighting the diversity of tangible and intangible outcomes.

6.2.3. Decoupling design outputs from a predetermined format

The qualitative interview sample comprised people working solely in strategic environments, and these experts reported that they did not use a fixed format to produce or deliver outputs - despite the significance that they placed on materiality. This is distinct from design fields such as product and graphic design where the sub-discipline is named after the resulting artefact, and often determines the type of output that designers produce.

In some cases, the experts commented that the complexity of the issues they are working on means the form of design output cannot be defined from the start. One expert noted that decoupling the outputs of their work from a specific design format was a particularly powerful attribute for design in strategic contexts, and expressed a desire for the design practice in their organisation to retain that flexibility.

> "*I think historically design fields are named after the thing they design - you know a graphic designer makes things that are graphical, product designer designs chairs etc....I think as these fields begin to merge and the systems we work in become more complex, there's so much more overlap between them - I also think we can just can reinvent it again and again and again."* (INT 5)

"That is what I like about strategic and service design, it is not connected to the format. This is a discussion you have in architecture a lot and most of strategic design is coming from architecture." (INT 8)

"I understand why it is important to have the segmentation but I want it to move to that more integrated place because that makes design more powerful and impactful" (INT 13)

These are important findings: in strategic contexts the experts reported that the format of a design output cannot be defined before the design process has taken place. Nonetheless the experts placed huge significance on materiality in their work.

6.2.4 Analysis: design products and outputs

The themes of materiality and making were prominent in all three tiers of primary data. The data shows that designers working in public and civic sector contexts, including in strategic contexts, place huge significance on the material aspects of their practice. The power to create images and visualise ideas was seen as an important and distinct design attribute, relevant to both the design process and final outputs of design activity. However, participants, particularly in the qualitative interviews, had expansive notions of materiality and the products of their work and they created **diverse material outputs**.

The participants also viewed less-tangible outputs and **new meanings as material results of design activity** – including 'influence', 'new relationships', 'guidance' and 'business models'. In addition, the experts reported that they are often unclear what they will 'make' at the outset of the design process, meaning that design activity in strategic contexts can be viewed as a material practice but is **not bound by a specific format**. New meanings as well as physical designs or graphic communications can all be seen as outputs from this work.

The primary data underlines the new complexity and freedom for designers in deciding what to 'make' in response to strategic challenges. These are significant findings, they add precision to the meta theories of design, espoused by Buchanan (1992, 2001, 2019) and others, by demonstrating the hybrid and fluid way in which designers are moving between and deciding which kinds of design output to create in response to the design challenges such as 'policy influencing', which they are now addressing in new strategic environments.

6.3 Materiality in the design process

The role of making in the design process is discussed in the following section. Making things and working in a material way were seen by the research participants as a fundamental part of the design process, including in strategic and systemic contexts.

6.3.1 Making to learn

Experts in the qualitative interviews described how simple, visual tools and artefacts were used as part of the design process in order both to understand a problem and to progressively refine the required solution. These tools were deployed as devices to learn more about an issue and to test possible responses. They were also used to reduce complexity and to create influence, as one practitioner working in an advocacy organisation described.

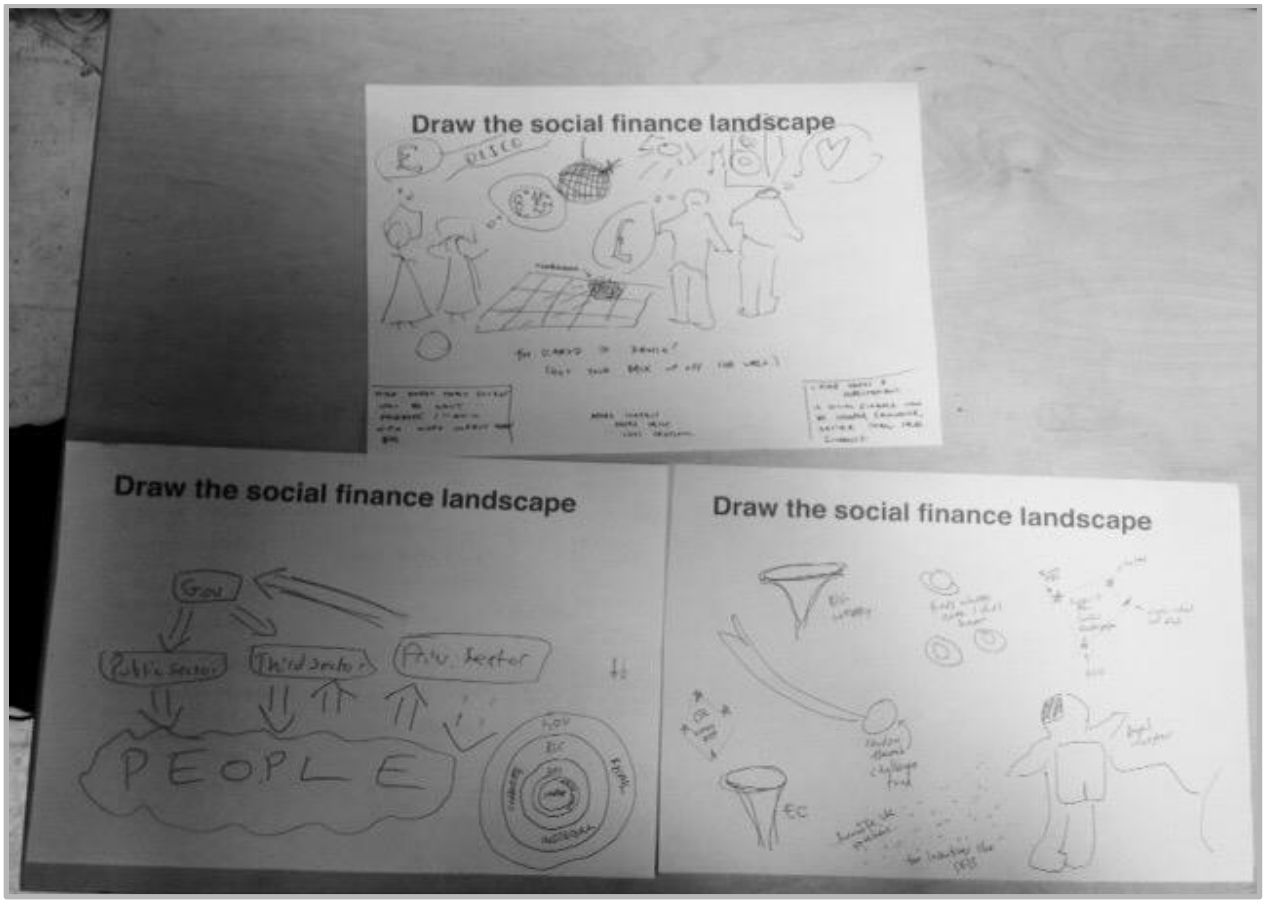
> *"...we felt like, in order to have influence around regulation, we needed to give form to what would be plausible or preferable to what's currently in place. So sometimes we were doing more traditional things designers talk about, building prototyping and giving form to them, and I suppose it's because we wanted to test, if you need people to make decisions and change behaviour or write a new policy around something that can be really difficult to understand, like algorithmic bias...does it have more influence to show something for them to understand rather than write it?"* (INT 9)

The approach of 'making to learn' was also thought to be important in strategic contexts where, according to the experts, the problem and the appropriate design response were more difficult to define. One practitioner, defined design as both the process of making and as the final result of that process; in these cases, design is being viewed as both a process and as an output.

> *"...it's interesting because...using these design devices and mindset and tools, that has an impact on the result but also on the process."* (INT 8)

Making during the design process was also evident in the social investment case study. The designers involved in different stages of the work deployed a wide range of material strategies including 'prototyping', 'journey mapping' and 'image making' (Chapter 4, Section 4.4). The creation of images by non-designers also took place in these projects. In the second phase of work, the designers from The Point People and Snook generated material artefacts with social organisations, by asking them to draw the social investment market at one of their project workshops (The Point People & Snook, 2015). The drawings by social organisations in Fig 6.2 provide further evidence of their limited understanding of social investment and challenges in navigating the market.

Fig. 6.2: Images of the social investment market drawn by social organisations. Photo: The Point People and Snook (2017)



6.3.2 Making to build

In highly practical terms, making in the design process was also seen by the experts as a way of assessing operational effectiveness. The experts argued that the pragmatic focus of designers and design activities, achieved through the 'making to build' aspect of the design process, forces people to confront and understand operational reality - this was seen to be particularly important in strategic contexts such as policymaking. The pathway towards delivery set by the solution-focused aspects of design activity, was emphasised by one of the practitioners as a specific contribution from design to their policy-influencing work because it forces people to make decisions. They described how their work went beyond conventional advocacy by pushing policy recommendations to a practical conclusion, for example rather than simply recommending that a new organisation was established they designed the business model for that organisation.

"I think the acid test of getting that experience of frontline delivery early, through the prototyping and things like that, can sometimes really change the direction of travel, so we often do it in the field - go out and test things. Like, I tested a job service for long-term unemployed men - which was a mobile app that had been developed, but where I tested it there was no phone signal." (INT 1)

"The example I frequently use is we [architects] may have different opinions on how this thing needs to be solved, but at the end of the day we need to agree where the plumbing goes. Unlike policy contexts we can't agree to disagree, to say 'we don't know we are in disagreement, but let's think of a way we can frame it so we don't have to address it…' I think the fact that in architecture and design you are making something forces you to make decisions." (INT 14)

"I said let's not just write that you need to do these things, let's see what they look like and then design them. So it's still high-level but we have designed three new bodies that will serve the function that we need to exist. We have started to do institutional design as part of our recommendations." (INT 9)

In the social investment case study, designers from The Point People and Snook undertook prototyping in order to refine ideas to improve the social investment market. They tested four ideas with funders and investors from the social investment sector, focusing on: better peer-to-peer support between social organisations; opening up and sharing data; creating digital signposting and guidance on social investment and, improving approaches taken by investors to due diligence[51] (The Point People & Snook 2015, p.5). The prototypes worked on two levels, they were a way of asking questions of the funders and investors which generated new user insights, but they also iterated and improved specific design solutions. From the research, the team were able to articulate broad principles about the working relationship between investors and social organisations, such as "building direct engagement and relationships between different stakeholder groups" (p.10). The prototype about digital signposting and guidance, initially called Finance Central, became the basis for the Good Finance platform which was the final design output from this work (Chapter 4, Section 4.4).

[51] The checks/assessment of a social organisation undertaken by an investor to assess whether the organisation is eligible for investment.

The parallel processes of ‘making to learn’ and ‘making to build’, discussed in the qualitative interviews and deployed by the design team during the social investment work, demonstrate the concept of ‘abductive reasoning’ - although none of the research participants directly used this term. Referring to the literature it is possible to articulate why abductive reasoning has particular potential in strategic contexts. Wylant (2008) argues that designers work with a “mini-hypothesis”, such as a sketch of a potential product, to learn more about the context and the idea they are developing (p.13). The final product in design is the “cumulative articulation” of every minute decision that takes place during the process of making (Wylant, 2016, p.74). For Hatchuel (2001), the use of “learning devices” in design, such as prototypes, means that new knowledge is generated as part of the process of designing, and that through the development of a design project new concepts are expanded that cannot be known from the start (p.6). Beyond the field of design, Sennett (2008) also underlines the significance of dialogue between action and reflection in craftsmanship and problem-solving. Thus, as part of the process of placing a design concept or hypothesis into a potential context where it might be used, more can be understood about both the context and the possible design solution.

The literature about abductive reasoning is solution-focused, predominantly associating making in the design process with the creation of a final design output. In both the qualitative interviews and the case study, the designers were clearly deploying the abductive reasoning process as a research strategy to understand more about complex situations, without always having an explicit intention to ‘make’ something or to develop a practical design response.

6.3.3 Making to speculate about the future

Several of the experts saw making and material ways of working as a strategy to evoke future possibilities. The ‘plan’ or ‘image’ of something that is not yet built was discussed as a way of inferring a future design output. The experts described how by giving form to a concept - through a sketch or basic prototype - they were translating an idea to a physical representation and materialising conceptual notions. Whilst the plan itself is material, it also evokes something which has not yet been created and gives form to this future ‘thing’. Thus, the image or plan in design activity was thought to have two functions, as an artefact and as a material evocation of a future possibility. For one practitioner, the concept of the ‘design plan’ was a central; they viewed the plan, even more than the final output, as the definition of design. One of the commissioner experts also showed awareness of the potential for design to be used to imagine new possibilities and expressed frustration that it did not happen more frequently.

"I think there is an assumption that things 'are' when they are implemented. We could argue that a drawing is also reality - of course it has the potential of being something else but, in itself it is something. So for example a building - you could talk about architecture as a thing or a piece of design. That was designed by someone, or you could talk about design as the plan, the design of something, the drawing...I tend to think that when we are talking about design we are talking about the plan." (INT 8)

"One thing that makes me wonder, we have used design to make existing stuff work better. When do you use it to make things better and when do you use it to imagine new things?" (INT 2)

The future-orientated aspects of the design process are discussed in the literature. Wylant (2016) argues that the design process can travel from a singular "cognitive event" to a "sophisticated design response" (p.72). Wylant's views of progression and intention imply that the process of designing entails imagination about the future and that during the design process intentions must be formulated about what something could be. It is significant that in the primary data there are examples of design activity being deployed as a strategy to imagine large scale outputs - e.g. new policies, organisations, national funding programmes - this places applied design activity into a new position of influence, which was recognised in early design theory but has not been adequately probed in relation to the new contexts for design (see Simon, 1998: Buchanan, 1995: Margolin, 1995).

There are also speculative aspects to the materialisation of future possibilities in the design process, which do not automatically lead to the creation of a design product. Some references to the speculative potential of design appear in both the qualitative interviews and in the survey project. In the online survey, 6 of the 16 respondents reported that speculative design is represented in their organisation or team (SQ 22). In the qualitative interviews speculative design activity was framed as an emergent practice by three of the experts.

"...if we find a team that wants to experiment then we say 'well what about speculative design?', and we push the boundaries of the practice. If their comfort zone is good, and they are up for that, then we co-contract what we call a 'first for government'."
(INT 1)

Strategies for evoking speculative futures in design are discussed in Chapter 2 with reference to the work of Empathic Designers. In the Empathic Design movement fictitious scenarios were used to trigger new ideas about possible scenarios (Koskinen *et.al.* 2014). In this context, materiality in the design process was deployed to evoke speculative futures, rather than to define a design output. The primary data suggests that the deployment of speculative design is an emergent space in strategic contexts in the public and civic sectors.

6.3.4 The subject matter of design activity

The dynamic 'learning through doing' processes that the experts describe illustrates how design can be seen as a discipline with no subject matter of its own - in design, knowledge of a subject matter or problem is built through the process of designing. The experts were from a wide range of organisations including government agencies, foundations, not-for-profit organisations, commercial design agencies and universities, working on a wide range of issues. Two practitioners working in a design agency and as an independent consultant described the breadth of areas where they work.

> *"We work for all types of organisations large and small, public/ private and third sector. We don't specialise in an industry - we just look to make things work better."* (INT 5)

> *"So, in my practice I have worked in different environments. Start-ups, companies with academia, with governments, with politicians. I think it's very transversal what I have been doing. Even though I started as an architect and then a UX designer, I moved very quickly into strategic design. Basically trying to advise different organisations to help them think in a different way but also to deliver concrete stuff - particularly digital communications."* (INT 8)

Although descriptions of subject matter in the primary data were generally broad, the qualitative interview data in particular offers insight into the areas where design activity is being deployed in strategic contexts. Examples of subject matter discussed by the experts included:

- advocacy work in a small think tank relating to policy regulation about the emerging field of tech ethics, where design approaches were used to build policy recommendations, create new strategic relationships and develop the business model for a proposed regulatory organisation (INT 9);
- development of goals for a national UK foundation running a large-scale funding portfolio, and the objectives for individual funding programmes (INT 2);

- a €60m real-estate development to create a new zero carbon city block in Helsinki, as a model for a zero carbon city (INT 14);
- the development of speculative proposals to imagine the future of rail for the UK Department for Transport (INT 1); and,
- embedding design in national charity in the UK working on drug and alcohol addiction to enable culture change and a greater focus on clients (INT 4).

Despite this breadth, these situations are common for their strategic or systemic focus where design activity is being used to inform the development of a high-level plan or framework - be it funding guidelines or an organisational mission - which sets the context for further action to take place - such as individual funding decisions.

The subject matter of design is discussed in the literature (Chapter 2, Section 2.3.3). Buchanan (1995) describes the "quasi-subject matter" of design, which is informed by general concepts of design - broad understanding of design and materials - and the particular - specific conditions of the design question at hand. Buchanan (1995) argues that design has broad relevance to all aspects of human experience precisely because design has no subject matter of its own - the subject matter of design is "potentially universal in scope" (p.15). The primary data adds specificity to Buchanan's argument by evidencing the real-world situations where his notion of 'fourth order design' is now taking place.

6.3.5 Analysis: materiality in the design process

Overall, the primary data shows that making or working materially during the design process is highly significant in strategic contexts and has multiple functions. The dual process of **'making to learn'** and **'making to build'** were an important theme in the qualitative interviews and in the case study. The role of making in the design process is not solely solution-oriented or reductive - whittling down possibilities in order to make something concrete. In some cases, **'making to speculate'** about the future is also used as a deliberate strategy, even where there was no intention to create a final design output. The learning aspect of the design process also elucidates concepts of design as a transversal discipline with no subject matter of its own. Because new knowledge is built during the process of designing, design can be readily applied to new domains where designers have no prior knowledge.

The interview data evidences the **wide range and high-profile subject matters of new design activity**, including the creation of government policies, large-scale funding decisions and strategies for national organisations. Despite this breadth, the situations the experts described were common for their strategic focus, where design activity is being used to inform the development of a high-level plan which sets the framework for further practical activity.

The varied ways in which making takes place along the course of the design process are highly significant findings. The research shows that the products of design activity in strategic contexts are extremely diverse, and that making has central but plural roles in these design processes, from building knowledge and testing practical solutions to imagining future possibilities. This has not been adequately explored in the literature: adding specificity to what is being 'made' and 'how' by designers working in strategic contexts is a key contribution from this research.

6.4 The culture of making in design activity

There were connections between materiality and the culture of design activity, as well as the value attributed to it, in the primary data.

6.4.1 Establishing the culture of design through making

In the qualitative interviews, many of the experts clearly viewed making and working in a material way as core design attributes. In several interviews, the experts made connections between the material aspects of their design activity, such as image making or drawing, and the culture of design itself. One expert practitioner described how they sought to alter physical environments in order to create the conditions for change. In this case, simple material artefacts were being used to prime an organisation for further design work and to establish the presence of design.

> *"If we are talking to young people - what is their visual culture? That element, if you start losing it because you are so 'design thinky', you stop worrying about those core things of design...all this bullshit of design thinking and these ugly slides without any respect for fonts or colours."* (INT 8)

> *"When we used to work in government we would pay attention to the paper we used, to how the invitation was designed, to how the meeting was planned, to what the follow up was. Because these are all expressions of the new culture and what better way to express it than through the materiality of it as opposed to the theory of it. The more you*

can get it in the material world the more likely you are to have people experience something new. When people experience something new, you can change the terms of the debate." (INT 14)

The primary data also provides evidence about points of friction between the culture of designers and the new strategic spaces where design activity is now taking place. The notion of a cultural mismatch between the tangible world of designers and the analytical world of policymakers or strategists was cited in the qualitative interviews. One of the expert practitioners explicitly framed the cultural differences between the worldview of designers and policymakers in relation to the difficulties designers experience in understanding the 'material' of policymaking, suggesting that designers with specific training such as product design can encounter barriers in knowing what to build and how to build it in more strategic contexts.

"I think some of the limitations that designers have are in understanding what the material is, so to speak, in the public sector. For an architect it's very clear. Its building materials, systems, electrical, these kinds of things. The material one needs to shape in the public sector is different and understanding requires experience…in the public sector context, understanding what the material is - which is policy, economics etc…" (INT 14)

Cultural challenges relating to materiality and making in design were also evident in the online survey. One respondent identified a range of cultural barriers in response to a survey question about the current weaknesses of public and civic sector design. In their response, the prototyping process of designers was identified as a specific barrier and the respondent clearly saw this as a blocker to the exploratory and iterative aspects of design activity.

"Simply put, government is not designed around the principles of design, it is designed for order and stability. Deep unbiased research does not really exist, as most government officials are originating an action around a pre-decided policy mandate from elected politicians, so the 'open end' to the problem resolution is not always there. In addition, the notion of synthesis does not exist, as the time devoted to this critical design element is not deemed valuable. Government is built around a 'once-right-perfect' mentality, so the idea of a prototype seems wasteful…" (SQ 34)

Barriers to working materially were also evident in the social investment case study, both practical and cultural. The project was the first time prototyping had been used in the UK social investment sector. The funders and investors who were involved in the prototyping work had

limited time and were initially unclear about the commitment that would be required of them; the design team found that prototyping was not a “natural” process (The Point People & Snook, 2015, p.24). Other insights from the prototyping process were cultural. The designers found they had to switch between roles as external facilitators and members of project teams to move the work forward, and observed that prototyping would have been easier if it had been done by a “neutral party” (p.24). In their project report the design team observed that the expectations around prototyping had not been adequately established and there was never a clear brief to build a specific design output, “...the level of commitment truly required to drive forward live prototyping within the timescales set out was not in place” (The Point People & Snook, 2015, p.24). It was therefore challenging for the designers to work in a context where they could not see or touch the concepts and project process. One of the policy team commissioners also reported their confusion at observing the prototyping process.

> *“...and there’s a sort of confidence... that [the lead designer] kept on talking about these messy lines and saying a lot “design is like this, and then there is an answer there”. And it’s just that the messy process is really counter-cultural.”* (CS 1)

6.4.2 Making to enable participation

The experts also viewed making as a powerful participatory and engagement strategy and many of the experts described how they seek to include non-designers in the design process using simple design devices such as sketches and basic prototypes. They discussed helping non-design professionals - civil servants, policymakers, young people - to make models or drawings of their own concepts and ideas. Material artefacts were seen as a method for adding clarity to complex environments and several of the experts viewed making and working in a material way as democratic - simple design objects such as sketches or basic prototypes were seen to be comprehensive and thus accessible. Facilitating people to engage in the material outputs of design was also seen as a strategy to bring people together around a common idea, in order to build consensus or to reveal where it is absent.

> *“Making it tangible comes into play in lots of different ways. We do model, so sometimes I’ll spend 30 seconds asking someone to model the shape of drug rehabilitation or transport policy or health and social care. It’s surprising how rapidly people can form concrete physical models of hugely ephemeral, changing things. It’s like a mental model everyone is carrying around and these obviously shape how we think about the world and how we work in the world. Again it’s about revealing hidden assumptions and surfacing them such that they can then be debated.”* (INT 1)

"...it's democratic because visuals are much easier to understand than words and lengthy documents. But it's also interesting because it's a joint exploration activity, more than one person can look at a visual or an image and discuss it, whereas reading you tend to do that as a solitary activity and I think that is a really important distinction as well. The visual invites collaboration whereas the written, you have to do by yourself and digest it by yourself." (INT 12)

"...when we work with different government offices, in the beginning, it might seem that we don't have much in common but when you start creating something together and you materialise this - in a tool, in a map, in a visualisation, in an object or something - you start creating connections that bring in all these people." (INT 7)

The centrality of engagement and making to the culture of design is discussed in the literature. Manzini (2015: 2016) observes an interplay between professional designers and non-designers, arguing that the role of professional designers is increasingly as a facilitator of non-designers using their knowledge of the methods and culture of design, for Manzini designers "can operate as social actors who, thanks to the cultural and operative tools available to them, are able to feed into and support the design process in which all of us, experts and non-experts, are involved" (p.1). More broadly, Sennett (2008) frames the act of craftsmanship as a strategy for people to learn about themselves, others and the world around them. It is clear from the interviews that the experts viewed working in a material way as an engagement strategy, they saw their roles as enablers or facilitators as part of their identities as designers. Further aspects of participation are discussed in Chapter 7, Section 7.3.

6.4.3 Creating impact through making

A number of the experts made connections between creating a design output and delivering impact, suggesting that they associate making something with the creation of value. Some practitioners felt they had delivered impact when they had made an artefact which would be used by members of the public. One practitioner, working in a design agency, described an aspiration to move the organisation towards making things because of the link between making something and achieving impact. Thus, implying that value creation is attributed to the delivery of design outputs and products.

"...the best projects are the ones that have created some kind of 'thing'. That can connect you or us with citizens in a material way. It can be a virtual thing or a tangible

thing but it's something that we have built together so we can communicate better instead of just talking about how things can be done..." (INT 7)

"...I feel like it is disappointing when we don't get to make things for members of the public, but almost more important is making a way upstream policy alteration with all kinds of trickle down effects. So there's a way in which when we influence policymakers, we have more systemic impact". (INT 6)

"Going forwards with an emphasis as an organisation we want to be creating things and making things. That might not necessarily be digital things. But we no longer want to be an organisation that hands over a report at the end of a project. And we want to structure our organisation to allow us to do that." (INT 5)

Creating and measuring impact were major themes in the survey project and were widely viewed as an underdeveloped aspect of current public and civic sector design activity, (discussed further in Chapter 8, Section 8.4). Several of the online survey respondents reported that they have recently developed or are working on defining impact metrics. From the survey data, 'new skills for civil servants' and 'problem-solving/new solutions' were the highest-scoring impacts of this work, reported by 8 of the 16 respondents. This was closely followed by 'improving access to a public service' and 'ripple effects beyond a specific project' (SQ 31). However, the absence of shared and rigorous approaches to impact evaluation also emerged as an important theme in the survey data and there was a sense of urgency around developing metrics that are appropriate to design. When asked about the weaknesses of current public and civic sector design practice, one of the participants to the online survey clearly saw improving impact measurement as an important way of ensuring credibility in the field.

"Impact and evaluation is a topic we need to work further on, both as a way to sustain dialogue between practices, to highlight professionalism and to counter 'innovation washing', to address the topic of 'values', etc." (SQ 34)

Significantly, in the interviews with expert commissioners and practitioners some experts voiced their frustrations with the perceived hesitancy of designers to move their work towards implementation (see Chapter 5, Section 5.3.1). The insight is at odds with the significance that almost all the practitioners attributed to making things in their strategic work and the association that some of the practitioners drew between delivering impact and building material objects.

However, it implies that some of the material aspects of design including project collateral, such as working documents and prototypes, and components of a solution or process remain hidden from non-design colleagues and partners. Alternatively, the perceived uncertainty on the part of designers to move towards making and testing is a feature of the challenges translating established design approaches to strategic contexts.

> *"... [there is a] cultural barrier when you get something too polished and the person on the receiving end thinks 'this person doesn't understand my job'. I think it's also the fault of funders sometimes. Funders like to pay for the exploratory, interesting sexy early stage research. But they often don't necessarily commit funds to support implementation which is hard and gritty and not very sexy at all."* (INT 3)

> *"you have spent so much time trying to come up with the best version of the thing that you have yet to throw it against the wall and feel the ways it breaks."* (INT 3)

The hesitancy to move to the delivery stage of a design project was also cited in the online survey data, one participant described current weaknesses in the public and civic sector design field and commented that they experience challenges in moving their work to implementation, referring directly to the phases in the Design Council's Double Diamond framework (Chapter 2, Section 2.2.3). Another participant in the online survey also observed challenges in moving design work beyond engagement to implementation.

> *"Encouraging a client to move from Discover, Define, develop to the all-important Deliver phase is challenging, mostly due to budget constraints and political hurdles."* (SQ 33)

> *"Everyone likes an image of a government worker playing with post-its, but it can be hard for people to invest in design processes beyond the spectacle."* (SQ 35)

6.4.4 Analysis: the culture of design and making

Making and working materially held huge significance for the research participants and was seen as part of the **culture of design** itself; in the interviews the experts described how they tactically made changes to the communications or physical environment in order to create the conditions for wider culture change.

Making was also a deliberate strategy to **engender participation**, and the data shows that non-designers are frequently involved in making activities during the design process in strategic

contexts, this data evidences observations in the literature of **changing roles for designers as facilitators** and enablers of non-design activity in others. Furthermore, making was closely associated with **creating value** and a number of the participants described how they attribute impact in their work to making something, although impact measurement was also identified as a current weakness in public and civic sector design activity.

The data also highlights points of friction, showing that for commissioners of design it can be difficult to grasp the value of processes such as prototyping and for designers there are challenges to understanding the material of the policy or strategy, evidenced by hesitancy to move through to implementation. This underlines the emergent nature of this design activity, suggesting that whilst value is attributed to making by both designers and commissioners there are still barriers for designers in understanding what to build in strategic contexts and moving to prototyping and implementation in their work.

6.5 Chapter 6 - Conclusion

This research makes a contribution to understanding the central, yet multifaceted way in which making takes place in design activity in strategic contexts.

The **material outputs of design in strategic contexts are highly diverse**; both new meanings and physical objects were viewed as material outputs from this work. Furthermore, several experts reported that they were not bound by a predetermined design format - such as graphics or a product - and instead argued that, in strategic contexts, the form of the design output was defined as a result of the design process. This is important data. It suggests that whilst design in strategic contexts retains the significance of materiality and making, it takes place in complex and plural ways. The data also underlines greater freedom and complexity for designers working in strategic contexts in deciding ‘what to make’.

Making also has various roles in the design process: the participants described **‘making to learn’** where physical objects and design tools are used to generate knowledge about a problem; the participants also referred to **‘making to build’** where they created physical artefacts - such as prototypes - in order to refine a final design output or test operational effectiveness; and, **‘making to speculate’** in the design process was deployed as a strategy to evoke future scenarios - even where there was no intention of creating a final design output.

Making was seen by the research participants as **central to the culture of design**, even where they could not clearly articulate its significance. It was both an important strategy for building empathy and for engaging with non-designers in the design process. The expert practitioners clearly drew associations between making something and delivering impact through their work. The data also demonstrates the breadth and high-profile subject matter of new design environments, underlining the potential scale of impact that designers can now have in the public and civic sectors. However, the data also illustrates limitations and challenges to working materially for designers in strategic contexts which are commensurate with the present immaturity of the field.

Chapter 7

Human qualities, participation and power dynamics

Chapter 7: Human qualities, participation and power dynamics

7.1 Introduction

Chapter 7 is the final of the three thematic data analysis chapters. It examines the skills and qualities of designers undertaking design activity in strategic contexts and interrogates the role of participation by non-designers in the design process. The chapter also explores the power dynamics and cultural conditions that designers both encounter and enable in strategic contexts.

Perceptions of design as a 'human-centred', 'user-centred', 'co-creative' or 'participatory' activity have profoundly shaped contemporary design theory and professional discourse. It is almost impossible to consider design activity without connecting it to social processes, and early design theories often describe its engagement with the realm of the 'artificial' (see Simon, 1998). Chapter 7 aims to further develop concepts of design activity in strategic contexts by analysing the human and human-centred aspects of this work. The chapter explores notions of design qualities and who participates in design activity, drawing from the primary data.

The Chapter is organised as follows. Section 7.2 discusses the skills and qualities of designers. Section 7.3 considers engagement of non-designers in the design process. Section 7.4 explores power dynamics and the cultures that designers engage in and engender as part of their increasingly strategic work.

7.2 The skills and qualities of designers

The following section examines notions of design skills and qualities, and the interplay between technical or formal design capabilities and less concrete attributes such creativity and imagination.

7.2.1 Technical design skills

In the qualitative interviews, the importance of technical design skills were raised by several of the 15 experts. The practitioners had a range of design backgrounds, including industrial design, architecture and policymaking. Formal design training was viewed by some of the experts as a means to distinguish designers from non-designers, although significantly two of the 15 experts were undertaking design work without formal training. One expert commissioner with a policy background commented that, whilst they led an innovation team that included designers and undertook design work, they did not see themselves as a designer because they

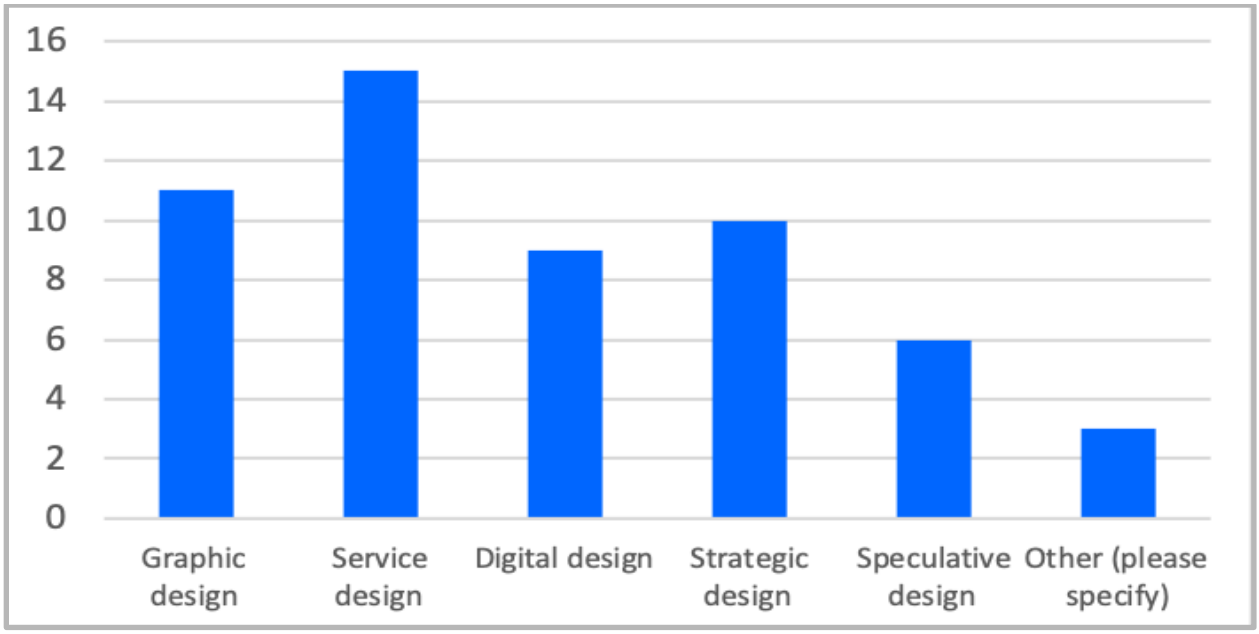
lacked ‘making’ skills. Another expert practitioner argued that it is possible to be a designer without formal skills, but the ability to work with people who possess these skills is essential.

> *“I always hesitate to say I am a design practitioner because I don’t have a design background and I can’t actually make things…”* (INT 10)

> *“...to be able to think or commission visually is really important. You can still be a designer and not do that but you need to work with someone who is, I think that is a really important quality in order to bring a wider number of people along with you whether that’s stakeholders or users.”* (INT 12)

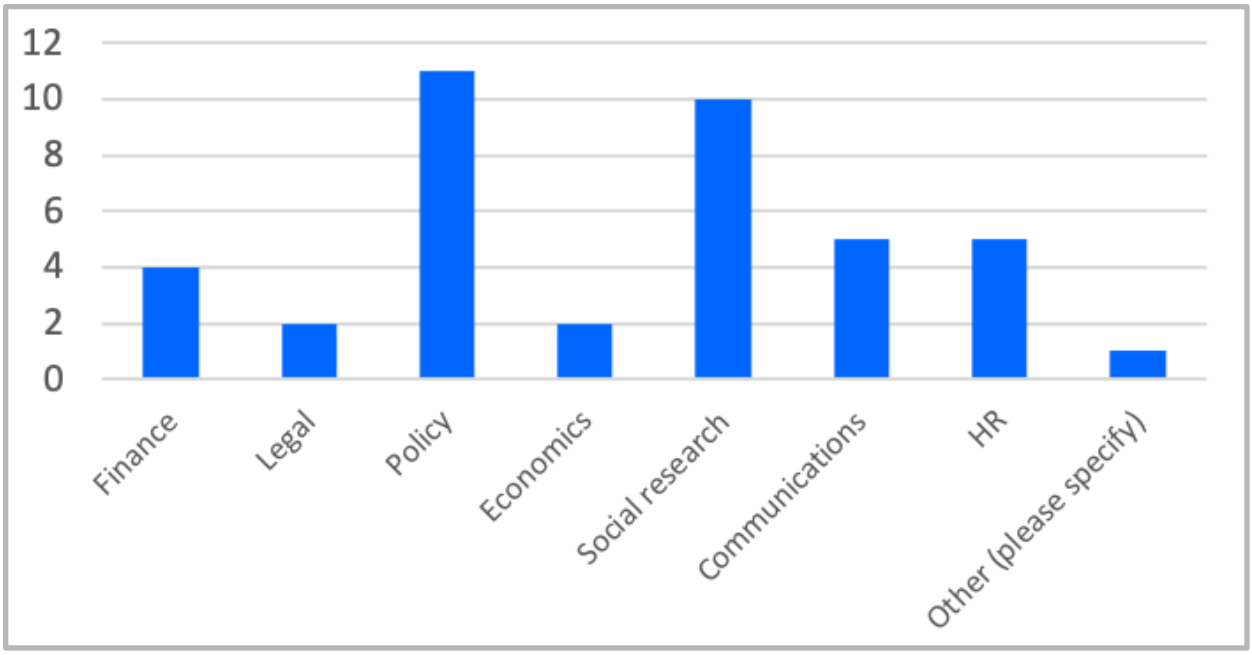
In the online survey, respondents were asked about the design fields that are represented in their teams. As Fig. 7.1 shows, service design followed by graphic design were the most highly reported design fields. Interestingly, speculative design was also present in a relatively high number of the participating organisations and teams. Notably most of the participants reported that strategic design skills were present in their organisations, and the responses for strategic design were only marginally lower than graphic design. Although, it is important to note that ‘strategic design’ was presented to the survey respondents as a pre-set multiple choice category decided by the researcher and was therefore not generated by the respondents themselves, this was included to see whether they identified with the term.

Fig. 7.1: Online Survey, SQ 22 - What design fields are better represented in your organisation/team? Check all that apply. (n-16)



The survey participants were also asked about the 'typical' government skills that are present in their team, and policy, along with social research skills, were highly reported as Fig: 7.2 shows.

Fig: 7.2: Online Survey, SQ 25 - Are 'typical' government skills represented in your team/ organisation? Check all that apply. (n-16)



The survey project underlines the significance of 'making' skills' for designers, even in the non-typical design contexts where these organisations and teams are working - focussed on shaping public policies, government services and citizen engagement. In the online survey, participants were asked for their view of the most sought after or valued design skills. This was an open field question and they were able to give expanded answers. Technical design skills were identified as important by many of the participants, including *"visualisation"*, *"graphic design"*, *"creativity and making ideas tangible"* and *"prototyping"*, which was the most frequently mentioned of all the technical or practical design skills. In one of the responses, the role of prototyping was expanded further and this participant identified particular value from their role as a designer in translating ideas into something tangible; they saw prototyping as a specific role for designers rather than non-designers.

> *"Any experience that brings people together and asks them to generate ideas and make things is highly appreciated"* (SQ 24)

Several of the 15 experts in the qualitative interviews identified formal design skills as a significant part of public and civic sector design work, although importantly they were not always seen as a prerequisite for this design activity. Whilst formal design skills were valued, there was no fixed idea of the skills required to undertake this work. The online survey data gives a clearer picture of the design skills that are being deployed in public and civic sector contexts, showing the prominence of established disciplines such as graphic design and service design. However, emergent areas of design practice - including strategic and speculative work - as well as non-design fields such as policy and social research were also identified as part of these skill sets. Both the qualitative interview data and the online survey data suggest that current concepts of the formal skills required for public and civic sector design activity are fluid, and that these organisations and teams are fusing established and newer design skills, alongside non-design skills, in their work.

7.2.2 Qualities and the designer's mindset

Insights from the primary data extend beyond formal or technical skill requirements into the qualities that the research participants perceived as important to design activity in strategic contexts. In the 15 qualitative interviews, the significance of factors such as attitude and mindset, alongside professional design skills were emphasised. Although many of the experts highlighted less-concrete aspects of their approach to design, there was a lack of precision and consensus in how they described these qualities.

Empathy was identified by several of the experts as a key quality for their design activity. Conceptions of empathy extended beyond interactions with individuals to the environments in which designers work, and the ability to adapt by deploying design skills and communication strategies appropriate to different cultural contexts was seen as crucial. However, there were also observations amongst the experts that designers need to be robust and critically aware, in order to challenge existing cultures and the *status quo*. One expert practitioner raised concerns that designers are not adequately prepared for challenging work in strategic contexts.

> *"I think there is something about being empathetic and yet critical and challenging. The thing that I have seen, is the need to listen deeply to what people are saying, to observe how people are acting and understand root need."* (INT 12)

> *"I think to be a good designer you...need to not only be nice but you need to be able to synthesise and hear what people are saying and spin it back to them in a way that is rooted in their context, and to adjust based on what they are saying."* (INT 15)

> *"...unfortunately, even in the term 'design thinking' we are stuck too much in this feel-good conversation, [as though] it's enough to do a few workshops on how to engage people in a warm and fuzzy environment. Whereas the stuff that one needs to do is in a very charged, tense, ridden, stress-filled and we are not preparing people for this kind of work."* (INT 14)

Optimism and imagination were also seen by the experts as important qualities for their design activity, and these qualities were associated with the ability to create new or alternative possibilities. Another quality that emerged from the data - cited by more than one expert - related to maintaining openness and divergent thought. Being comfortable with ambiguity was seen as a typical design skill and as counter-cultural to government or other bureaucratic environments.

> *"I suppose it is that relentless playful optimism - as a quality. This optimistic, playful curiosity - slightly tongue-in-cheek sometimes to suggest the ridiculous to open up the space in the middle. I don't know how you recruit for that; I don't know if we do recruit for that. That's the bit of magic I suppose."* (INT 12)

> *"… the discomfort around ambiguity in the civil service and comfort, if not delight, in designers around ambiguity, which is the field of possibility - it opens up the field of possibility. Whereas too often the natural inclination in the civil service is to close down the field of possibility.... I've seen too often when people bring in worked up notes and they know what their position is before they arrive. You can't have collaboration on that basis.* (INT 1)

The emphasis by the research participants on qualities, mindsets and attitudes in the data suggests that formal design skills are important but not sufficient or essential to design activity in the public and civic sectors.

The significance of empathy skills and the ability to work in a conciliatory manner to enable participation in the design process, is a theme in the literature about design and participation

(Sanders & Stappers, 2008: Manzini, 2015, 2016). However, the potentially challenging or combative role of the designer - emphasised by one of the practitioners - is seldom referenced in this literature.

7.2.3 Professional pathways and recruitment

In some of the qualitative interviews, there were direct references to the training pathways and requirements for certain qualities and skills for design activity in strategic contexts. Three of the practitioners were trained as architects and interestingly each made connections between their background in architecture and current strategic design practice. These practitioners were working variously as an independent consultant, at a university and in a federal government agency in the USA. They mentioned the breadth, integrative requirements and the technical skill set of architectural training, as strong foundations for strategic work and as factors that distinguished designers working strategically. Although these practitioners clearly valued their technical skills, human qualities and the ability to think strategically as a result of architectural training were seen as being more important. Thus, architecture was viewed as a good proxy training for design activity in strategic contexts.

> *"So all I'm saying is that a building requires a high level of integration between very different kinds of skill sets, and ideally the architect's role is as an integrator of specialities and different types of system questions...I think architecture also has always had to deal with questions on a very broad horizon."* (INT 14)

> *"...the reason you see a few architects doing this kind of work is that architectural education is broad enough to allow for a deep understanding of human relationships in the context of government, and that's why architects do well in this environment, more so than people's training which is more specific. I think you need people with a broad training that has a foundation in - one foot in reality and one foot in imagination."* (INT 11)

> *"I was effectively trying to dematerialise my practice. So I say, I have been practicing as an architect but without being concerned about architecture. When...I moved to strategy, it's not that I moved to strategy, I tried to use my strategic thinking from architecture in other fields."* (INT 8)

Some of the experts also spoke about their experiences of recruiting people for design activity in strategic contexts; these comments also underline the breadth of formal skills and qualities required to undertake this work. Significantly, the experts did not identify a specific design skill set in their discussions of recruitment. Instead, they emphasised the transferable potential of design skills and the importance of people being able to adapt to the context in question by learning *in situ*. Some experts reported difficulty in hiring people and one conceded that they were looking for an almost impossible combination of skills and qualities. There was no fixed concept of the skills required for design activity in strategic contexts in the data.

> *"I'm recruiting a lot more design-focused roles at the moment, but even in the CVs it's like 'I'm not hiring you because you can run a workshop well', I'm hiring you because you can develop people and capabilities to be more focused at problem-solving, and apply different methodologies to a particular problem, but be more contextually sensitive and aware. And not just apply a fixed approach…"* (INT 4)

> *"We don't put really strong emphasis on [employing] trained service designers - somebody who has a degree - because this has only been a recent thing… Senior people would never have done that unless they had gone back to study. We value a broad set of experience. We do think design can be quite a transferable skill."* (INT 5)

> *"We used to laugh when we were in government that we are looking for super people. When you are thinking about all the characteristics that you need you are basically looking for a person that doesn't exist...I think when we were hiring people it was a serendipitous process, you would find very smart people you can upgrade, or people from another field with enough design experience that you can transition in. We were very much a learning and doing team."* (INT 15)

Significantly, the current ambiguity around the skills and qualities required to undertake design in strategic contexts was identified by one of the commissioners as a challenge or area of tension in the potential for design to be institutionalised and scaled within complex systems.

> *"One of the challenges with the design field is, how do you make something not about selling a method or a particular consultancy approach and keep that sensitivity and skill and yet still scale to the extent that this is something lots of people can engage in? That feels like quite a tension."* (INT 4)

The primary data affirms the significance of both technical skills and certain qualities for design activity in strategic contexts. It also highlights an area of challenge, where the current difficulty in articulating the designers' skill set can impact the ability of organisations and individuals to recruit and adequately prepare people for this work.

The notion that certain qualities or attitudes, as well technical skills, are required to undertake design work is well established in the literature (see Cross, 1995: Jones, 1992: Lawson, 2004: Michlewski, 2015: Potter, 2002). However, the current literature does not adequately examine the skills and qualities of non-designers who are increasingly leading and participating in today's design activity in strategic contexts. The primary data collected for this research makes a contribution to addressing this gap by underlining the significance of both technical skills and certain qualities for design activity in strategic contexts. It also highlights an area of challenge, where the current difficulty in articulating the designers' skill set can impact the ability of organisations and individuals to recruit and adequately prepare people for this work.

7.2.4 Analysis: the skills and qualities of designers working in strategic contexts

The primary data shows that **formal design skills are highly valued** in strategic contexts. However, the data also shows that design training was not seen as a prerequisite for this design activity and **individual qualities were valued as highly**, such as empathy, contextual sensitivity and the ability to adapt or learn *in situ.* Emergent areas of practice such as 'speculative design' and non-design skills, including policymaking and social research, were also thought to be important. Overall, there was a lack of clarity in the data relating to both the articulation of a specific design skill set for strategic work and the qualities that this design activity requires.

The notion of the designer in strategic contexts that emerges from the primary data, is of a person with a **hybrid set of technical skills and human qualities.** The data also underlines challenges with preparing, recruiting and training people for this design activity and with scaling it inside large institutions. This adds to existing literature by providing insight to the range of qualities and skills this work entails, even if they are currently fluid and ill-defined.

7.3 The role of participation

Engagement with non-designers is a central theme in the primary data and it was established as a crucial aspect of design activity in strategic contexts. The data suggests that engaging with a wide range of people has profound impacts on the design process, the insights and materials that inform this process as well as on the role of the designer. The following section explores how a spectrum of people are involved in design activity in strategic contexts and the impact of this approach.

7.3.1 Working with designers to understand people's needs

Understanding human needs, perceptions and experiences emerged from the primary data as an important motivation for public and civic sectors organisations to engage with designers.

In the qualitative interviews, several of the commissioners described how their perceptions of design as a human-centred discipline had led them initially to contract designers (see also Chapter 4, Section 4.2.2). Interestingly, all five of the commissioners in the interview sample identified 'understanding user needs' as an imperative for people who are commissioning design – all of these experts were in leadership roles in public and civic sector organisations, working variously in large foundations, a national charity and central or city government agencies. Their motivations for understanding people included building more effective technology products, creating systems around real needs and refining the purpose of an organisation or funding programme. The human-centred aspects of design activity were also seen as an entry point to working with designers, which then expanded into other areas of an organisation. Interestingly, the data from these commissioners suggests that initially they had relatively narrow concepts of how design activity would be used, which changed over time, whereas the practitioners tended to hold extensive and sophisticated notions of design.

> *"We said if we want people to build good platforms that people are actually going to use we need to take folk with the tech skills and put them in service to individuals and communities that understand these problems well. So instead of trying to trust their own instincts on what these things should look like, they should go out and be having dozens and dozens of conversations with the people who use those products... I think we have started with a very specific conception of design and it has sort of taken over everything".* (INT 3)

"Well the core issue that we were trying to figure out all sorts of approaches to was the challenge of the silos - and making government more human-centred and adapting to the needs of people, rather than making people adapt to bureaucratic structures of government....and then design just embraces that as a core principle…" (INT 15)

"...one of the things to me that feels very exciting about design is that it is potentially a way to resolve what I think is a really broken issue in commissioning, which forces public services to not understand the end user because you are responding to what government is saying is important, rather than what citizens actually need, and I think design can bring you back to focusing on citizens." (INT 4)

In the social investment case study, understanding human needs and perceptions was also identified by the commissioning policy team as the motivation to work with designers (Chapter 4, Section 4.4.2). One of the commissioning policy team explained that their initial deployment of design was linked to a lack of knowledge about the individuals and social organisations in the social investment market.

"If you abstract it to its core, markets are about the meeting of people. And we wanted to understand more about that meeting place." (CS1)

The data from the qualitative interviews and social investment case study suggests that engaging with people and understanding human problems is a profound motivation to work with designers in public and civic sector organisations, it also implies that the human-centred emphasis in design activity is one of the most visible and tangible aspects of design practice, and that in strategic contexts this is providing an entry point for other design work to take place inside an organisation.

7.3.2 Who is involved in the design process?

Evidence of the wide range of people involved in design processes in public and civic sector organisations was also woven throughout the primary data.

Almost all the experts in the qualitative interviews discussed the role of participation and engagement in their design activity. Some of the expert practitioners described working with diverse groups, ranging from elected officials such as government ministers to professionals such as policymakers or social workers, as well as a wide range of people on the receiving end

of policies or services. Engaging civil servants was also seen as a way of imparting design capabilities in organisations. One expert's description of their engagement with people was almost panoramic, and they attempted to involve the full spectrum of people situated around a problem in their initial research. The expert also argued that in some cases people who seem tangential are often key enablers and users of a service.

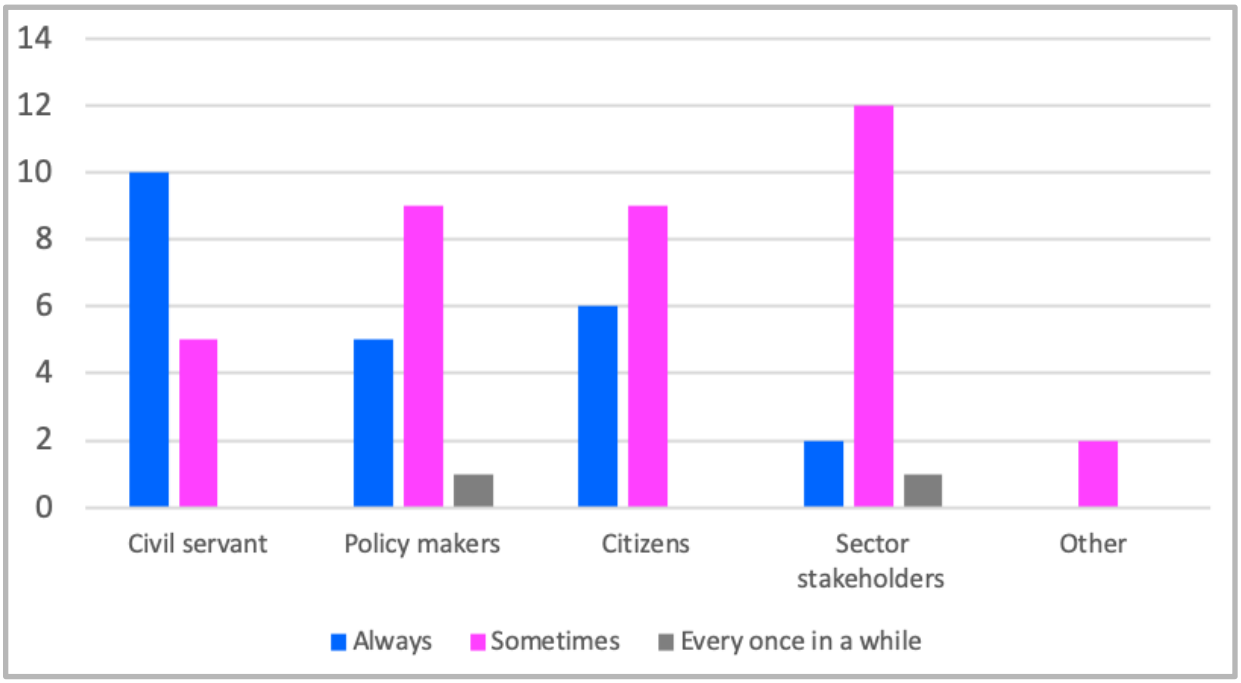
> *"We are definitely more focused on teaching and delivering skills training to people who are working in city administrations with the goal that they will make things and have impact."* (INT 13)

> *"...we work closely with ministers and citizens often at the same time. Getting everyone in the room is crucial. So where we add value - is often where we do things differently to the rest of the system and I think the system is more linear and hierarchical."* (INT 1)

> *"We want to talk to them, the people who are in control of the system that we are attempting to alter. We want to talk to other smart people who are observers of that system, or observers of similar systems, or who operate similar systems to the one we are trying to alter. That's where the subject matter experts come in. Advocates partners, operators of similar systems, academics - all that stuff. Then there is an obvious thing as user-centred designers, where we say 'hey we want to talk to users' and that can create some logistical manoeuvring to make that viable. But our partners understand from our presentation of who we are and what we do that talking to members of the public will be a thing that we want to do. And there's then some parsing of 'Who is that?', it's the direct user of the service but also it often turns out that it's the family members or some other tangential members of the public who are not obvious, but turn out to be critical to users of the service."* (INT 6)

There was also evidence in the online survey data about the range of people who are involved in design activity in public and civic sector organisations. As Fig. 7.3 shows, within the sample organisations, engagement with civil servants was higher than other groups, whereas direct engagement with policymakers - as distinct from other civil servants - and citizens ranked lower. Although the survey data did not look exclusively at strategic contexts it underlines the significance of engaging both people on the receiving end of services and professionals working in public and civic sector organisations.

Fig. 7.3: Online Survey, SQ 20 - Who do you tend to work with to get your projects done? (n-16)



7.3.3 The impacts of participation in the design process

In addition, the primary data provides evidence of the impacts of participation. This included impacts on the design process, the material generated to inform the design process, and the role of designers.

Engagement and participation were immensely significant to the design processes described in the qualitative interviews. The experts illustrated different ways in which participation informs the design processes and the methods they reported using were frequently created to engender participation. There was also reference to designers ceding authorship in order to enable non-designers to create and deliver design outputs.

> "*Co-design has its limitations, if you are doing co-design be clear if you are doing it to get buy-in - we quite often disguise it as coming up with ideas, but really it's buy-in. If you are doing it to get buy-in, by all means involve users. Even if you are doing it to come up with different ideas, involve radically different people, people from completely outside the service you are working on, you'd almost create a lateral inspiration group of people."* (INT 12)

Insights about adapting the methods of design for non-designers are also evidenced in the online survey data, although this process was not necessarily described as being a smooth one.

> *"We have either to train government employees to use design tools - or translate our tools to fit with their language and comfort level. For example, I developed a Hugh Dubberly-style concept map recently and nobody knew how to read it. I had just assumed it would make sense."* (SQ 34)

Similarly, strategies to evoke user needs and to engage with non-designers are present in the social investment case study (Chapter 4, Section 4.4). The design team from Snook and The Point People working on the second phase of this project, used 'personas' to understand the needs of different groups of people in social organisations. These covered a range of different users within the target audience of social organisations, ranging from "business savvy", someone who knows about investment and wants quick connections to the right opportunities, to "the safe-guarder", someone with a more traditional approach to business and who is likely to be cautious about investment (The Point People & Snook, 2015, pp.28-31). The personas were a device to ensure this work focussed on real rather than assumed needs.

The primary data also evidences the profound impact that the knowledge which is created through wide engagement and participation has on the design process and outputs. This was an important theme in the qualitative interviews.

One practitioner noted the richness of the information they collect through the ethnographic approaches used in the initial stages of design projects, and they contrasted this with the quantitative information that governments typically use. Several other experts spoke about how their design activity uncovers hidden information. For example, emotions such as anxiety, as well as experiences, beliefs or values. These human insights were seen as key to the design of appropriate services or strategies, however the experts thought that considerations such as emotional experiences were almost entirely absent in conventional strategy environments.

> *"I think it's just a fundamental difference between asking somebody 10 pre-scripted survey questions - and really how little that tells you. And having an hour and a conversation with someone where you are sitting with them in their workplace, in their home, in their service delivery context - that they are used to. And you are hearing everything they are, seeing them in their environment, picking up all kinds of non-verbal cues about who they are and their experiences."* (INT 6)

> *"So attitude perhaps can be quite subtle. We're working on the future of rail and it was anxiety that came through, so it wasn't punctuality it was anxiety - that took the team a different way. So, on social housing, one of the themes was around stigma. That wouldn't have come up if we hadn't done the work we did in the way that we did it."* (INT 1)

> *"For a huge number of New Yorkers, it is almost impossible to disentangle - beliefs about mental health from a whole set of beliefs around the spiritual self. That is a thing that is just completely absent from the medical model of behavioural health, which is the complete framing device for mental health service delivery as it is practiced by the City of New York."* (INT 6)

Similarly, in the social investment case study, one of the original policy commissioners reported that the first design project led by the Design Council enabled them to understand where the "faultline" between social organisations and investors lay (CS 1). In the second design project led by The Point People and Snook, the design team identified five areas of friction between social investors and social organisations including mindset, language, knowledge, connection, and influence (The Point People & Snook, 2015 pp.14-20). These emotional and experiential factors were new material for the policy team.

> *"It exposed what the faultline was and there had been a lot of talking at cross-purposes. From there we've been able to build out."* (CS 1)

Increasing emphasis on participation in design activity is well-documented in the academic literature, including its impact on design methodologies, the shifting role of the designer and the increasing empowerment of non-designers as agents in the design process (see Celikoglu *et al.,* 2017: Manzini, 2015, 2016: Sanders & Stappers, 2008: Wilson & Zamberlan, 2015). However, the role of participation in design activity in strategic contexts has not been probed extensively. This research demonstrates that in strategic contexts the significance of participation in design activity is retained. It shows the power of participatory processes, which can bring to light issues such as 'anxiety' that are usually hidden. The data shows how rich insights created through participatory strategies are being used to build understanding about complex situations and determine areas of focus for further work, such as in the social investment case study.

7.3.4 The role of the designer

The primary data provided evidence about the role of the designer in enabling the participation of non-designers in the design process.

In the qualitative interviews, several of the practitioners underlined how they facilitate active engagement in the design process by non-designs. Here, the role of the designer is closer to that of a facilitator, rather than the sole author of a design output. Not all of the practitioners engaged directly with end users in their work and instead, some described how they impart design skills to professionals within public or social sector organisations as a conduit to embedding user-centred practices within an organisation. Design training activities were also a hugely significant part of the work that public and civic sector design teams undertake.

> *"We ask people to draw, 'Draw what export means for you?', and suddenly you see ten different pictures. 'Draw what child care looks like for you?' or 'social housing'. Post-Grenfell we asked people to draw where they live, engaging 1000 citizens on what home meant for them…We try to take away elements of mastery, we use design as a level. We know everyone can draw as a child, so when we ask people to draw where they live, we know everyone can do that."* (INT 1)

> *"...is this really about touching the lives of millions very quickly, or is it touching one life at a time in a very profound way? Obviously, how do you measure that or get insights about that, but watching people [civil servants] work and start at the beginning of the day being afraid to pick up their markers and ending in a very confident way and in a much better mood."* (INT 11)

The primary data also suggests that in strategic contexts there is a nuanced relationship between attending to the needs of different groups through participatory and engagement strategies and reconciling these with competing priorities. In the qualitative interviews, two of the practitioners expanded on the relationship between people's needs and designing in strategic contexts. They argued that despite the centrality of participation and engagement to design activity as a whole, at the strategic level fidelity to individual groups becomes more challenging. These concepts were less formed than the expert's discussions of user-engagement more broadly which - as the literature and data affirm - are now well established in the design field. One practitioner made a comparison to architecture in order to explain limitations of user-centred design in strategic contexts, another observed a tension between serving individual and

societal needs when thinking about how to influence government policy regulation for the technology sector.

> *"I always resist in an architecture context the kind of user conversation that may be more close to product development, because you may not ask the right questions by asking today's people. And how do you represent the needs of people who haven't even been born, who will engage with buildings. And how will you deal with questions of changing use of buildings, some of these because of the timeline, and scale and investment around buildings aren't things we have to ask ourselves about products, which may be focussed for a very specific user or a very specific timeline."* (INT 14)

> *"...we did a survey around digital attitudes where people talked about the internet being good for them as individuals, but broadly it hasn't been good for society. And that's because people can't see, when you design things to work really well for people, like really good services or experiences they are all individualised, they don't recognise what the cumulative effects are on something bigger than themselves. If you are trading off convenience you might have an amazingly good design experience with Amazon but your local high-street is completely decimated."* (INT 9)

Data from the case study and survey project also provides evidence of the challenges in scaling up granular insights about individual groups to the level of policies and systems. In the social investment case study, the policy team was accustomed to working at the policy level to develop a small financial market – social investment. Although user insights felt important it was not always clear how to act on them.

> *"As I sat down with ministers [after the first design project] there was a bit of a 'so what?' question. Not all of which was fair. We found that sharing those insights has led to stuff happening. But I think some of the 'so what?' was fair – we knew more about how venture's [social organisations] experience social investment but - what is going to happen as a result?"* (CS 1)

Similarly, in the online survey one of the respondents specifically identified challenges scaling up participatory approaches within an organisation, when asked about the key barriers in their work.

> *"The challenges of scaling a user-centred approach when departments are caught in their operational KPIs and comfort zone approach of problem-solving."* (SQ 33)

The distinction between professional design activity and lay design activity is documented in the literature (see Manzini, 2015, 2016). The primary data affirms that designers working in strategic contexts usually, although not always, hold specialist skills, like other professional designers. However, it also underlines the changing roles and agency of designers in public and civic sector contexts. As the data shows, there are challenges in reconciling granular data from individuals or small groups of participants at the system-level, and designers are taking a curatorial role in deciding how participants in the design process are represented. The potential naivety and ethical considerations of representation are referred to in the literature in relation to policy and design activity (Clarke and Craft, 2019: Mintrom and Luetjens, 2016), however the agency of designers has not yet been fully interrogated in relation to participation in strategic contexts. As a significant part of this practice, further examination of the power dynamics and ethical considerations of participation is essential.

7.3.5 Analysis: participation in design activity

The primary data evidences the **significance of the participation of non-designers** in design activity in strategic contexts, and the profound impact this has on the design process, knowledge generated and the role of the designer. There were descriptions in the data of the almost panoramic engagement of different individuals in these projects, ranging from senior officials to citizens. Understanding human needs was an important motivation for public and civic sector organisations to engage with designers, however it was also seen as one of the most visible aspects of design activity and was sometimes a starting place for wider design work. The participatory strategies of designers working in strategic contexts were thought to reveal information which is usually hidden, relating to beliefs, emotions and behaviours.

The primary data adds nuanced insights to questions of participation in design activity in strategic contexts. Although the data evidences the significance of participation, it also illustrates how designers working in strategic contexts manoeuvre non-designers to create support for their work as well as their role in curating the conditions for participation and deciding which user needs to prioritise. In these contexts, the **role of the designers is frequently as a facilitator** or enabler of design activity in others. The data also highlights a strategy amongst designers to train people working inside complex systems, such as government departments, to undertake design activity themselves. The curating role that designers are taking involves **power dynamics and ethical dimensions** that have not been adequately explored in the literature.

7.4 Power dynamics and culture change

Insights about the established cultures of public and civic sector organisations appear in the primary data, and the research participants discussed complex power dynamics in their design activity in strategic contexts. The following section explores concepts of power and culture change.

7.4.1 Power dynamics

Notions of power dynamics, particularly in strategic contexts, were explored by many of the participants in the primary data.

Concepts of both navigating and redressing power dynamics and hierarchies were prominent in the qualitative interviews. Several commissioners argued that the process of gathering insights about the daily experiences of people on the receiving end of government, philanthropic or charity services - particularly vulnerable people - was a means of introducing new insights into the decision-making processes of organisations - thereby redressing power imbalances. Two of the commissioners worked in large foundations and both described how design activity had been deployed to explore ways to direct funding in order to meet the needs of frontline organisations or the beneficiaries of their services.

> *"...there's a lot of complex power dynamics in philanthropy. You've got a set of people who have money who are writing cheques and a set of people who are doing the work and really need the cheques to make it happen, and one of the things that is wonderful about a great design process is that it creates a context and a space for equity."* (INT 3)

> *"One thing that we wanted to do was to think about how the power dynamics between organisations who receive funding and the communities they serve can be different. Organisations that bid for money were jumping through hoops that funders have set but without beneficiaries having a strong voice. We were keen to think about how to reimagine a different set of relationships. Design-thinking offers that."* (INT 2)

Similarly, in the social investment case study the commissioning policy team worked with designers to understand the needs of social organisations, and these insights were used to better represent their voices and experiences in social investment policy decisions.

> *"It was obvious from all the discussions that we were having that the umbrella organisations were having all the conversations. Because it was a relatively niche area? Or were they self-styled as market stewards? For structural reasons? There was little engagement with the 180,000* [social organisations]. *So, the thought of getting into design was a user-centred one."* (CS 1)

Design activity was also identified in the primary data as a means of shifting power dynamics within organisations by empowering internal teams with new skills and knowledge. In two of the qualitative interviews with commissioners, the additional knowledge which was imparted after design training or exposure to a design project was viewed as something that could enable internal teams to act with greater authority and assurance. This was seen to break down hierarchies within organisations because of the shift in focus onto people's experiences that these design activities enabled. There was also an observation from one practitioner expert about the cultural similarities between designers and public sector workers regarding the shared desire to understand lived experiences.

> *"...it's sort of subtle but I think as a team it has given them [the staff delivering frontline services] more authority about their ability to act as agitators and change agents rather than just passive deliverers of somebody else's agenda."* (INT 4)

> *"I believe that if you use a design thinking approach where user research is the anchoring focus, when it comes to synthesis, brainstorming, the hierarchy of people and project team doesn't really matter. This puts the user's needs as the focus."* (INT 10)

> *"It's as if gravity didn't work over here, everybody thinks it works everywhere, but it is actually not the same context. So, I feel that the people who are most appreciative and understanding of the kind of work we do are actually the leaders of public agencies who are supposed to be so risk averse. They are the ones who are like, 'Great, we are so glad you are going to talk to those people and you're going to give us some good advice'. They tend to be pleased with outputs. They don't say, 'well why didn't you make an app for us'. They are like 'this is awesome; we can totally use these recommendations' or 'we can totally print 30,000 crappy leaflets' [the leaflets were a design output that needed to be low-fidelity]. They get us, we get them. The people who don't understand this are funders, people working in the private sector or outside researchers."* (INT 10)

A number of the expert practitioners also acknowledged the power that they have as designers, and some of the experts questioned the neutrality of their design activity. The agency of designers was recognised both in terms of their power to give form to ideas and because, for some designers, an active attempt to recognise and redress power discrepancies was part of their work.

> *"Design is inherently political. I think designers often come at problems saying we are neutral, but they are not. So they need to be accountable for the fact that a) they are not neutral b) their interventions have impact, and c) that has to be scrutinised. This means that in the Lab we can't operate just as designers we have to take it up a level."* (INT 1)

> *"For me strategic design recognises where there is power in the system and, well I guess depending on your political views or sense of social justice, you'll be thinking about power because you'll not want to entrench it further... we have to also look at the people power response to this, or what the social sector's role is."* (INT 9)

These insights suggest that power was both recognised and crafted by the participants in the research and in some cases design activity was deliberately deployed to redress perceived power imbalances. The re-moulding of power dynamics through design activity in strategic contexts further reinforces ideas of the designers' agency, and suggests that there is an implicit agenda in this fledgling field relating to representing and highlighting the views and experiences of vulnerable groups. This is an ethical stance which is not always made explicit in design activity, particularly where it takes place inside bureaucracies.

Questions of power and design activity are explored in the literature. Massanari (2010) argues that ethical concerns accompany designers' choices around how to work alongside users. Similarly, Steen (2013) views co-design as an inherently ethical process because participants are invited to express and share their personal experiences through participatory design activity. The notions of power raised by authors including Massanari (2010) and Steen (2013) are clearly present in the practical applications of design activity that are represented in the primary data collected for this study. However, whilst the literature identifies ethical concerns there is a current absence of guidance or proper code of conduct for designers working in a participatory way in complex systems. This is a major gap in making public and civic sector design work as a whole more robust and accountable.

7.4.2 Culture change

The primary data also establishes links between shifts in power and culture change that result from design activity. Descriptions of design entering non-design cultures in the public and civic sectors occurred frequently in the primary data, these are explored below.

Several experts in the qualitative interviews made observations about the culture change that can take place when design is introduced to strategic environments. Their perspectives of culture change included introducing new ways of approaching problems and new awareness of people's needs. Design activity was also identified as a means to institute different ways of working in organisations in the long term. In some cases, experts described the strategy of imparting design skills to internal teams - in government, social sector or philanthropic organisations - as a deliberate tactic to engender culture change, and design training and teaching was an important facet to many of the experts' work. One practitioner from a design consultancy described deliberately leaving work incomplete in order for clients to internalise and take ownership of the final output. These observations suggest that design is being used to engender culture change by engaging and upskilling teams inside organisations.

> *"I think it's far less about "solve this immediate issue" and far more about how to build the capability of the organisations to approach problems in a different way."* (INT 4)

> *"We are definitely more focused on teaching and delivering skills training to people who are in city administrations with the goal that they will make things and have impact."* (INT 13)

> *"...the balance is between having to hold your guard and say we are not going to do it for you, even though it would be quicker and you'd get this shiny service at the end, and saying that it will look half-finished but the staff will have had a hand in doing it. It's not necessarily what I would have designed, and it's not all singing all dancing but it is at least owned locally."* (INT 12)

The case study also illustrates the significance of an enabling environment for design activity in strategic contexts (Chapter 4, Section 4.4.1). It took place in the context of the UK Civil Service Reform Plan which created permission for the focus on 'user needs' that was subsequently adopted in social investment policy (HM Government, 2012). One of the policy commissioners for the design work emphasised the presence of this enabling environment in their interview.

> *"We as the Government Innovation Group had a certain licence to see what was going to be creative and transformative in others, the Design Council gave a talk on some of the work in service design that they had been doing. All conversations were talking about users."* (CS 1)

Ideas about encountering new cultures through design activity in strategic contexts were striking in the data. In the qualitative interviews, some of the experts clearly viewed challenging existing organisational structures as part of their role. One of the practitioners underlined tensions in representing the lived experience of people on the receiving end of government services as a result of their work. Another practitioner argued that designers working in government organisations need to be robust and critical. These insights underline the conflicts practitioners experience in applied environments, and point to the disruptive and sometimes radical changes to the *status quo* that their presence can bring about.

> *"The government essentially refuses, and puts its hands over its eyes and says we are not going to deal with the fact that you have a messy body full of feelings. There's a whole feelings part of this around people's pride, shame, anger and distrust. All of that is just not on the table."* (INT 6)

> *"To change it [existing culture] you need a different kind of capacity. You actually need a different organisation. Which actually means you need a different kind of framing of what your role and guiding principles are - so you get really deep into fundamental questions."* (INT 14)

In the online survey the respondents were also asked about barriers to their design activity, and several of the barriers identified related to differences between the cultures of design and the public sector. These included resistance to innovation methods, reluctance to follow through projects and a lack of expertise relating to demand for design. The survey data also suggest that both ownership of design projects and an enabling environment are important foundations for design activity.

> *"We also have major issues of mistrust that stem from years of financial corruption and mismanagement. People, then, can be slow to open up and share their thoughts. People are also highly sceptical of change - the last ten years has seen chaotic change in leadership. Each new leader imposed a new philosophy and way of working onto the organisation, and people are tired of anything 'new'."* (SQ 33)

"Lack of sophisticated demand. Few organisations are willing to invest what it takes to create genuine change - many are looking for 'quick fixes'. This is a cultural challenge." (SQ 33)

"Misperceptions of what design is and how it can be applied to service and policy improvements beyond websites and technology. Government likes to make quick decisions; it can be hard to convince decision-makers to invest in upfront qualitative research. Reluctant partners when projects are mandated from the top down." (SQ 33)

7.4.3 Analysis: power dynamics and culture change

The research participants were highly aware of established power dynamics and hierarchies in strategic contexts, and design activity was often identified as a radical and disruptive means of shifting entrenched power dynamics. The data shows that **designers deliberately craft and reframe power dynamics** in large organisations, through the focus on human needs and experiences. Training activity also emerged as a strategy for engendering culture change.

Many of the participants recognised that their design activity was not neutral and acknowledged their own agency in making decisions about the groups which are represented in strategic decisions as a result of their work. Although tension and friction were commonly recognised aspects of the culture change that can result from design activity, the importance of enabling institutional environments to support this work was also emphasised. The data implies that there is an **agenda behind design activity at the strategic level** relating to the representation of disenfranchised groups in system change. This is not always made explicit and suggests that certain **ethics and values** are present in design activity in strategic contexts but are not currently being interrogated sufficiently by commissioners and practitioners of this work.

7.5 Chapter 7 - Conclusion

Chapter 7 set out to interrogate the skills and attributes required for design activity in strategic contexts, and how non-designers inform and engage in the design process.

From the primary data the **designer emerges as a hybrid, with plural skills and qualities**, including formal design skills and more ephemeral traits such as empathy, as well as skills from new host environments such as 'social research'. Significantly, formal design training was not thought to be a prerequisite for this work, and design was framed as a transferable skill. This

perhaps implies that the routes into emerging design activity are more plural than in other design sub-disciplines. However, there was no fixed definition of the skills or qualities required for strategic work, and there are currently significant challenges with professional pathways, recruitment and scaling up.

Engagement and participation were fundamental to the design activity described, with a profound impact on the design process, the knowledge generated and the role of the designer - which is frequently as a **facilitator of design activity in others**. A desire to understand human experiences is a common entry point for design activity, which can then expand to other areas of an organisation – suggesting human orientation is one of the most visible aspects of this practice. However, in strategic environments where multiple and competing needs exist there is a nuanced relationship between participation and design activity. Here the designer is empowered to decide which voices are heard and represented in complex systems, and designers have a form of agency that is not always made explicit.

Many participants spoke about the presence of power dynamics in their work, in some cases redressing power imbalances was a motivation for public and civic sector organisations to engage with designers. Culture change was also an important theme in the data, and this was thought to be a fraught and combative process. Several participants observed that the **work of designers is inherently power-laden** because they are making decisions about the types of user insights to work with and proposing solutions. The data suggest that these designers did not see themselves as neutral actors.

This data raises complex questions about the promotion of an ethical stance or agenda through design activity in strategic contexts which - whilst it may prioritise the interests of vulnerable groups - is nonetheless problematic if it is not made explicit, particularly where this work is taking place inside democratic institutions such as government departments. The values being promoted in new design activity are not adequately explored in the literature. The primary data adds knowledge to both the skills that this work requires as well as highlighting the ethical considerations of design activity and participatory ways of working in public and civic sector organisations.

Chapter 8

Constraints and future directions

Chapter 8: Constraints and future directions

8.1 Introduction

The previous Chapters (5-7) considered major themes about design activity in strategic contexts from the primary data relating to: the design process and definitions of design; materiality and making, and, human-centred and participatory attributes. Chapter 8 is the final data analysis chapter, it examines insights relating to constraints and future directions of design activity in strategic contexts from the primary data.

Many of the research participants in this study were chosen for their leadership roles and extensive experience deploying design activity in the public and civic sectors, and the participants discussed the emergent state of their work by voicing both aspirations and concerns regarding its future development. Overall, the primary data demonstrates that there is now a nascent field of design activity in strategic contexts, and that efforts to consolidate this field are being made by both practitioners and by non-design institutions such as government agencies.

The chapter is organised as follows. Section 8.2 discusses the notion of design in strategic contexts as an emerging design field. Section 8.3 sets out challenges relating to definitions and the communication of this design activity. Section 8.4 identifies shortcomings in the current design process and methods. Section 8.5 explores structural challenges in the field as a whole, such as recruitment and procurement. Finally, in Section 8.6 the changing conditions for design activity are examined with reference to aspirations demonstrated by some research participants to influence political decision-making and the ethical questions that this new orientation entails. Conclusions are drawn at the end of the chapter in Section 8.7.

8.2 Consolidating into a field of strategic design

The primary data suggests that design activity in strategic contexts has now developed beyond work by isolated individuals or organisations and increasingly can be viewed as a new - albeit nascent - field. The research participants explored the notion that their work comprised part of a discreet new form of design activity in different ways.

In the qualitative interviews with expert practitioners and commissioners, some experts expressed cautious optimism that design activity in strategic contexts is becoming recognised and established. These experts sought to create definitions of their work, anticipating the value

that clearer articulation of design activity would bring. One practitioner associated with the earliest cases of design activity in strategic contexts in the public sector, from around 2009 onwards, described how they had deliberately encouraged individual designers to foster a community of practice. Other experts were hesitant to categorise their work, because its fluid state was seen as an asset, allowing it to evolve and reach into new spaces, and because the field was thought to be too new for clear definition. There was therefore a tension amongst the experts between the desire to claim a new space for design activity in strategic contexts by codifying current practice, and an attempt to preserve its perceived adaptive qualities by avoiding fixed definitions.

> *"We set ourselves to do a couple of things, one was to support a community of practice, we saw people popping up like mushrooms all over the world but they were very lonely, there was a degree of empowerment we felt we could bring by making them see that they weren't alone and that actually their experiences could feed into a broader body of experience."* (INT 14)

> *"On a personal level I would love strategic design to be recognised as more of a thing...I suspect there will become more of a field of strategic design, because there is always going to be a next thing, and what was going to be the next thing after service design it was systems change, but in a design context it's easier to call it strategic design. And actually I don't talk about system change I talk about designing systemically for change which for me is strategic design."* (INT 9)

> *"I do think that the fact that design as a profession is constantly evolving is part of what makes it special. And the fact that it adapts its toolkit to changing circumstances and contexts is what makes it so hard to define, but also endlessly fascinating. I think this is one version of design and it's different from service design and other forms but they again were different from industrial design. Which again is different from digital. These new hybrids and ways that design has morphed into new problem areas and changed its toolkit is how it evolves. It's not a fixed thing."* (INT 1)

The notion of a consolidating field of design activity was also present in data from the survey project. The online survey sample included teams working in both strategy and policymaking and in transactional areas including service design. The survey data suggests that a significant portion of organisations in the sample are engaging with some form of strategic activity (Chapter

4, Section 4.3.2). Nearly half of the respondents reported that they deliver work relating to developing “new policies or changes to existing policies” (SQ 28).

The data from the online survey indicates that for some practitioners a community of practice is lacking. For example, in response to the question about weaknesses of current public sector design practice one survey respondent observed that *“there’s more and more design happening in government but no effective community of practice”* (SQ 34). There was also a sense in which professional standards had not yet been attained, particularly relating to evidencing impact. For example, in one of the expert conversations for the survey project the participant commented that practitioners should *“get more groups to buy into a set of metrics”* (EC 3) and one of the survey respondents observed that this was needed in to *“highlight professionalism”* (EC 3).

Foundational theories of design in the academic literature highlight its potential application to strategic challenges, as well as product and service related issues (Simon, 1969: Buchanan, 1991: Margolin, 1995). More recent literature develops ideas about the strategic potential of design activity by considering the types of challenge and sectors where it can be deployed, such as environmental sustainability (Banerjee, 2015: Hunt, 2012: Irwin 2015). The new, albeit small, body of literature about public policy and design also makes the case that systemic or strategic design activity is an emergent field (Bason, 2014). However, discussion in the existing literature is relatively limited about the specific situations where new design activity is taking place, including analysis of sector dynamics and the skills and community of practitioners.

8.2.1 Analysis: consolidating into a new field

The primary data collected for this research adds to knowledge with the concept of a **consolidating new field** for design activity in strategic contexts in the public and civic sectors. The data supports the notion of a consolidating field - illustrated for example by the significant number of organisations in the survey sample engaged in strategy and policy development, and the desire amongst some of the experts in the qualitative interviews to define their emerging work. The research also adds specificity to the applied situations where this work is taking place and the processes associated with this new practice. However, the data demonstrates different views amongst practitioners about how and when to lay claim to design in strategic contexts as a new design sub-discipline, and reveals varied experiences of engaging with a wider field and community of practice.

8.3 Communications challenges

Many research participants reported communications challenges at the early stage of an emerging field. These were seen as a barrier to its development.

In the qualitative interviews, one commissioner described the confusion that non-designers can experience when they encounter terminology used by designers. Another practitioner identified a common weakness of designers regarding how they describe important aspects of the design process - such as periods of ambiguity which are often comfortable and necessary for designers but disorientating for policymakers who typically try to reduce uncertainty in their work. The failure to explain important aspects of design activity was seen as a hindrance to working with designers.

> *"Some of the language around design positions it as something unique and different in ways that often it isn't…A barrier is that the language is different, it can sound so impenetrable and hard to connect with."* (INT 2)

> *"There's a long way for designers to go in codifying that [ambiguity] and describing it, it's so taken for granted in design and so poorly articulated to worlds outside of design".* (INT 1)

The qualitative interview data showed that practitioners of design activity in strategic contexts are sometimes required to master new communications strategies, in particular written and analytical approaches. This suggests that designers are facing new demands to develop capabilities in an emergent form of design activity and absorb aspects of the cultures of their clients. The risks of poor communication were also evident in the qualitative interviews and one practitioner argued that failure to clearly describe the impact of design activity was a key factor in the closure of the city government design team where they had been working.

> *"Well, too few designers can write well that is an important aspect of communication, that's still a very important skill*." (INT 15)

> *"It's almost like when all these famous scientists make books available to everyone. Suddenly you have to present something that is non-specialised, to make things available to everyone, that has great challenges, I am enjoying that."* (INT 11)

> *"Communication is really important and we haven't done it in the best way, because many people still think we are an open data office and we are more than that. And we are more, more, more than that...I know that reports are not the best thing, but they are really important and you have to do that. You have to document - all the time communicate what you are working with and we haven't done it in the right way. And it goes back to materialising things, even the communication allows you to materialise what you are doing."* (INT 7)

Communications challenges, for both policymakers and designers, were also evident in the social investment case study, where policymakers described being *"bamboozled"* by the language of designers (CS 2). The designers in this project also experienced difficulties with comprehension, as a result of navigating the complexity of social investment and because they were disorientated by working in an environment where there was no *"fix this, or build this brief"* (CS 3).

In the survey data, ambiguity relating to terminology was also discussed and participants referred to the absence of shared definitions and appropriate language for design in the public and civic sectors. They reported a lack of *"shared vocabulary and methods"* (EC 2) and *"civil service job titles that fit what we do"* (EC 5).

8.3.1 Analysis: communications challenges

The language barriers and challenges articulating design activity referred to by the research participants echo Buchanan (1995) who nearly 30 years ago observed uncertainty in the design field in terms of articulating its powers and limits (p.78). The data implies that in relation to strategic contexts **communication challenges** are still present, which is perhaps unsurprising for a new design field. Despite the hesitancy of some practitioners to codify current practice, the communication barriers highlighted by the research participants also underline the urgency for proponents of design activity in strategic contexts to **find language which makes their work accessible** to a wider audience.

8.4 Shortcomings of the design process and methods

The research participants also identified shortcomings in current design methodologies, such as scaling up design activity in large organisations, the ability to work effectively with evidence and research, and the current paucity of approaches to measuring impact.

In the qualitative interviews with experts, scaling design capabilities in large organisations was framed as a tension between maintaining the professional skill set and sensitivity of individual designers whilst expanding the field by training non-experts in design approaches. The experts demonstrated a clear belief in the value of training non-designers in their approach, but they struggled to reconcile this with the recognition that design activity requires a mix of skills that cannot be easily quantified, such as empathy and creativity. One practitioner - a senior design educator in a government organisation - argued in favour of deeper training for fewer individuals.

> *"Maybe there is something to be said for making it a slower process that goes much deeper. Again the approach so far has been almost like an industrial approach, lots of people very quickly repeating things it's almost like a production chain in a factory, and I ask myself if the essence of public service is actually to touch people's individuality and help them put that at the service of many."* (INT 11)

The notion of scaling design activity in institutions is explored by Clarke and Craft (2019), who argue that there is no empirical evidence to suggest design thinking can be scaled to an entire government organisation. Their argument is reinforced through the primary data where the question of whether design activity can become a widespread skill in non-design organisations, emerges as an area of unresolved tension.

The research participants also discussed changes within established design methods. Some experts identified the increasingly integrative nature of design activity in strategic contexts - particularly within data, digital and behavioural science domains. However, other experts were also concerned that designers are not engaging sufficiently with scientific and evidenced-based approaches. The fusion of design activity with other fields was seen to be in its early stages and was viewed by a number of experts as an underdeveloped aspect of their work.

> *"The more we can think about how other practices can enhance what we are doing and have that integrated maturity model, where we are looking at quantitative data, which a lot of designers don't really look at much [the better] ...Learning to pivot and use these tools together is a place that I would like to see us more."* (INT 13)

"There is more embedding to do. I think the big thing is about being able to combine design with participatory approaches and changes to power dynamics...Some of the next frontiers are that it is a bit blinkered and not engaging with other fields." (INT 2)

"The trade-off is designers don't necessarily come with the evidence lens. They think that what they learn from focus groups - that qualitative research - is the truth. They don't necessarily orientate themselves into evidence-based research." (INT 15)

Challenges of measuring the impacts from design activity were also prominent in the primary data. Impact measurement emerged as a thorny issue with some participants arguing that in order to be credible the sector as a whole needs to radically improve approaches to impact measurement, whilst others acknowledged the current weakness in measurement but underlined the difficulties of measuring impacts from design activity. In the survey project, developing approaches to impact measurement was highlighted as a key challenge by a number of respondents, particularly where design work had focused on research rather than implementing a specific output. Impact measurement was also described as a necessary part of establishing the credibility of design activity in public and civic sector contexts.

"Impact and evaluation is a topic we need to work on, both as a way to sustain dialogue between practices, to highlight professionalism and counter 'innovation washing', to address the topic of 'values', etc." (SQ 34)

"It's very hard to quantify the value created by the projects developed in the Lab and thus to defend the Lab's work. For example, if we deliver an insights map that is based on ethnographic design and that brings users' perspectives to improving an app used to schedule public medical consultations, it is not simple to define how much public value was created and to understand its impacts. So, although we can clearly see that the service could be improved based on the insights, the results are not always credited to the Lab's work." (SQ 35)

Challenges regarding the approaches to building evidence of impact for design activity were also evident in the quantitative interviews. Some experts referred to the inherent challenges and their own scepticism about the value of measuring the impact of design activity. Others underlined the importance, albeit immaturity, of impact measurement as well as practical barriers to capturing evidence of impact, such as inadequate funding.

"More than anything, I have always felt that our impact is measured in something more ephemeral. In terms of word of mouth - the reputational thing. Coming from a design point of view that's very familiar...one of the things that's almost impossible, is to claim any grand ownership of impact of things that happen years after." (INT 1)

"I would argue in some cases it's impossible to measure because it has to do with part of the human condition that is not shared or public or evident - emotions, drivers - all these things that in many cases make up for a good process or idea or insight are very hard to determine in automatic ways and we are so conditioned by our automatic world which comes from computing that we think we can automate anything, so we think we can automate innovation, we think we can automate good ideas or making good decisions, and to me that has been the gap." (INT 11)

"Everyone wants evidence of impact, but no-one wants to spend the money doing what it would take to test and capture the data on what is going on. We recently put in a proposal to a large funder who said, this seems awfully expensive, 'do you need this much money and time?' in the next paragraph they said - 'we really want to have longitudinal impact information, are you going to be working on this long enough'." (INT 11)

Weaknesses in measuring the impact of design activity are well-recognised in the literature (Mulgan, 2014: Prendiville & Sangiorgi, 2017: Kimball, 2016). However, neither the literature nor the research participants in this study offer clear approaches to capturing the impacts of design interventions. Nonetheless, the dangers of failing to build a narrative about the value of design activity in new strategic spaces are evident, for example one of the practitioner experts associated the closure of their design team with a failure to communicate impact. If established approaches to impact measurement in the public and civic sectors, such as cost savings, are not appropriate to design activity, practitioners and commissioners must find an alternative means of expressing value. Despite their recognition of its significance the research participants did not offer specific clues into the components of impact evaluation. This is a significant gap in knowledge and practice in the sector.

8.4.1 Analysis: shortcomings in the design process and methods

The data relating to shortcomings in the design methodology indicates the changing nature of design processes. Unlike the 19th and 20th century expansion of industrial design, the current growth of strategic design activity involves imparting design skills to many non-designers and facilitating their active engagement in the design process. Difficulties in **scaling** what has previously been an expert skill possessed by a minority group of trained designers, reliant on individual moments of creativity and experience, were evident in the data. Similarly, the need for designers to **master other disciplines** signals that there are new expectations for practitioners working in strategic contexts. Finally, **challenges measuring the impact** of design interventions in strategic contexts are a major concern - on the one hand deemed necessary to establish credibility, on the other seen as being inappropriate to design activity.

8.5 Structural challenges for design activity in strategic contexts

Participants in the research also reflected on current structural challenges for design activity in strategic contexts. These challenges were largely practical and underline the cultural discrepancies between design approaches and large bureaucracies.

Financing and procurement were mentioned by several research participants as barriers to design activity. In the online survey, respondents were asked about how their work is procured. The responses were highly varied - including proactive pitches, internally commissioned work and responses to tenders - which suggests a lack of standardised approaches to commissioning design activity (Chapter 4, Section 4.3.3). There was also a desire from respondents to make working practices in general more consistent and robust. The barriers identified included, *"initial funding/procurement (often painful), IP issues (ridiculous), implementation (limited visibility into impacts/scaling process after delivery"* (SQ 33) as well as *"inconsistent practice and unproductive working arrangements amongst designers"* (SQ 34).

Similar challenges were also discussed in the qualitative interviews, and one practitioner emphasised the problems of procurement and funding for strategic design activity given the low levels of understanding about design activity amongst commissioners in government.

> *"The other* [barrier] *is on procurement, commissioning. I don't see the 'smarts' at the scale that we need it. There are fabulously smart, enlightened people in organisations, but they are mere desk space compared to the mainstream. We are really running out of*

time if we want to help institutions transform themselves to be 21st century. We are running out of time in terms of being able to do that. So, I don't see on the commissioning end enough understanding - and it's not just understanding about what design is, it's understanding how to commission it, it's even having the network to know where to find this stuff. So, there is a huge bottleneck on the commissioning side of things." (INT 14)

Another structural challenge identified in the qualitative interviews related to recruiting and training practitioners to undertake design activity in strategic contexts. One practitioner expressed their frustration with recruitment processes, in particular Human Resources departments, and questioned whether it is possible to create standard approaches to recruiting designers. The expert also identified a stronger role for institutions in creating a pipeline for qualified practitioners to work in public and civic sector organisations.

"I think there's limitations about what kinds of capacity we are talking about. Is it hireable? Does it need to be trained? Is it trainable? How that happens? There are very severe bottlenecks there. I would say there's a lot of capable people for a broad range of issues. It's harder to find the kind of talent necessary for strategic work. I'm not suggesting everybody needs to do everything that's strategic, on the contrary, but you need the right kind of mix. The HR capacity question is a really big bottleneck. I don't see traditional institutions, like institutions of learning, really addressing this in any serious way." (INT 14)

Finally, the challenges of implementing design outputs were also frequently mentioned by the research participants. In the qualitative interviews, one practitioner identified the difficulty of implementing a full design project when working outside large bureaucracies, for example in a design agency. The risks of failure in implementing new policies or services resulting from design activity made some practitioners hesitant to implement their ideas, implying a lack of confidence from both commissioners and practitioners (Chapter 5, Section 5.3.1). The failure to implement projects was an area of frustration for a number of the research participants, but it is important to note that in some cases the 'problem-framing' contributions of design were the motivation for working with designers, rather than the full implementation of a design output (Chapter 5, Section 5.2.1). However, implicit in the implementation challenges described by the experts, are the low levels of knowledge amongst commissioners about the possible results of a design project which prevents ideas being put in place due to perceived risk. In addition, short

term interventions led by a design agency or the project-based model through which much of this work is delivered may also be a barrier to implementation in complex systems where large scale or long-term change is required.

> *"It's not fast nor is it predictable - that annoys people - it's also not cheap [to commission design work], because it takes time and humans. The only thing to say to [commissioners] is 'you're going to commission this service which is going to cost billions of dollars, you're implementing a service that you never tested at all, and it is going to fail and annoy people all over the place'."* (INT 6)

> *"The ability to translate the content generated from that kind of approach [design activity] through to a final prospectus was very challenging."* (INT 2)

8.5.1 Analysis: structural challenges

The structural challenges relating to **procurement, recruitment and implementation** of design projects that emerge from the primary data all indicate a lack of standardised approaches to some of the procedures required to undertake design activity in strategic contexts, including common ways to commission design work and wider awareness about its likely outputs. Overall there is an **absence of sector infrastructure** to further public and civic sector design activity, including in strategic contexts. This issue is affirmed in the literature by Buchanan, C. *et. al.* (2019) who argue that there are few sector-level initiatives that seek to support and build the field as a whole, which is hindering its development.

8.6 Further developing design activity in strategic contexts

Perspectives on how strategic design activity should develop were also shared by the research participants. These included aspirations for design activity to advance by influencing political and financial decision-making. However, there were strong concerns as to whether the field is equal to these challenges.

In the qualitative interviews, several of the experts discussed the new complexity of the issues and subject matter that design activity is now encountering. Some experts conveyed urgency in their descriptions of today's design problems, expressing impatience for the field as a whole to be more ambitious and systemic. One practitioner was concerned that, in the face of pressures on public institutions, design activity is still immature. Overall there was a heightened sense amongst some of the experts that the global nature of the problems design activity is now

encountering requires urgent and systemic interventions from designers. Design activity was framed both as an alternative way of working in the face of social crises and an approach that is yet to build sufficient capacity to demonstrate its value in these contexts.

> *"...thinking systemically is not common. We have created design practices that individualise issues and people and needs. I think that is a challenge, we have segmented, individualised and siloed practices and issues in a way that is unhelpful given how interconnected most things are, given what we are trying to change."* (INT 9)

> *"When we are doing things we haven't done before, these need a very different leadership model and I don't see that space in the public sector and, in fact now that we are increasingly facing austerity and populist pressure for different kind of reform, that space is vanishing. My overarching fear is that we are running out of time. The space around institutions is vanishing, we don't have the design capacity to do it. We haven't shown enough evidence."* (INT 14)

> *"And it is also like scaling that up - we are living in Latin America and then Asia and in Africa. It's a bit like that, urbanisation is getting out of control in certain places...how do you think about design as a tool that can help you to cope with this transition, or transition processes, especially in Latin America where you don't have a budget for many years and then the continuation of a project can stop at any moment."* (INT 7)

The sense of urgency conveyed by some of the experts perhaps signals a more activist stance from design practitioners working in strategic contexts. It certainly implies heightened awareness and purposefulness amongst these leading design professionals regarding the nature and depth of problems in contemporary society and the spaces where they observe that design activity can operate. Their concern may indicate a new awareness and responsibility amongst designers; by citing 'populism', 'austerity' and rapid 'urbanisation' these practitioners are aligning and positioning design activity as a means to address both political issues and pressing global challenges.

> *"I think the world has gotten more complex, and that is an easy thing to say, but I do feel that there is so much more uncertainty and ambiguity, I suspect anyone who is doing work around trying to create change could break down what they are doing into*

something that you could think of as strategic design, and I think, what I am still...you know, who those people are and what are their skills?" (INT 9)

"In every area of public life there are these issues and crises and tensions, in ways that feel intractable. And I think in that world we need to find new ways of working. And I guess I am in an explicit leadership role now. And that is the kind of resilience we need to have in leading institutions and businesses and society. And so it's kind of, what are the tools and skills you need for that, and I think design feels like part of that story. Because it is so solution-oriented and change-orientated as a methodology and a practice, but it is also quite collaborative in that you have ways of engaging people in that process and bringing people with you." (INT 4)

In addition to reflections about the external environments that designers are now encountering, more specific ambitions about the contexts where design activity should be focussed and the form of design products were discussed in the qualitative interviews. Wholesale redesign of systems or organisations were discussed variously by the experts. Significantly, this ambition was considered by two commissioners without design backgrounds. Both were working in large foundations and using design activity to develop funding programmes, but also saw the potential of using the design process internally to redesign the strategic vision of their organisation. Another practitioner explained their desire to reach into far more strategic parts of government, by working not only on policy issue areas but also on strategic decision making such as government spending. One practitioner argued for the redesign of whole social systems using design approaches. There was also scepticism amongst some experts about designers' ability to access the most strategic parts of organisations.

"I think there is probably a really amazing opportunity to apply a design lens to who we are as a funder and what the experience is like working with us." (INT 3)

"A thing that keeps me up [at night], is how do you design a better social service delivery system from scratch. What would that mean? I don't believe that the NYC department of homeless service can be turned into a website, because there has to be the provision of a bed. So someone has to actually figure out, what is the interface between digital tools and the bodies that are going to lie in the beds." (INT 6)

> *"So, if we want to be very reductive, governments and organisations have this persistent and growing question of how do I mobilise resources so if you can change the logic of how that gets mobilised, and by that I mean how good investment decisions are made and the fundamental principles of that, you can fundamentally change how money flows through the economy. Not to be too reductive but that can change the nature of the world. I think that's a huge leverage point. How many people with a design background are even close to those kinds of environments and let alone have the capacity to earn a seat around the table".* (INT 14)

The ambition in these comments is clear - for design activity in strategic contexts to be reaching beyond discreet issue areas to the redesign of whole organisations, systems and the distribution of resources. However, these ambitions are metered by a concern about the current capabilities and preparedness of the sector to enter new, even more strategic contexts.

Finally, engagement with the political and politicians emerged from the primary data as a frontier for current design activity in strategic contexts. This was seen by several of the research participants as the next step and as an area where the field has not yet developed. In the online survey data, barriers to interfacing with the political were mentioned in several responses.

> *"Most politicians remain passive towards innovation and user-driven approaches. After some results in bringing new skills and changing mindsets within the administrative side of governments, some Labs/teams see the political level as the next step."* (SQ 33)

Respondents also referred to the current absence of: *"a more critical approach to the limits of design when it comes to fostering changes in policy and in the public sector"* (SQ 34) and the *"lack of connection between design and policy"* (SQ 34).

Awareness of the political sphere as an untouched area for strategic design activity was echoed in the qualitative interviews. One practitioner described the political aspects of government organisations, where many of the respondents are working, as a new area for their work.

> *"As designers we need to get good at understanding the technical civil service reality, but the new frontier is that we need to get involved in the political dialogue too."* (INT 14)

The data relating to aspirations to influence political decision-making raises an important issue about the ethical orientation of both practitioners and commissioners of design activity in

strategic contexts. Design activity inside large bureaucracies has typically lacked a clear activist or agitating position, in favour of being accepted as part of the *status quo.* However, the primary data collected for this study suggests that designers want to take a more overtly political stance by moving beyond the development of technical solutions to broader thinking about the nature and orientation of services and systems that they are involved in creating. Whilst the desire to influence political aspects of organisations is a sign of ambition, the current absence of clear or unifying ethical positions amongst commissioners and practitioners also signals the immaturity of the current field.

> *"The thing that worries me in the design work we are doing right now is that it is being quite limited to just solving discrete technical questions 'how can we make people happier on this service?' but not 'are these even the kinds of services that are relevant to this new question we have'."* (INT 14)

> *"So for me I think it's about 'how do I find a way to help organisations adapt to the changing world' and continue to be legitimate and help solve problems and all those kinds of things we need to do. And how do we model that more widely. This feels really political and there are big things about gender and new kinds of leadership and new examples and role models. But that's where I feel really excited about the potential - less 'I want to build a new product that goes over there' and more about changing how organisations work, and the kind of behaviours that organisations applaud and promote and value need to be quite different now."* (INT 4)

Ethical concerns about public and civic sector design activity are not discussed extensively in recent academic literature, although some observers identify the power dynamics designers are now encountering and the potential for them to take on more activist roles (Bason, 2014; Kimbell & Bailey, 2017: Rosenqvist & Mitchell, 2016: Clarke & Craft, 2018: Buchanan *et al.,* 2019). However, greater reflection about the ethics of emerging design activity is needed and the current literature does little to offer guidance to practitioners. Considerations such as who is legitimising the designer's role and agency to make decisions which can affect large numbers of people as well as the inherent power dynamics in the contexts where they are now working, need interrogation. Given the aspirations evidenced in the primary data to influence even more strategic contexts - such as 'political decision-making' - questions of the ethical position of designers and how legitimacy is being created for their work need urgent attention.

8.6.1 Analysis: developing new design activity

The evidence about the future directions of design activity in strategic contexts is wide ranging. The research participants showed high-levels of awareness about the increasing complexity that they are encountering in their work, as well as **ambitions to influence the most strategic** parts of the organisations where they are working, including by influencing 'organisational logics' and the purpose behind certain policies and services. The desire to undertake 'whole system' redesign was also discussed by several participants. In addition, the data evidences new ambition to take a more activist stance and influence political decision-making, implying that there is, at least implicitly, an **ethical orientation** held by some advocates of this work. This is problematic if not made explicit.

8.7 Chapter 8 - Conclusion

Chapter 8 examined insights from the primary data about the future directions of design activity in strategic contexts.

Two contrasting themes emerge. On the one hand, the research data provides evidence of a **consolidating new field of design activity in strategic contexts**, with some research participants describing their clear ambitions to go even further in influencing strategic decision making, including by shaping political decisions, organisational structures and the allocation of large-scale resources such as government budgets. On the other hand, the **fragility and immaturity of some aspects of design activity in strategic contexts** is also evidenced, for example in the communications challenges that many of the research participants described as well as the absence of effective approaches to impact measurement. There were also varying views amongst participants about how and when to lay claim to design activity in strategic contexts as a distinct design field, and about the strength of the current community of practice.

The barriers to development of design activity in strategic contexts are both practical and ideological. Established processes to enable the adoption of design in new contexts as well as activities to strengthen this emerging field are currently underdeveloped, such as effective approaches to procurement. Overall, the data suggests a **lack of sector infrastructure** to support this work. More significantly, the aspirations put forward by research participants to move design activity into even more ambitious and **activist stances, are not yet matched by the** articulation of an overt ethical position. This is problematic for the legitimacy, transparency and identity of the field.

However, the data clearly shows that leading practitioners are advocating that design activity should advance by developing more critical awareness and by tackling global challenges. The data also strongly suggests that design in strategic contexts has evolved beyond isolated initiatives, and now can be seen as an emergent and applied design field. Although there are clear concerns about whether current practice is equal to the challenges presented by new environments, the data demonstrates ambition and awareness amongst leading practitioners to position design activity as a means to address fraught and pressing human challenges.

Chapter 9

Discussion & Conclusion

Chapter 9: Discussion & Conclusion

9.1 Introduction

This research sought to examine an emerging area of design activity, by defining and critically assessing its presence in strategic contexts in the public and civic sectors. The research framed design as a pragmatic, constructive and human-centred approach to strategic challenges and examined new applied situations for design activity, responding to the current lack of evidence about how this work is taking place. This discussion chapter draws together the findings, and uses these to describe an emerging sub-discipline of design - defined here as **'strategic design'** - which applies to both public and civic sector organisations and systems.

In Chapter 9, the literature and thematic findings are synthesised in order to address the three research questions, and the gaps in theory identified earlier in the research. In addressing the research questions, the chapter interrogates the features, strengths and limitations of strategic design before presenting a working definition of this concept. It argues that, cumulatively this work represents a coherent body of practice with sufficient recognition that it can be viewed as a nascent field. Contributions from this study as well as limitations and areas for further research and action are set out. Given the importance of this new field, the chapter shifts terminology referring to 'strategic design' to mean 'design activity in strategic contexts in the public and civic sectors'.

The chapter is organised as follows. Sections 9.2 - 9.4 respond to each of the three research questions. Section 9.2 considers the current state of design activity in strategic contexts; Section 9.3 presents a clearer explanation of this emerging work, and Section 9.4 examines the impacts and limits of the field. Section 9.5 then establishes a new definition of 'strategic design' and an argument for why this can be considered as an emerging design sub-discipline. Section 9.6 discusses the insights and limitations of the research approach. Section 9.7 sets out areas for further research and action. Conclusions are drawn in Section 9.8.

9.2 The landscape of design activity in strategic contexts

The research explored one of the most stretching applications for design activity – its recent and growing use in strategic contexts in the public and civic sectors. The following section examines Research Question 1, which sought to interrogate the emerging landscape of this new work.

- **RQ1: What is the current state of design activity in strategic contexts in public and civic sector organisations?**

9.2.1 The emerging field of strategic design

Chapter 2 argued that the strategic potential of design is identified by several authors in foundational theories, where complex systems, environments and even public policies are viewed alongside products, communications and services, as possible outputs of design activity (see Buchanan, 1992: Margolin, 1995: Simon, 1969). However, these meta theories do not typically provide accounts of applied work, in part, because the potential of design as a strategic planning tool was recognised in the design theory decades before its meaningful emergence in real-world contexts. Although a more recent body of design literature on policymaking considers design activity in strategic contexts in the public sector (see Bason, 2014: Clarke & Craft, 2019: Junginger, 2013: Kimbell & Bailey, 2017), it does not coherently identify the contexts, subject matter, key actors and working processes of this work. Furthermore, the literature says very little about wider actors outside the public sector using design activity to meet strategic aims and address social challenges - such as large charities and foundations - which is an oversight in the networked way that public value is created and the reach of current strategic design activity. The absence of data from real-world contexts of strategic design activity, accounting for its breadth in the public and civic sectors, was identified as a significant gap in the literature (Chapter 2, Section 2.7). This research contributes to addressing that gap with new primary data.

The research argues that strategic design has developed beyond work by isolated individuals or organisations in the public and civic sectors to become a distinct - albeit nascent - design sub-discipline. The research shows how this activity is now applied in high-profile contexts across a wide range of sectors: the research participants were from design consultancies, government organisations, foundations, not-for-profit organisations, large charities and universities. Many common experiences deploying design emerged from these diverse situations and the data wrests new, more strategic, design activity away from the narrow association with policymaking, instead implying that a more complex and diffuse ecosystem of organisations are using design activity to meet strategic objectives relating to social challenges.

It is important to underline that foundations, large charities, design consultancies and think tanks all appear to have a significant role in this agenda. These ‘civic sector’ organisations have

received very little academic attention in relation to their strategic design work, possibly because much of the existing research has developed from service design activity, which is closely associated with the public sector. While public sector applications are still the most visible, this research shows that concepts and practices of design are being applied across a broader field. For this reason, the term 'public and civic sector' design was chosen to describe the area of research.

Although the primary data was deliberately targeted to delineate an emerging area of activity rather than represent design more broadly, the survey project respondents represented prominent design teams and the qualitative interviews were undertaken with leading experts (see Chapter 3, Sections 3.4.4 & 3.5.6), meaning that the research findings are from authoritative voices. The collective experience of the research participants demonstrates how people with a wide range of responsibilities are applying design activity to define and further strategic objectives. In the qualitative interviews, the expert commissioners included directors of multi-million pound/dollar funding programmes in foundations such as the Big Lottery Fund in the UK and Robin Hood Foundation in New York, the Deputy Chief Executive of a national charity in the UK and prominent civil servants inside city administrations in Singapore and the United States (see Fig. 3.10). These leading individuals from outside the design sector described how they commissioned and embedded design within their organisations, to enable them to define and adapt to new challenges in areas as wide-ranging as the design of national funding programmes in the UK or welfare policies for the City of New York.

The design practitioners who participated in the research also described the new strategic contexts where they are working. These included designers involved in defining policy programmes at the Policy Lab in the UK Cabinet Office and at the Office of Personnel Management in Washington DC, as well as those working for national governments and multinational organisations like the UN, or embedded in powerful institutions such as Bloomberg Philanthropies. Cumulatively, this represents a coherent body of practice, with sufficient application that can be considered to be an emerging sub-discipline. The research uses the term **'strategic design'** as the best term to denote this new field of design activity, as discussed further in Section 9.5. While some literature uses the term strategic design in a business context (Holland & Busayawan, 2014) and occasionally in relation to the public sector (Boyer *et al.,* 2011 & 2013), these references are scant and do not interrogate or reflect the considerable growth in practice in recent years.

A key insight from the qualitative interview data, which evidences the presence of a new design sub-discipline, relates to the common design processes that many of the experts described. Despite diverse working contexts, they consistently explained their design process as a four stage model comprising **research**, the **synthesis of ideas**, **testing/prototyping** and **implementation** (Chapter 5, Section 5.3.1). Although some experts reported that their work did not always complete the full cycle of a design project, often stopping at the research stage, they nonetheless described broadly similar approaches. Training and enabling the participation of non-designers in the design process were also seen as central to design activity in strategic contexts. These working processes are clearly rooted in the design field and tie strategic design to an overarching process which has long been codified in design theory (Cooper & Press, 1995: Jones, 1992).

The striking similarities in these design processes, and the significant focus amongst the experts on imparting design knowledge to non-designers through training and participation, suggests that design activity in strategic contexts is being actively consolidated and promoted by leading practitioners. Furthermore, there was cautious optimism amongst some of the experts that 'strategic design' is increasingly recognised as a distinct term and design field (Chapter 8, Section 8.2).

The data from the survey project suggests an emergent, although increasingly established field of public and civic sector design. An important finding from the online survey was the relatively young age of the public and civic sector design teams in the sample, with an average age of 6.5 years. In addition, a significant number of these teams are based within government organisations - 7 of the 16 design teams in the survey sample - implying that legitimacy for this design activity has been created inside bureaucracies (Chapter 4, Section 4.3.1). Significantly, nearly half of these 16 organisations reported that they work on "new policies or changes to existing policies" which indicates their strategic focus (Chapter 4, Section 4.3.2). Despite the relatively young age of teams in the survey sample, the survey data also demonstrated a desire amongst practitioners to advance the strategic directions of their work by influencing the "political level" (Chapter 8, Section 8.6). Although these teams represented public and civic sector design more broadly, strategic activities were important in the field as a whole.

The primary data shows that strategic design is taking place in a wide range of organisations, and demonstrates clear ambition amongst design practitioners to advance their work in strategic

contexts - by reaching further into the redesign of whole organisations, systems and the distribution of resources (Chapter 8, Section 8.6).

9.2.2 Subject matter and sectors

This research responds to a current gap in the literature, relating to the scant analysis of in depth cases of strategic design activity (Chapter 2, Section 2.7). Teegavarapu and Summers (2008), underline the potential of case study research in design academia, and identify that the social science view of design is currently underdeveloped. The subject matter of design is discussed extensively in design theories, which underline its potentially 'infinite' scope and the active role of the designer in 'framing' the design problem (Buchanan, 1995: Dorst, 2011 & 2015: Rittel & Webber, 1973). Recent theories also identify new design activity focused on complex challenges (Banerjee, 2014: Hunt, 2012: Irwin, 2015: Manzini, 2015 & 2016). However, discussions of real-world examples are notably absent. Through one in depth case and insights from practitioners this research illustrates specific contexts for strategic design, therefore adding to knowledge about the contemporary situations where it is taking place.

The social investment case study illustrates the sustained presence of design in a high-profile area of UK government policy development, where design was used as a problem-framing tool to understand the dynamics between social investors and social organisations and to develop a practical design response (Chapter 4, Section 4.4). The first phase of design work, undertaken by the Design Council in 2014, focused on 'problem-framing' and as a result the policy goal to better understand the experiences of social organisations taking on investment was articulated. In response, The Point People and Snook were commissioned to undertake a second design project in 2015 with investors and funders to develop and prototype four solutions to this policy goal, including: improving peer-to-peer support between social organisations; opening up and sharing investment data; creating digital signposting and guidance about social investment; and, improving investors' approaches to due diligence (The Point People and Snook, 2015, p.5). In the third and final design project undertaken by Snook and New Digital Partnerships in 2016 and 2017, through extensive user research and *beta* testing, the prototype relating to digital signposting and guidance was developed into a practical design response - the digital platform Good Finance. Thus in the case study, design activity is used to understand a policy challenge, to define a policy goal and to create a practical design output in response.

Other examples of strategic design are also captured in the primary data. These included: policy influencing work on tech ethics led by a small UK think tank; work focused on UK government policy on the 'future of rail transport' and social housing, and the development of strategic funding goals in two different foundations, one in the UK and one in the USA (Chapter 6, Section 6.3.3). This research set out to understand the emerging field of strategic design, and at the time that the research was initiated in 2015 practical examples were limited. However, the social investment case study provides in-depth insight into one instance of strategic design and the qualitative interview data illustrates the argument that design activity is now being deployed in a wide range of strategic situations and institutions including, policy and strategy development at the national level in different countries.

Despite the diversity of contexts explored in this research, the strategic focus is common to each; design activity is being used to inform a strategic direction, be it funding guidelines or a policy proposal, and to create the conditions for practical responses which meet the objectives of that strategic direction - such as individual funding decisions.

9.2.3 Immature aspects of strategic design

Although the primary data indicates the growth of strategic design, it also sheds light on the fragile and underdeveloped state of the current field. There are multiple structural challenges relating to factors such as the recruitment of multi-skilled designers, procurement processes and implementing work (Chapter 8, Section 8.5). The data also shows a variety of motivations and routes to adoption for non-design organisations to engage with design activity. In the qualitative interviews, some expert commissioners reported that their observation of a growing innovation field was a motivation to work with designers, while several expert practitioners reported inventing their design activity in strategic contexts from 'first principles' before finding a wider community of practice. Whilst this indicates the versatility of leading practitioners, it also suggests that entry points are not well established (Chapter 4, Section 4.2).

Although there were attempts by experts to define their work, and there was overlap in these descriptions, no common or concise definition of design activity in strategic contexts was offered by research participants and some were hesitant to define this practice prematurely. The structural challenges in the current sector, serendipitous manner in which key individuals and organisations came to use design strategically, and lack of clarity in definitions, all imply that the

field is currently in a fluid state and lacks maturity as well as a clear identity. The strengths and limits of this work are probed further in Section 9.4 below.

9.2.4 Analysis: the landscape of design activity in strategic contexts

In response to Research Question 1, this research argues that a **new sub-discipline of 'strategic design',** is now present in a wide range of public and civic sector contexts, such as the development of high-profile policy and funding programmes. The evidence of **common design processes** in widely different situations, is an important finding to support the argument of an emerging field and this ties the working processes of strategic design to established design approaches, which have long been codified in theory and other areas of practice.

The research presents insights and analysis from real-world cases responding to a gap in the current literature. Importantly, the organisations where design activity is being deployed in the public and civic sectors are broader than is usually recognised, including government agencies, foundations, charities, and elsewhere. In such situations, design approaches are being used to **understand strategic challenges, articulate a strategic goal and develop practical responses**.

The articulation of an emerging design sub-discipline and evidence of the situations where this work is taking place are key contributions from this research. However, **strategic design is nascent and lacks basic sector infrastructure**. Clear definitions and identity are also absent.

9.3 Framing and defining design activity in strategic contexts

Despite the absence of a common articulation of new design activity in the public and civic sectors, the data offered insights into the key attributes of strategic design: problem-solving/problem-framing and creativity; material ways of working; and, participatory approaches. These are used to address Research Question 2, which aimed to develop clearer definitions of design activity in strategic contexts in the public and civic sectors.

RQ2: How can this design activity in strategic contexts be framed and understood?

9.3.1 Problem-solving and problem-framing

Many of the participants in this research had expansive notions of design and they were comfortable with holding plural definitions. However, the concept of 'design as a process' was

important to the activity they described and their ideas evoked a broad and practical approach to ‘problem-framing’ and ‘problem-solving’ where imagination and creativity play a central role (Chapter 5, Section 5.2).

The mode of reasoning adopted by designers is central to understanding its relevance to complex, strategic challenges and the enduring associations between design activity and ‘problem-solving’ (Chapter 2, Section 2.3). Design reasoning is based on an iterative process that moves between making things and reflecting or rethinking the problem. In the design literature, this process of ‘learning by doing’ is called abductive reasoning (see Dorst, 2011 & 2015: Steen, 2013). The ambiguity and complexity that characterises many of the strategic situations in this research - such as the role of spiritual beliefs in the design of and access to mental health services in New York City, described by one of the experts (Chapter 7, Section 7.3.3) - indicates why a practice based on simultaneously understanding a challenge and developing possible solutions has particular resonance in the public and civic sectors. However, design reasoning is poorly explained outside the literature. Many of the research participants alluded to abductive reasoning without describing it directly, illustrating the significance of tacit and non-verbal knowledge in the design process (expertly described by Sennett, 2008, and Schön, 1983). Despite the ambiguity in descriptions, this research shows that both problem-framing and problem-solving are important aspects of strategic design - abductive reasoning is at the heart of these processes (Chapter 5, Section 5.3.1)

It is significant that in the practical contexts described by the research participants, the problem-framing aspects of design activity were highly valued, even where there was no intention of creating a design output. For example, in the social investment case study, prototyping was used in two ways, both to learn about the social investment market and to iterate practical solutions to challenges of navigating the market experienced by social organisations (Chapter 4, Section 4.4.4). Thus, ‘learning by doing’ in design is being valued in itself.

Elusive factors such as individual creativity are also part of this work - making it both more ingenious and harder to define. Several of the experts emphasised the crucial role of invention and imagination in furthering their design processes, this was described as ‘creative’, ‘non-linear’ and ‘intuitive’ (Chapter 5, Section 5.2.2). Returning to the literature, it is clear that they are referring to the “extra knowledge” that practitioners bring to bear on a design problem from their own experience (Lawson, 2004, p.13). The importance of individual creativity to the design

process is disruptive in the bureaucratic environments in which design activity is now being deployed, where standardised systems and skills have been privileged, even though this can radically constrain new thinking and action.

The concurrent processes of problem-framing and problem-solving are central to design theory, however there is a gap in the literature about how these fundamental aspects of design are taking place in real-world settings (see Chapter 2, Section 2.7). The data findings in this research are a continuation of arguments in the literature about the shortcomings of the problem-solving paradigm of design, and the significance of interaction and creativity to the design process (Hatchel, 2001: Huppatz, 2015). They show that in its most recent and sophisticated applications, design activity is far more than a rational process-driven methodology.

Another, important finding relating to the design process from this research is that as design activity becomes more strategic it also becomes more diffuse. According to experts in the qualitative interviews, the presence of design activity was not always made explicit in their work and design was described by some experts as an 'underpinning process' which frequently draws in methods from other disciplines. In addition, the authorship of design is now more plural and the data clearly evidences how designers act as facilitators for non-designers to participate in and even lead design processes, thus ceding their control over both the design process and its products (Chapter 5, Section 5.3.2).

9.3.2 Materiality and making

It is clear from the findings that strategic design is a fundamentally material practice, grounded in making activities, however materiality and making operate in multiple and complex ways.

The data provides rich insights about the varied products of design activity. The 15 experts in the qualitative interviews reported that they make a diverse range of things including, images, products and digital interfaces. Ingenious outputs were created by the experts; one practitioner described making a book of science-fiction futures imagined by women and minority groups which was sent to the male CEOs of tech companies to influence culture change (Chapter 6, Section 6.2.1). Making things and changing the physical environment was seen as essential to the culture of design and an important strategy to establish the presence of design activity (Chapter 6, Section 6.4). Significantly, the data shows that designers in strategic contexts are

not bound by a predetermined format - such as graphics or product - and the form of outputs is defined during the design process (Chapter 6, Section 6.2.3).

This research also finds that design can result in less-tangible outputs. Several experts reported how they view new meanings - created through influence, relationships and guidance - as 'material' outputs of their work. These insights evidence the 'sense-making' and 'meaning-making' potential of design activity discussed in the literature (Krippendorff, 1995).

It is also clear that making activities occur throughout the design process. In the qualitative interviews, experts described how image making and visual tools such as diagrams or drawings were used to communicate ideas and to encourage responses to complex concepts. These visualisations were not always made by designers and several of the experts described asking people to draw concepts such as 'social housing' or 'child care' as a means to access their experiences or uncover hidden perceptions (Chapter 7, Section 7.3.4). In the qualitative interviews, experts described 'making to learn' where they created and tested material artefacts in order to learn more about a situation. Sometimes making activities were used to assess the operational effectiveness of a product - in the social investment case study a 'making to build' process was used to develop a *beta* website that preceded the launch of Good Finance, used to test its functionality. The use of fictional artefacts or visualisations 'making to speculate', was also used, as a strategy in scenario building. Speculative design was mentioned by three of the 15 experts and six of the 16 respondents in the survey project (Chapter 6: Section 6.3), suggesting a growing interest in this activity, although it was not a focus for this research.

The literature review established the significance and plurality of making in design activity. It also highlighted a gap in knowledge about the processes of making and products of design in strategic contexts (Chapter 2, Section 2.7). A key contribution of this research is its illustration of the central, yet multifaceted, way in which making and working materially takes place in strategic design. In strategic contexts, design activity retains its pragmatic 'material' attributes, but making is highly diverse and undertaken by different actors to achieve a variety of results.

9.3.4 Human-centred and participatory work

The research findings also emphasise that design activity in strategic contexts is profoundly human-centred. The data sheds light on the roles, qualities and participatory dimensions of design activity in strategic contexts, identified as a gap in the current literature (Chapter 2, Section 2.7).

Many of the research participants underlined the central importance of working with a wide range of people in their design activity. All three tiers of primary data showed a common desire to understand human experiences as an entry point for design activity, which then frequently expanded into other areas of an organisation - suggesting the human orientation of design is one its most visible attributes which helps to make the way for wider design activity. Non-designers were often involved, particularly in the early stages of a design project, for example by providing inspiration about how to progress an idea. The people that research participants worked with included leaders, policymakers, frontline service staff as well as service users and less-visible stakeholders such as family members or friends (Chapter 7, Section 7.3.2). Engagement and participation were thought to have a fundamental impact on the design process, knowledge generated and the role of the designer - which increasingly involves facilitating the participation of non-designers in design activity.

However, in strategic environments - where multiple and competing needs exist - the relationship between design activity and participation is nuanced. In these contexts, designers - or people leading the design process - are empowered to make decisions about which groups are engaged in design activity and how they are represented (Chapter 7, Section 7.3.4). The decision-making agency that designers have raises questions about the ethics and values of strategic design activity, which have been highlighted throughout this research. The research participants also described how they deliberately seek to redress and reframe power dynamics by representing marginalised groups in institutions and systems where their experiences are often hidden from view (Chapter 7, Section 7.4). However, this agenda and the power that designers hold has not typically been made explicit by the champions of strategic design work - it requires further interrogation to establish the rigour and transparency of the field.

The primary data also sheds light on the hybrid qualities and skills required by designers to work in strategic contexts. Significantly, although it was seen to be important, formal design training was not a prerequisite for strategic design, and design was framed as a transferable skill which can be learnt *in situ.* Certain qualities or attributes such as cultural sensitivity and adaptability were deemed as important as formal design knowledge. Although as a whole the research participants struggled to define the specific skills involved in strategic design, at least four of experts in the qualitative interviews had architectural training. Architecture was seen as a technical and visionary discipline, that involves integrating different types of systems and skills as well as considering future needs. Several experts saw architecture as a good proxy for

training in strategic design, but also emphasised the need for empathy and imagination amongst practitioners (Chapter 7, Section 7.2).

9.3.6 Analysis: framing and defining design activity in strategic contexts

In response to Research Question 2, the concept of strategic design that emerges from this research is of a broad and practical approach to **problem-framing and problem-solving**, which is increasingly underpinned by common methodologies and approaches, and where the imagination and creativity of individual designers plays a crucial role.

The data also shows that strategic design is both **profoundly material and constructive,** resulting in diverse design outputs, which encompass products as well as new meanings. Interestingly, in strategic contexts designers reported that they are not bound by a specific format in which to create their work, underlining the idea of strategic design as a broad approach to addressing strategic challenges. Strategic design is also highly **participatory**, and the data illustrates the central importance of working with a wide range of people. Although formal design skills were seen to be important they are not a prerequisite for strategic design, and from the primary data the **designer emerges as a hybrid with plural skills and qualities**.

Significantly, as design activity becomes more strategic it is also diluted, with the design process acting as an **underpinning framework** for other disciplines to be applied to work on complex problems, and designers ceding authorship to non-designers in the creation of design products.

9.4 Strengths and limitations of design activity in strategic contexts

This research has argued that practical examples of strategic design are lacking and that, as a result, this work is not being adequately metered or promoted. The primary data sought to generate insights from applied contexts to address this gap. The following section examines Research Question 3, which aimed to explore strengths and limitations of the field.

RQ3: What are the strengths and limitations of current design activity in these strategic contexts?

9.4.1 Strengths of design activity in strategic contexts

The strengths of strategic design are rarely spelt out, but this is necessary in order for the field to lay claim to them and to establish its credibility. This research finds four key strengths from the primary data.

First, design is a highly transferable discipline which can operate in an incredible breadth of circumstances. The manifold possibilities and far reaching influence of design are expressed in foundational literature. Buchanan for example described it as "a framework for human experience" (1995, p.8). Today, strategic design is offering an alternative approach in circumstances of ever-intensifying complexity in the public and civic sectors. The 'learning by doing' approach at the heart of design activity makes it readily transferable to many different problem areas, and the 'problem-framing' aspects of the design process aid comprehension in highly complex situations. In this research these included: national policy development in the UK, USA and Singapore; large-scale funding programmes developed by foundations in the UK and USA; future thinking around technology initiatives in the UK, and embedding design in a national addiction charity in the UK. Many of the participants expressed their unease at the social and environmental circumstances they are now addressing, coupled with an urgency to find new ways of working. Design activity was repeatedly identified as one such approach.

Secondly, design activity offers a pragmatism focused on 'making' in seemingly intangible and abstract contexts. Lurås (2016) describes sense-making in design as a "continuous process of developing an understanding of the design situation at hand, which enables the designer to develop an adequate design" (p.33). As this research demonstrates, making is at the heart of strategic design activity, both to build knowledge about the challenge in question - 'making to learn' - and to iteratively develop design-led solutions - 'making to build'. Making is also a powerful strategy for engagement. Throughout the design process, making is used to reveal tacit or non-verbal knowledge and create collective understanding through physical objects such as prototypes which can be tested before they are implemented. In addition, making in design activity is increasingly used in scenario building to bring into sight future possibilities, 'making to speculate' (Chapter 6, Section 6.3).

Thirdly, design is a fundamentally human-centred discipline. It is profoundly linked to social processes, and the human-centred quantities of design are identified in core theories which describe its engagement with the realm of the 'artificial' (see Simon, 1998). In its new strategic

environments, the participatory strategies employed by designers are giving voice to people who are not usually heard inside complex systems, ranging from the relatively empowered groups, such as the social business owners who participated in user-research for the social investment case study, to low-income New Yorkers involved in the design of mental health service delivery as described by one of the experts (Chapter 7, Section 7.3). In its essential humanism, design activity is bringing empathy and pragmatism to systems where there is frequently a lack of sensitivity to the conditions that are experienced by vulnerable people.

Finally, design activity is establishing new cultures and skills in entrenched bureaucracies and systems. In contrast to established ways of working in the public and civic sectors, design is a practical and interdisciplinary approach that privileges experimentation, creativity and iteration. As the research participants described, the alternative culture offered by design is often expressed through changes to the physical environment - in the design of meetings, communications materials and physical space (Chapter 6, Section 6.4). It is also characterised by participation and engagement. In addition, the research demonstrates that this activity is being led by highly competent individuals who have mastered the technical and conceptual demands of design as well as adapting and absorbing skills from their host environments, such as the analytical skills associated with policymaking. They are also imparting their skills to non-designers through training, as a significant impact of strategic design.

Strategic design thus offers a powerful set of tools to improve responses to challenging social situations in the public and civic sectors; chiefly by providing the mindset and methodology to address complex problems, by ‘making’ towards solutions, and by focusing on people’s real needs. These qualities wrest design away from abstract policy and strategic decision-making, and it emerges as a practical and creative approach to daunting challenges.

This research has identified multiple strengths of strategic design. However, there is an implicit assumption in the search for its impacts that design has inherent value and the potential to make things better - that the preferences, images, and voices which are developed and engaged by designers are somehow improving existing situations. There is a danger of self-promotion for a field that tends to be good at presentation, because of its deep associations with communications design and branding, but is not tied to any specific subject and therefore area of impact. It is crucial that practitioners and commissioners of strategic design find ways to evaluate outcomes and measure its value. Nonetheless - without being blind to its limits - the

position taken in this research is that strategic design has an alternative and important contribution to make in the public and civic sectors.

9.4.2 Limitations of design activity in strategic contexts

Nevertheless, strategic design is immature and is currently stymied by both structural and ideological factors.

Firstly, strategic design lacks coherent definitions and language which makes it hard for outsiders to understand its processes and potential. As this research has stressed, there are multiple valid conceptions of design and part of its value lies in this plurality - design is now appearing in many unexpected guises and continually adapting to “serve the purpose of enriching human life” (Buchanan, 1995, p.4). However, there are major communications barriers with the field today which are hampering its development. Challenges with the language of design were experienced by many of the participants in this research and the failure of designers to explain important aspects of design activity was seen as a barrier to working with them (Chapter 8, Section 8.3). There is also a lack of clarity about the origins of public and civic sector design activity where, as Mulgan (2014) astutely observes, it is unclear whether the methods used have been derived from established design fields such as product design or have deeper lineage in the problem-solving paradigm promoted by Herbert Simon in *The Sciences of the Artificial,* first published in 1969.

Amongst the research participants, there was some resistance to establishing definitions of strategic design, and whilst there are obvious challenges to narrowing down descriptions of an emerging discipline, failing to do so maintains an exclusivity around this design activity which is at odds with and limits the broader aspirations amongst practitioners to develop the field and its social impact.

Secondly, there are considerable practical barriers to the development of strategic design. The increasing engagement with design by large institutions and the recent presence of internal design teams in both public and civic sector organisations, means that the field needs to develop suitable working processes and infrastructure, for example by training designers appropriately for bureaucratic contexts, influencing procurement systems and better articulating the skill set required for public and civic sector design. A number of the research participants commented on the absence of a community of practice and that initiatives to build the field are

lacking. This is also occasionally identified in the literature (see Bason, 2010: Buchanan, C. *et.al.,* 2019). One area where the absence of shared understanding plays out significantly is in the paucity in approaches to evaluation and impact measurement. As Kimball (2016) argues there is relatively little in “definitive, quantitative proof” which evidences the tangible impact of design activity in public and private organisations (p.275). The flimsy narrative around impact makes design easy to dismiss.

There are also structural challenges relating to both public and civic sector design as a whole and its strategic applications. The question of scaling up design activity in large organisations and systems is a new challenge for the field which plays out in different ways. In the qualitative interviews, there was a lack of consensus about how to introduce design skills to large organisations, and a tension emerged between maintaining the skills and sensibilities of individual designers and expanding the field as a whole by training non-experts in design approaches. The barriers to scaling up design activity within systems and institutions are also evidenced in difficulties implementing work, referred to frequently by research participants. These related to the short-termism of many design projects, limited knowledge amongst commissioners about how to proceed on the basis of design insights, and hesitancy amongst designers to implement their work (Chapter 5, Section 5.3.1). Furthermore, there was concern amongst leading practitioners that design activity is not sufficiently integrated with scientific and evidence-based approaches, which can limit it from operating at scale (Chapter 8, Section 8.5).

Despite its early stage, the protagonists of strategic design must decide whether they are willing to create shared models and find ways of articulating the impact of their work in order to build legitimacy, even if the approach they choose is overturned in time.

Thirdly, the ethical considerations of strategic design are significantly underexplored. There is an implicit involvement with power dynamics as design activity enters more strategic contexts, particularly in participatory practices where designers are deciding who to represent and how they are represented. Designers can consciously or unconsciously reinforce power structures through their work and the political dimensions of design are an acute consideration in strategic contexts (Chapter 7, Section 7.4.1). The ability of designers to ‘shape’, ‘decide’ and ‘make’ at the strategic level raises questions of legitimacy - who is sanctioning and verifying their work? As Clarke and Craft (2019) note, the act of deciding is itself political (p.11). The ethical stance of designers has not been thoroughly explored, partly because of restrictions imposed by the

institutional confines of their work and partly because the field has shied away from taking a clear position. Nonetheless there are values being promoted through this work, for example by representing lived experience. There is a danger to the integrity of the field if the worldviews it is promoting, even implicitly, are not made clearer (Chapter 8, Section 8.6). The ill-effects of much industrial design should be cautionary as design activity expands into new terrain, largely without explicit ethical and professional guidelines.

There are also calls for designers to take a more activist stance rather than acting complicity with institutional mandates and structures. The candour and depth of reflection from participants in this research demonstrates the importance that leading practitioners give to this emerging field, and they recognised its agitating and disruptive potential. However, as Staszowski *et al.* (2014) argue, "despite the inclusion of multiple stakeholders in the design process, decision-making for creating services and policies ultimately lies within the public agency and is bound by policy mandates and political decisions" (p.1). Given the access designers are now gaining, to both citizens and strategic environments, there is potential for them to take on more subversive roles. However, without a shared framework to do so, these activities are no more than representations of the value systems of individual designers. The future aspirations for the field, to reach further into strategic contexts such as political decision-making, makes questions about the ethical stance of designers all the more urgent (Chapter 8, Section 8.6).

9.4.3 Analysis: strengths and limitations

In response to Research Question 3, strategic design has many strengths. It offers **pragmatic ways of working that provide the mindset and methods to cope with complex problems and focus on people's needs**. It can also be used to establish new participatory and **creative cultures in entrenched bureaucracies**. It offers unifying potential for different groups and barriers of access can be reduced by design artefacts which are often easier to engage with than conventional institutional communications. Design is also highly versatile, and the 'making to learn' which takes place during the design process means that this activity can be applied to an **incredible breadth of circumstances**.

However, the field is currently facing a number of challenges. It is limited by the lack of clear terminology and approaches to evidencing impact. There are also **structural challenges** relating to factors such as training and recruitment. Perhaps most significantly, the **ethical stance** and values promoted through design activity in strategic contexts have not been adequately expressed or interrogated.

9.5 Defining an emerging sub-discipline: strategic design

Thus far Chapter 9 has responded to each of the three research questions. It observes that in applied situations, practical design work is now catching up with the strategic potential which has been long recognised in academic theory, and argues that strategic design is emerging as a new design sub-discipline. **The following section provides a definition of 'strategic design'.**

9.5.1 Defining 'strategic design'

In this research, strategic contexts were defined as situations where a policy goal or another form of strategic intent is framed and articulated, resulting in concrete actions such as the development of new services, systems or regulations (Chapter 1: Section 1.3). The argument made in this research is that design activity is now influencing the development and articulation of strategic intent and the subsequent activities that this sets in place. **Thus, in strategic contexts design activity is being used to understand strategic challenges, articulate a strategic goal and to develop practical responses to address that goal.**

A distinction was made between the strategic aspects of all design activity and design work which is focused explicitly on strategic situations (Chapter 5, Section 5.4.3). Even in tangible design contexts such as product development, the system - or 'ecology' as Krippendorff (1995) would argue - in which a design artefact is situated becomes a consideration for design. However, this research takes the view that whilst strategic considerations are generally a feature of design activity, 'strategic design' is a new and distinct sub-discipline that focuses on responses to strategic challenges, such as the creation of new policies or strategies to meet a variety of social needs. Here, the task of the designer is to define both a subject matter for design and its boundaries as well as the medium through which to create a design output (i.e. graphic or service).

It is significant that no common or concise definition of 'strategic design' was given by the participants in this research, although many of them were clearly attempting to articulate an emerging form of design practice (Chapter 5, Section 5.4.4). In the literature multiple terms are also used to refer to new more strategic and systemic design activity including 'fourth order' design (Buchanan, 1995: 2019), 'transdisciplinary design' (Hunt, 2012), 'transition design' (Irwin, 2015), 'emerging design' (Manzini, 2015: 2016). The fluidity surrounding current terms and definitions is indicative of the fledgling state of the field. Nonetheless, as Buchanan (2001) argues definitions serve useful "strategic and tactical" purposes to advance inquiry even if they are later discarded (p.8).

This research therefore identifies 'strategic design' as the best term to denote a new field of design activity. It is not new - 'strategic design' was referenced directly by four of the 15 experts in the qualitative interviews - although they clearly struggled to define this practice - and was used by the Helsinki Design Lab to describe their work in 2013 (Boyer *et.al* 2011 & 2013), (Chapter 2, Section 2.6.3). However, this research has looked at the contemporary landscape of new design activity which has grown considerably in the past 5-6 years in order to develop a definition that is both up to date and rooted in rapidly-evolving practical work. As a result of the research, a clearer articulation of design activity in strategic contexts is possible: **strategic design is defined as a creative problem-framing and problem-solving activity which relies on material and participatory ways of working and is actively focused on understanding, articulating and responding to strategic challenges.**

9.5.2 The features of strategic design

The research also examined the features of strategic design. Building on the 'theoretical propositions' about design activity developed using the literature (Chapter 2: 2.7, Fig 2.1) and the responses to the research questions discussed above (Sections 9.2-9.4). The table below (Fig. 9.1) sets out the core tenets of strategic design from the perspective of this research.

Fig. 9.1: Primary data findings of strategic design activity, developed using the theoretical propositions from the literature.

Proposition	Description from the literature	Core tenets of strategic design
1. Design is a 'problem-framing' and 'problem-solving' activity	Design is an intentional planning activity where solutions are developed iteratively to improve existing situations i.e. 'problem-solving'. In parallel, design activity also entails 'problem-framing' and new knowledge is built through the design process, leading to associations between design and 'sense-making'. Furthermore, individual creativity and social interaction are key in the design process.	Strategic design is closely associated with problem-solving: it is being deployed to understand strategic challenges, articulate a strategic goal and to develop practical responses. However, 'problem-framing' is also highly valued in new strategic contexts and creativity and imagination are as much part of this work (Chapter 5, 5.2.1). These more elusive aspects of strategic design present potential barriers to adoption in bureaucratic environments where quantifiable knowledge is usually privileged (Chapter 5, 5.2.1). Furthermore, as design becomes more strategic its presence is not always made explicit and it is sometimes seen as an 'underpinning process' which integrates other disciplines such as sociology and behavioural science (see Chapter 5, 5.3.2 & 5.4.2).

2. Design is a constructive and material activity with varied outputs	Design is a constructive activity but 'making' in design is complex and multi-layered. The outputs of design, include artefacts and services as well as systems and actions. Design activity can result in intangible outputs such as new meanings. Making in design is also accompanied by loss and erosion of materials or old habits.	Strategic design is a fundamentally material practice (Chapter 6, 6.4). The outputs of strategic design are diverse, including tangible artefacts as well as new meanings and relationships. Making is used variously through the design process to: create new knowledge, 'making to learn'; develop practical design outputs, 'making to build'; and in 'making to speculate' about the future (Chapter 6, 6.3). The central, yet multifaceted, approach to making in strategic contexts is key to establishing the presence of a new way of working and to the culture of design itself (Chapter 6, 6.4).
3. Design is a profoundly human-centred and participatory activity	Design is both an essential human activity and an area of professional expertise. However, the qualities and skills of professional designers are hard to pin down. Participation is central to design activity and the designer's role as a facilitator of design expertise in others is increasingly important in contemporary contexts for design. The agency that designers have to 'enable' and 'decide' raises ethical questions about new design activity.	Strategic design is human-centred and participatory. Understanding human needs is a common entry point for strategic design activity, and the role of the designer is increasingly to engender the participation of diverse groups (Chapter 4, 4.2: Chapter 7, 7.3). However, in strategic contexts where multiple and competing needs exist, there is a nuanced relationship between participation and design activity. Here designers possess the agency to decide which needs are prioritised. There are unresolved questions relating to the ethical position of strategic design activity. Nonetheless, redressing power imbalances by representing vulnerable people is an important contribution of this work (Chapter 7, 7.4.1).
4. Design is changing, resulting in new roles for designers and new types of design challenge	Notions of emerging design, new types of design challenge and different outputs from design - moving from product to system and environment - imply a shift within design and the types of problems that design is now being deployed to address.	Strategic design can be viewed as a growing - albeit nascent - design sub-discipline (Chapter 8, 8.2). It is taking place in a wide range of sectors - including government, foundations, charities - and its subject matter is invariably strategic in scope - including policy, strategy and institutional development (Chapter 6, 6.3.3). It has the potential to disrupt and subvert entrenched cultures in these fields (Chapter 8, 8.6). Despite its growth, there are ideological and structural barriers in the field at present, these include challenges communicating strategic design work and an absence of shared approaches to important issues such as impact measurement (Chapter 8, 8.3, 8.4 & 8.5). Furthermore, there is currently no fixed definition of the skills and qualities that designers require to undertake strategic work, and formal design skills are as important as factors such as cultural sensitivity and adaptability (see Chapter 7, 7.2).

The core tenets of strategic design, set out in Fig. 9.1, demonstrate how current applications of design have advanced beyond many analyses in the existing literature. This research contributes knowledge to the features of strategic design by drawing on applied settings. It underlines the 'problem-framing' and 'problem-solving' potential of this work. In addition, the profound significance of materiality in strategic design activity is emphasised. Furthermore, the research indicates the centrality of participatory ways of working and the changing roles of designers in new strategic contexts, as well as the power dynamics and ethical concerns that accompany this work. While there are weaknesses in current practice - relating to factors such as communications and professional pathways - there is also immense capability amongst the practitioners and advocates of strategic design who are addressing profound challenges.

9.6 Limitations and insights from the research approach

The research is an early investigation into a relatively undocumented area of design activity. It took a deliberately broad view of current practice in order to understand an emerging field. There are limitations and insights from the approach to research.

Limitations to the research design

1. Case study: The social investment case study provided a sustained example of strategic design, contextualising the other research strategies. However, the volume of data generated by the three research approaches meant that it was not practical to undertake additional case studies which would have enabled comparison of the specific contexts of strategic design. In particular, a comparison between policy development and other strategic planning situations, for example in foundations, would be useful. Nonetheless, the case study offered rich insights about work in practice.
2. Survey project: The survey sample size is relatively small (16 respondents), meaning it was not statistically significant. The respondents to the survey were also working in different organisations, countries and contexts, potentially making comparisons between the responses more challenging. However, the survey project offered a vital tier of data, enabling the development of a broad and international view of public and civic sector design activity in which to situate newer strategic activity.
3. Qualitative interviews: The interviews with expert practitioners and commissioners provided in depth data about an evolving field. However, they did not examine specific cases of strategic design in detail. Nonetheless, the interviews developed rich data about how expert commissioners and practitioners are deploying design in strategic contexts, they were therefore the principal mode of data collection.

Limitations and insights into the research as a whole

1. Taking a multidisciplinary approach: The research has been undertaken with a deliberate focus on design. However, the approaches informing today's strategic planning scenarios are multidisciplinary. This research has recognised the integrative potential of strategic design which increasingly fuses with other fields in strategic contexts. However, it has not explored a range of strategies being deployed to address strategic challenges, such as systems thinking and data science. The relationship between strategic design and other such approaches is an area for further research.
2. Practice-led approach: The researcher undertook professional work for most of the 4.5 years of this study. There were strengths and limitations to the practice-led approach. Existing professional networks and contexts gave the researcher access to data and insights that would have been hard to collect otherwise. However, the professional experience of the researcher also influenced the selection of primary data; both the case study and research participants were selected pragmatically and as relevant examples. Nonetheless, the practice-led strategy enabled important reflection between professional and research work, resulting in an academic study that is rooted in applied work.

Overall, this research set out to understand more about a new area of design activity in the public and civic sectors and the layered approach to data collection enabled the research questions to be explored through different lenses. This was a deliberate strategy to examine an emergent phenomenon, but it was also pragmatic resulting from the close link between professional and research activity. The central research finding - that strategic design can be viewed as a new design sub-discipline - paves the way for further research into specific examples of this activity.

9.7 Areas for further research and action

There are areas for future research and action that go beyond the scope of the current study. Section 9.7 considers how the research findings could be developed further.

Areas for further research

1. Validating the research findings: the primary data findings could be further validated to assess their wider applicability. Validation could take place by asking the expert practitioners involved in the research to review the core tenets of strategic design set out in Fig. 9.1.

2. Contextual research: the research uncovered practical examples of the strategic contexts where design activity is now taking place. It looked at one case study of social investment policy development and highlighted other instances - in varied contexts and countries - referred to by the experts in the qualitative interviews. Research into additional case studies would help to assess the generalisability of the research findings and develop further knowledge of applied situations for strategic design.
3. Comparative analysis: this research examined one in-depth example of strategic design in a policymaking context. Comparative case study analysis between policymaking and other strategic planning contexts would underline any differences. For example, there may be more scope in civic sector contexts for design activity to influence the development of strategic goals than in policy contents, where policies are usually determined by elected officials. In addition, this research has not considered strategic design in private sector settings. These potential differences require further interrogation.
4. Mapping studies: the mapping work undertaken for this research through the survey project used a small sample size (16 organisations) and broadly focused on public and civic sector design. Following from this research, mapping of design teams engaging in strategic activity in both the public, civic and private sectors may generate further insights about sector-level dynamics. This could also add insight to intersections between public and private sector activity.
5. Understanding impacts on citizens: This research has focused on the professional contexts for strategic design, whilst acknowledging the significance of participatory and engagement strategies particularly with citizens, often vulnerable groups. Further research undertaken with user groups could interrogate the impacts of design activity at the strategic level on their experiences.

Areas for further action

6. Creating sector-level infrastructure: the research has argued that strategic design is an emerging sub-discipline but that sector infrastructure is underdeveloped. Sector-level activities are now required to consolidate and professionalise this new field, such as establishing shared approaches to impact measurement, creating professional training and pathways (e.g. through university courses), and developing knowledge of appropriate business/funding models.

7. Developing an ethical framework: ethical considerations for designers working in strategic contexts have been returned to throughout this study. These relate to the values that designers are promoting (explicitly or implicitly), the power dynamics of engaging and representing the experiences of non-designers in design activity and legitimacy for designers to make high-impact decisions in public and civic sector contexts. While the research has highlighted the current absence of a clearly articulated ethical position or professional guidelines, this study did not set out to establish them. Developing an ethical framework is an area for further development for the field as a whole.
8. Increasing diversity: the participants in this research were diverse in terms of nationality and working contexts and, although this was not a focus for the research, the survey data and qualitative interviews generated some demographic information about practitioners. The potentially far reaching impacts of strategic design and its presence in overtly power-laden or political environments, raises questions about the diversity of its practitioners, including their class, ethnicity, sexuality and geography, as well as gender. Debates about representation are not well advanced in this area of design; they must be developed given its new strategic situations.

Although the strategic potential of design has long-been recognised in academic theory, strategic design is still a fledgling area of activity. Since the time that this research was initiated in September 2015, the field has grown considerably and design is continually being reimagined in new contexts and fused with other disciplines in the public and civic sectors. The areas for further research and action in Section 9.7 are only a starting place. There is much work to do for practitioners and advocates of strategic design activity to consolidate, define and promote the field. However, practice is still ahead of research and whilst design theory has long recognised the scope for design activity to result in strategic outputs, academic study of recent work in practice is very new. In light of the current scarcity of theory and reflection, this research aimed to make a contribution to a growing field of study and practice.

9.8 Conclusion

The central argument of this research is: **'strategic design' now represents a coherent body of directed practice with sufficient recognition and application that can be considered to be an emerging sub-discipline of design in its own right.**

The research has been grounded in current practice and real-world examples, by undertaking research with leading practitioners and a high-profile case study, a clearer understanding of the core features of strategic design has been developed. Overall, strategic design has been framed as an imaginative and pragmatic resource for public and civic sector organisations, to inform their strategic processes with practical and inclusive strategies. **The research defines strategic design as a creative problem-framing and problem-solving practice that relies on material and participatory ways of working and is actively focused on understanding, articulating and responding to strategic challenges.**

The research also evidences the magnitude of the situations where designers are now involved, and the potential for immensely far-reaching repercussions from their decisions - from influencing national policy agendas, to funding strategies for vulnerable individuals, environmental programmes and advocacy work. In these high-stakes situations design activity is being used to inform the development of strategic intentions and to define practical responses. **Therefore, this research argues that strategic design is being used to understand strategic challenges, articulate a strategic goal and to develop practical responses to address that goal.**

While recognition about the strategic potential of design is not new, it has only recently been deployed meaningfully as a strategic tool in applied contexts in the public and civic sectors. A key contribution from the research is to demonstrate the range of applications where strategic design activity is now taking place. It evidences far wider application than is usually identified in the literature, where the focus tends to be on policymaking. The research participants were from diverse organisations - including government agencies, foundations, charities and universities and **the research demonstrates the diffuse ecosystem of organisations furthering strategic design to meet their strategic objectives relating to social challenges**. For this reason, the term public and civic sector design was chosen to describe the topic of research.

The research has argued that strengths of strategic design are manifold - as a powerfully creative, pragmatic and participatory approach - being used to establish highly practical responses to complex social problems. It has also shown that there is immense capability and purposefulness amongst its leading practitioners, regarding the nature and depth of problems in contemporary society and the spaces where design can operate. However, the current field is fragile and immature. To consolidate their work, strategic designers will have to look outside the design sector to make this practice more rigorous. They will need to learn from disciplines where the use of evidence and data is more advanced, partner with subject matter specialists in order for their work to be rooted in applied knowledge, and develop sector infrastructure such as approaches to impact measurement and standardised professional pathways. Strategic designers will also need to decide on their ethical stance - if their greatest potential for impact lies as agents for change inside large bureaucracies or whether to develop a stronger more activist voice.

Interestingly, as strategic design develops, there is considerable work for its protagonists and champions to do in designing the field itself.

A note on context

In the final six months of writing up this research a series of deep crises took place. These included: devastating fires in the Amazon Rainforest which were at their peak in August 2019 and the record-breaking temperatures that fuelled massive bushfires in Australia from November 2019 to January 2020; the painful and divisive process leading to the UK's departure from the European Union on 31 January 2020, as well as the global stasis and rupture caused by the pandemic COVID-19, first reported to the World Health Organisation on 31 December 2019. At every turn, partisan and hierarchical systems have been lacking in response to challenges that go beyond established national and institutional boundaries. Whilst this research did not look specifically at the current crises, they highlight more than ever the need for radically different mechanisms of governance and collaboration.

Many of the participants in this research expressed their unease at the critical social and environmental circumstances they are now observing in their work, coupled with an urgency in finding new strategies of response - they repeatedly identified design as one such method. This is not new. Nearly 30 years ago in *Wicked Problems in Design Thinking* (1995) Richard Buchanan articulated the relevance of design as an integrative discipline that could bring together siloed academic specialisms to address the "problems and purposes of the present" (Buchanan, 1995, p.4). Since, design activity has grown radically in public and civic sector settings. However, it has remained in the shadows of major political and social movements such as #BlackLivesMatter, the School Strike for Climate[52] and the #Me Too campaign[53]. As a strategic approach its potential is still barely recognised.

This research has argued that strategic design - a purposeful, pragmatic and empathic discipline - can be used to reimage how policies, strategies and institutions are crafted. However, there is a danger that strategic design remains a technocratic, abstract practice, this would be a wasted opportunity for an emerging field with deep roots in material and participatory ways of working. To fulfil its potential and promise, the practitioners of strategic design will have to learn how to make their work more accessible to non-designers, mobilise quickly and take active steps to consolidate the field as a valid response to these increasingly frequent global disruptions.

[52] School Strike for Climate is an international movement of school students who take time off from class on Fridays to participate in demonstrations to demand action from political leaders to take action to prevent climate change.

[53] #Me Too is a movement against sexual harassment and sexual assault of women.

Appendices

Appendix 1: Online Survey Questions

Questions used in the online survey, which was the first tier of primary data collected for this research, are included in the table below (Chapter 3, Section 3.4.4).

Code	Survey Question	Question type	Question options
SQ 1	What is the name of your organisation?	Open field	N/A
SQ 2	If different, what is the name of your department or team?	Open field	N/A
SQ 3	What city (or cities) is your team located in?	Open field	N/A
SQ 4	What region or state is your team located in?	Open field	N/A
SQ 5	What country (or countries) is your team located in?	Open field	N/A
SQ 6	Where in relation to government is your organisation/team located?	Nominal scale	● Local ● City or regional ● Central or federal ● Outside government ● Other (please specify)
SQ 7	How many years has your organization/team been in operation?	Open field	N/A
SQ 8	Has your organization/team been created for a specific period of time? If so, what period?	Open field	N/A
SQ 9	Why were you created?	Nominal scale	● To complete a specific project ● To fulfil a strategic mission ● To deliver organizational change ● Standard service delivery ● Other (please specify)
SQ 10	Which of the following describes best the type of organization/team you work in?	Nominal scale	● Team in government ● Team in international organisation ● For-profit ● Civil society organization ● Single designer embedded in a team ● Foundation ● Academic institution ● Other (please specify)
SQ 11	How many people are in your organization/team?	Open field	N/A
SQ 12	How many members of your team/organization are designers?	Open field	N/A

SQ 13	Which of the following best describes your funding model? Check all that apply.	Nominal scale	● Budget allocated by government ● Fee charging for services (internal to government) ● Fee charging for services (external to government) ● Philanthropic funding ● Endowment ● Corporate sponsorship ● Other (please specify)
SQ 14	Please describe how your services are typically procured.	Open field	N/A
SQ 15	What is the typical number of projects that you contract every year?	Open field	N/A
SQ 16	What is your annual budget? If you feel comfortable to share, please do it in USD.	Open field	N/A
SQ 17	In the context of your team's work, what would you consider a small project budget? If you feel comfortable to share, please do it in USD.	Open field	N/A
SQ 18	In the context of your team's work, what would you consider a large project budget? If you feel comfortable to share, please do it in USD.	Open field	N/A
SQ 19	At what level of government does your work tend to focus? Check all that apply.	Nominal scale	● National or federal level government ● Regional or state level ● Local or city level ● Multilateral organization ● Other (please specify)
SQ 20	Who do you work with to get your projects done?	Likert scale (Always/ Sometimes/ Every once in a while/ Never/ Rarely)	● Civil servant ● Policymakers ● Citizens (e.g. service users) ● Sector stakeholders, e.g. industry groups, community based organizations, membership bodies ● Other (please specify)
SQ 21	Who are your intended beneficiaries?	Likert scale (Always/ Sometimes/ Every once in a while/ Never/ Rarely)	● Civil servant ● Policymakers ● Citizens (e.g. service users) ● Sector stakeholders, e.g. industry groups, community based organizations, membership bodies ● Other (please specify)
SQ 22	What design fields are better represented in your organization/team? Check all that apply.	Nominal scale	● Graphic design ● Service design ● Digital design (e.g. front end developer / UX designer / interaction designer / coder) ● Strategic design ● Speculative design ● Other (please specify)

SQ 23	What are the design techniques that you practice in your organization/team? Check all that apply.	Nominal scale	● Ideation sessions ● Prototyping ● Visualization ● Storytelling ● Journey maps ● Synthesis session ● Evaluation frameworks ● Scenarios ● System diagramming ● Stakeholder interviews ● Contextual observation ● Stakeholder personas ● Service blueprinting ● Role-play ● Other (please specify)
SQ 24	What are the design skills that are the most sought after or valued?	Open field	N/A
SQ 25	Are "typical" government skills represented in your team/organization? Check all that apply.	Nominal scale	● Finance ● Legal ● Policy ● Economics ● Social research ● Communications ● HR ● Other (please specify)
SQ 26	Do you interact and/or work with other "innovation" disciplines? Check all that apply.	Nominal scale	● Data science ● Behavioral insights ● Digital ● Other (please specify)
SQ 27	What kinds of work do you tend do?	Nominal scale	● Full design projects ● Training ● Consultancy ● Thought leadership to raising awareness about design (e.g. public speaking, writing) ● Design activism (e.g. community engagement, representation) ● Other (please specify)
SQ 28	What products/outputs do you tend to create? Check all that apply.	Nominal scale	● Design training sessions ● New services / changes to existing services ● New policies / changes to existing policies ● Redesigned products (e.g. passport) ● Print material ● New human interactions / ways of engaging ● Foresight ● Other (please specify
SQ 29	How long do your projects take? Please share in months.	Open field	N/A

SQ 30	In the life cycle of policymaking please indicate at what junctures your team and/or organization tends to do the most work. Check one or all that apply.	Nominal scale	• At the beginning • In the middle • Only at the final stages
SQ 31	What would you report are the impacts of your work? Check all that apply.	Likert scale (Always/ Sometimes/ Every once in a while/ Never/ Rarely)	• New skills for civil servants • Digital improvement • Service improvement • Improving access / understanding e.g. to a service • Increased transparency / accountability • Policy improvement • Ripple effects - impacts beyond a specific • Project not directly related to it (e.g. • organizational change) • Mediation (e.g. between different stakeholder groups) • Problem-solving / new solutions • Other (please specify)
SQ 32	Do you have impact metrics in place? What are they?)	Open field	N/A
SQ 33	What are the main barriers your team/organization faces (e.g. in getting work started or implemented)?	Open field	N/A
SQ 34	In your view, what are the key weaknesses of design in government at the moment?	Open field	N/A
SQ 35	In your view, are there aspects of the work of your team/organization that go unrecognized? If so, what are these aspects? Please provide an example.	Open field	N/A
SQ 36	Please highlight your team's/organization's key anticipated milestones over the next year.	Open field	N/A
SQ 37	What is the approximate gender ratio of your team/organization?	Open field	N/A
SQ 38	What is the approximate age range of your team (e.g. 25 to 54)?	Open field	N/A
SQ 39	Please give us any thoughts on the survey (e.g. are there additional data points you think we should collect information on).	Open field	N/A
SQ 40	Please leave your name if you wish.	Open field	N/A
SQ 41	Please tell us how we can contact you.	Open field	N/A

Appendix 2: Qualitative Interview Consent Forms

The consent form used for experts in the qualitative interviews are included below (Chapter 3, Section 3.5.6).

Informed Consent, Expert Qualitative Interview

Camilla Buchanan, PhD researcher
Lancaster University, UK, 09.2018

Participant Code	Interview Location	Date & Time

Project Background

What is the research about?

This PhD research explores how design approaches are being used to address strategic and systemic challenges relating to complex social issues. The research aims to better define and critically assess new design activities, in order to explain this practice, take advantage of it and identify its shortcomings. Data is being collected in multiple ways through a digital survey, expert interviews with design practitioners and commissioners, and case studies of design work in strategic contexts.

How have interview participants been selected?

Participants for qualitative interviews have been selected through the researcher's professional networks. They occupy leadership roles in design practice or commissioning contexts and are chosen for their expert knowledge or exposure to strategic design.

Are there benefits or risks to participating?

There are no benefits to participating for interviewees, beyond sharing knowledge that supports new research. All data relating to individuals will be anonymised (including name, job title and organisation) however there is some risk that participants could be identified through quotes or descriptions of their organisation and work.

Consent

I give Camilla Buchanan (the researcher) the following rights in connection to the interview and the data collected:

- ❑ I have agreed to take part in the interview. I agree that all or any portion of my interview response may be directly quoted or paraphrased in the PhD write up. I also understand that results of this interview may be developed, produced, distributed or otherwise used in other publications or presentations by the researcher. If results of this research are published or presented, individual names and other personally identifiable information will not be used.

Mark to indicate your specific choices:

- ❑ I agree that the interview to be audio recorded
- ❑ I agree that the researcher to take notes during the interview.

- ❑ I agree to allow the researcher to publish my demographic information.
- ❑ I understand that I can withdraw from the interview and research at any time.

Demographic information

1. Age (18-34) (35-50) (51-70) Prefer not to say (-)
2. I identify my gender as: ( )

Contact information:

- buchanan.[redacted].com/ +44 77[redacted]
- http://www.lancaster.ac.uk/lica/

References

References

Ansell, C. K., & Torfing, J. (2014) (eds.). *Public Innovation through Collaboration and Design.* Abingdon, UK: Routledge

Arts & Humanities Research Council, Economic and Social Research Council & Design Council (2012). *Scoping Study on Service Design.* Available at: https://ahrc.ukri.org/documents/project-reports-and-reviews/scoping-study-on-service-design/ [Accessed, March 2020]

Bailey, J. (2017). *Elements of Novelty: Designer as Policymaker.* In: Barbero, S. (eds.) *Systemic Design Method Guide for Policymaking. A Circular Europe on the Way*. [report]. Italy: Retrace Interreg Europe. Available at: https://www.interregeurope.eu/retrace/news/news-article/1772/retrace-method-guide-for-policymaking/ [Accessed, April 2020]

Ball, J. (2019). *The Double Diamond: A universally accepted depiction of the design process.* Available at: https://www.designcouncil.org.uk/news-opinion/double-diamond-universally-accepted-depiction-design-process [Accessed, May 2020]

Banerjee, B. (2014). Innovating Large Scale Transformations. In Bason, C. (eds.). *Design for Policy.* Dorset UK: Gower

Bason, C. (2010). Leading Public Sector Innovation: Co-Creating for a Better Society. Bristol, UK: Policy Press

Bason, C. (2013). Design-led Innovation in Government. *Stanford Social Innovation Review*. Vol. 11 (2) 15–17

Bason, C. (2014) (ed.). *Design for Policy*. Dorset UK: Gower

Beckett, S. J. (2017). The Logic of the Design Problem: A Dialectical Approach. *Design Issues.* 33 (4) 5-16

Big Lottery Fund, Social Enterprise UK & Matter&Co. (2014). *Social Investment Explained.* [pdf] Available at: https://www.socialenterprise.org.uk/wp-content/uploads/2019/05/Social-Investment-Explained_Guide_SEUK-BIG-2.pdf [Accessed, April 2020]

Binder, T., Brandt, E., Ehn, P. & Halse, J. (2015). Democratic design experiments: between parliament and laboratory. CoDesign. Vol. 11 (3-4) 152-165

Body, J. (2008). Design in the Australian Taxation Office. *Design Issues.* Vol. 24 (1) 55-67

Boston Consulting Group (2015). *A Tale of Two Funds: The management and performance of Futurebuilders England.* [pdf]. Available at: https://www.sibgroup.org.uk/sites/default/files/files/Management%20and%20Performance%20of%20the%20Futurebuilders-England%20Fund.pdf [Accessed, April 2020]

Boyer, B., Cook, J. W. & Steinberg, M. (2011). *In Studio: Recipes for Systemic Change.* [e-book]. Helsinki: Sitra. Available at: http://helsinkidesignlab.org/instudio/ [Accessed, April 2020]

Boyer, B., Cook, J. W. & Steinberg, M. (2013). *Legible Practices.* [e-book]. Helsinki: Sitra. Available at: http://www.helsinkidesignlab.org/legiblepractises/ [Accessed, April 2020]

Brown, T. (2009). *Change by Design: How Design Thinking Transforms Organisations.* New York: Harper Collins

Bruce, B., Buchanan, R., DiSalvo, C., Doordan, D. & Margolin, V. (2016). Introduction. *Design Issues.* Vol. 32 (1) 1-4

Buchanan, C. (2018). *Prototyping for Policy.* Available at: https://openpolicy.blog.gov.uk/2018/11/27/prototyping-for-policy/ [Accessed, April 2020]

Buchanan, C., Amatullo, M., & Staszowski, E. (2019). Building the Civic Design Field in New York City. *Revista Diseña.* Vol. 14, 158-183

Buchanan, C., Junginger, S. & Terry, N. (2017). *Service Design in Policymaking.* In Sangiorgi, D. & Prendiville, A. (eds.). *Designing for Service.* Fakenham, UK: Bloomsbury

Buchanan, R. (2017). *Strategic Conversation*. Unpublished

Buchanan, R. (1995). Myth and Maturity: Toward a New Order in the Decade of Design. In Buchanan R, & Margolin V, (eds.). *The Idea of Design.* Cambridge, Massachusetts: MIT Press

Buchanan, R. (1995). Wicked Problems in Design Thinking. In Buchanan R, & Margolin V, (eds.). *The Idea of Design.* Cambridge, Massachusetts: MIT Press

Buchanan, R. (2001). Design Research and the New Learning. *Design Issues*, Vol.17 (4), 3-23

Buchanan, R. (2019). Surroundings and Environments in Fourth Order Design. *Design Issues*. Vol. 35 (1) 4-22

Burford, G., Harder, M.K. & Hoover, E. (2013) What Is Participation? Design Leads the Way to a Cross-Disciplinary Framework. *Design Issues.* Vol. 29 (4) 41-57

Burke, R., Onwuegbuzie, A., J. & Turner, L. (2007). Toward a Definition of Mixed Methods Research. *Journal of Mixed Methods Research.* Vol.1 (2) 112-133

Cabinet Office (2014). *Growing the Social Investment Market: A vision and strategy*. [pdf]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/61185/404970_SocialInvestmentMarket_acc.pdf [Accessed, April 2020]

Campbell, D. A. (2017). Lay Designers: Grassroots Innovation for Appropriate Change. *Design Issues.* Vol. 33 (1) 30-47

Celikoglu, O.M., Timur, S. & Krippendorff, K. (2017). How do User Stories Inspire Design? A Study of Cultural Probes. *Design Issues.* Vol. 33 (2) 84-98

Christiansen, J. (2015). Redesigning the culture and functionality of government. Design for Europe. Available at: http://designforeurope.eu/news-opinion/redesigning-culture-and-functionality-government [Accessed, April 2020]

Clarke, A. (2017). Digital government units: Origins, orthodoxy and critical considerations for public management theory and practice. *Social Science Research Network*. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3001188 [Accessed, March 2020]

Clarke, A. & Craft, J. (2019). The Twin Faces of Public Sector Design. *Governance*. Vol. 32 (1) 5-21

Cooper, R. (2019). Design research: Its 50-year transformation. *Design Studies.* Vol. 65, 6-17

Cooper, R. & Press, M. (1995). *The Design Agenda.* Chichester: John Wiley & Sons

Coyne, I., T. (1997). Sampling in qualitative research: Purposeful and theoretical sampling; merging or clear boundaries? *Journal of Advanced Nursing.* .26, 623–630

Creswell, W, C. (2009). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches.* 3rd ed. London: Sage

Cross, N. (1995). Discovering Design Ability. In Buchanan, R. & Margolin, V. (eds.) *Discovering Design: Explorations in Design Studies*. USA: University of Chicago Press

D' Andrade, R. (2008). *A Study of Personal and Cultural Values: American, Japanese, and Vietnamese.* USA: Palgrave Macmillan

Deserti, A. & Rizzo, F. (2014). Design and the Cultures of Enterprises. *Design Issues.* Vol. 30 (1) 36–56

Design Commission (2013). *Restarting Britain.* [pdf]. London: Policy Connect. Available at: https://www.policyconnect.org.uk/apdig/research/restarting-britain-2-design-public-services. [Accessed, April 2020]

Design Council (2014). *Social Finance in the UK: designing the experience for social ventures.* [pdf]. London, Design Council. Available at: https://www.designcouncil.org.uk/sites/default/files/asset/document/Social%20finance%20in%20the%20UK.pdf. [Accessed, April 2020]

Dorst, K. (2006). Design Problems and Design Paradoxes. *Design Issues.* Vol. 22 (3) 4-17

Dorst, K. (2011). The core of 'design thinking' and its application. *Design Studies.* Vol 32 (6) 521-532

Dorst, K. (2015). Frame Creation and Design in the Expanded Field. *The Journal of Design, Economics, and Innovation.* Vol.1 (1) 22-33

Dorst, K. & Cross, N. (2001). Creativity in the design process: co-evolution of problem–solution. *Design Studies.* Vol. 22 (5) 425-437

Dunne, A. & Raby, F. (2013). *Speculative everything: design, fiction, and social dreaming.* Cambridge, Massachusetts: MIT Press

Edwards, R. & Holland, J. (2013). *What is qualitative interviewing?* London: Bloomsbury

Eisenhardt, K. M. (1989). Building Theories from Case Study Research. Academy of Management. *The Academy of Management Review*. Vol. 14 (4) 532-550

Frayling, C. (1995). Research in Art and Design. *Royal College of Art Research Papers.* Vol. 1 (1) 1-5. Available at: http://researchonline.rca.ac.uk/384/3/frayling_research_in_art_and_design_1993.pdf [Accessed, April 2020]

Gamman, L. & Thorpe, A. (2018). Makeright - Bags of Connection: Teaching Design Thinking and Making in Prison to Help Build Empathic and Resilient Communities. *She Ji, The Journal of Design Economics and Innovation.* Vol. 4 (1) 91-110

Ganassali, S. (2008). The Influence of the Design of Web Survey Questionnaires on the Quality of Responses. *Survey Research Methods.* Vol. 2 (1) 21-32

Gerring, J. (2004). What is a case study and what is it good for? *American Political Science Review*. Vol. 98 (2) 341-354

Ghajargar, M. & Wiberg, M. (2018). Thinking with Interactive Artifacts: Reflection as a Concept in Design Outcomes. *Design Issues.* Vol. 34 (2) 48-63

Gillham, B. (2005). *Research Interviewing: The Range of Techniques.* Maidenhead UK: Open University Press

Good Finance (2020). *What is social investment?* Available at: https://www.goodfinance.org.uk/understanding-social-investment [Accessed, April 2020]

Halstrøm, P. L. (2019) Design as Value Celebration: Rethinking Design Argumentation. *Design Issues.* Vol. 32 (4) 40-51

Hands, D. (2011). Design Transformations: Measuring the Value of Design. In *The handbook of design management.* Cooper, R., Junginger, S., & Lockwood, T. (eds). Oxford: Berg

Hargraves, I. (2018). Care and Capacities of Human-Centered Design. *Design Issues.* Vol. 34 (3) 76-88

Harrison. H., Birks, M., Franklin, R. & Mills, J. (2017). Case Study Research: Foundations and Methodological Orientations. *Qualitative Social Research.* Vol. 18 (1) 1-17

Hatchuel, A (2001). Towards Design Theory and Expandable Rationality: The Unfinished Program of Herbert Simon. *Journal of Management and Governance.* Vol. 5 (3) 260-273

Hatleskog, E. (2014). Research through design: an architectural response to practice-led research. *AR: Arhitektura, Raziskave.* Vol. XV (2) 5-14

Heskett, J. (2001). Past, Present, and Future in Design for Industry. *Design Issues,* Vol. 17 (1) 18–26

HM Government (2012). *Civil Service Reform Plan.* [pdf]. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/305148/Civil-Service-Reform-Plan-final.pdf. [Accessed, April 2020]

Holland, R. & Busayawan, L. (2014). Managing Strategic Design. London: Palgrave

Howlett, M. (2014). From the 'old' to the 'new' policy design: design thinking beyond markets and collaborative governance. *Policy Sciences*. Vol. 47 (3) 187-207

Hunt, J. (2012). Letter from the Editor. *The Journal of Design Strategies: Transdisciplinary Design*. Vol. 5 (1) 5-10

Huppatz, D.J. (2015). Revisiting Herbert Simon's "Science of Design". *Design Issues.* Vol. 31 (2) 29-40

Huybrechts, L., Dreessen, K. & Hagenaars, B. (2018). Building Capabilities Through Democratic Dialogues. *Design Issues*. Vol. 34 (4) 80-95

Hyysalo. V & Hyysalo, S. (2018). The Mundane and Strategic Work in Collaborative Design. *Design Issues.* Vol. 34 (3) 42-58

Irwin, T. (2015). Transition Design: A Proposal for a New Area of Design Practice, Study, and Research. *Design and Culture.* Vol 7 (2) 229–246

James, N. & Busher, H. (2009). *Online Interviewing.* London, UK: Sage

Jensen, J. L. (2014). Designing for Profound Experiences. *Design Issues.* Vol. 30 (3) 39–52

Jones, J. C. (1992). *Design Methods.* 2nd ed. New York, Chichester: John Wiley & Sons

Jones, J. C. (2002). *What is designing?* Available at: http://www.publicwriting.net/2.2/digital_diary_02.07.14.html [Accessed, May 2020]

Junginger, S. (2013). *Design and Innovation in the Public Sector: Matters of Design in Policy-Making and Policy Implementation.* In: Proceedings from the 10th European Academy of Design Conference, 'Crafting the Future'. Gothenburg, April, 2013: European Academy of Design

Junginger, S. (2017). Design Research and Practice for the Public Good: A Reflection. *She ji, The Journal of Design, Economics and Innovation.* Vol. 3 (4) 290–302

Kimbell, L. (2016). 'Design for Policy, edited by Christian Bason. Review of (2014). *Design for Policy.* Dorset UK: Gower. *Design and Culture.* Vol. 8 (2) 275-277

Kimbell, L. & Bailey, J. (2017). Prototyping and the new spirit of policy-making. *CoDesign.* Vol.13 (3) 214-226

Koskinen, I., Mattelmäki, T. & Vaajakallio, K. (2014). What Happened to Empathic Design? *Design Issues.* Vol. 30 (1) 67–77

Krippendorff, K. (1995). On the Essential Contexts of Artefacts or on the Proposition that "Design Is Making Sense (of Things)". In Buchanan R, & Margolin V, (eds.). *The Idea of Design.* Cambridge, Massachusetts: MIT Press

Krosnick, J, A. (1999). Survey Research. *Annual Review of Psychology.* Vol. 50, 537-67

Krosnick, J, A. & Presser, S. (2010). Question and Questionnaire Design. In: Marsden, P., V. & Wright, J. D. (eds.). *Handbook of survey research.* 2nd ed. Bingley UK: Emerald Group Publishing

Kvale, S. (2006). Dominance Through Interviews and Dialogues. *Qualitative Inquiry.* Vol. 12 (3) 480-500

Laurel, B. (2003) (eds.). *Design Research Methods and Perspectives.* Cambridge, Massachusetts: MIT Press

Lawson, B. (2004). *What Designers Know.* Oxford: Architectural Press

Lurås, S. (2016). Systems Intertwined: A Systemic View on the Design Situation. *Design Issues.* Vol. 32 (3) 30-41

Mahon-Haft, T., A. & Dillman, D., A. (2010). Does Visual Appeal Matter? Effects of Web Survey Aesthetics Survey Quality. *Survey Research Methods*. Vol.4 (1) 43-59

Manzini, E. (2015). *Design, When Everybody Designs.* Cambridge Massachusetts: MIT Press

Manzini, E. (2016). Design Culture and Dialogic Design. *Design Issues*, Vol. 32 (1) 52-9

Margolin, V. (1995). The Product Milieu and Social Action. In Buchanan, R. & Margolin, V. (eds.) *Discovering Design: Explorations in Design Studies.* USA: University of Chicago Press

Margolin, V. (2002). *The Politics of the Artificial: Essays on Design and Design Studies.* The University of Chicago Press: Chicago and London

Mason, J. (2001). *Qualitative Researching.* 2nd ed. London: Sage

Massanari, A. L. (2010). Designing for imaginary friends: information architecture, personas and the politics of user-centered design. *New Media & Society.* Vol. 12 (3) 401–416

May, T. (1993). *Social Research: Issues, Methods and Process*. Buckingham & Philadelphia: Open University Press

Merriam, S., B. (2009). *Qualitative research: a guide to design and implementation.* San Francisco, California: Jossey-Bass

Michlewski, K. (2015). *Design Attitude.* Farnham UK: Ashgate Publishing Ltd

Miettinen, S., & Valtonen, A. (eds.) (2013). *Service Design with Theory.* Vantaa, Finland: Lapland University Press

Mintrom, M., & Luetjens, J. (2016). Design thinking in policymaking processes: Opportunities and challenges. *Australian Journal of Public Administration*. Vol. 75 (3) 391-402

Mitcham, C. (1995). Ethics into Design. In Buchanan, R. & Margolin, V. (eds.) *Discovering Design: Explorations in Design Studies.* USA: University of Chicago Press.

Mitchell, T. (1992). *Preface.* In Jones, J. C. *Design Methods.* 2nd Ed. New York, Chichester: John Wiley & Sons

Møller Haase, L. & Nhu Laursen, L. (2019). Meaning Frames: The Structure of Problem Frames and Solution Frames. *Design Issues.* Vol. 35 (3) 20-34

Mulgan, G. (2014). *Design in Public and Social Innovation: What Works and What Could Work Better.* [pdf] Nesta. Available at: media.nesta.org.uk/documents/design_in_public_and_social_innovation.pdf. [Accessed, August 2019.]

Murthy, D. (2008). Digital Ethnography: An Examination of the Use of New Technologies for Social Research. *Sociology*. Vol. 42 (5) 837-855

Norman, D.A. & Verganti, R. (2014). Incremental and Radical Innovation: Design Research vs. Technology and Meaning Change. *Design Issues*. Vol. 30 (1) 78–96

Nusem, E., Matthews, J. & Wrigley, C. (2019). Toward Design Orientation and Integration: Driving Design from Awareness to Action. *Design Issues*, Vol. 35 (3) 35-49

OECD (2015). *The Innovation Imperative in the Public Sector: Setting an Agenda for Action.* Paris: OECD Publishing. [e-book]. Available at: http://www.oecd.org/gov/the-innovation-imperative-in-the-public-sector-9789264236561-en.htm [Accessed, April 2020]

OECD (2010). *Innovation Strategy Getting a Head Start on Tomorrow.* [pdf]. Available at: https://www.oecd-ilibrary.org/content/publication/9789264083479-en [Accessed, April 2020]

OECD. Toolkit Navigator. Available at: https://oecd-opsi.org/toolkit-navigator/ [Accessed, March 2020]

Opazo, D., Wolff, M. & José Araya, M. (2017). Imagination and the Political in Design Participation. *Design Issues.* Vol. 33 (4) 73-82

Oppenheim, A. N. (1992). *Questionnaire Design, Interviewing and Attitude Measurement.* London: Continuum

Papanek, V. (1985). *Design for the Real World*. London: Thames & Hudson

Parsons DESIS Lab (2013). *Gov Innovation Labs: Constellation 0.1.* Available at: http://nyc.pubcollab.org/files/Gov_Innovation_Labs-Constellation_1.0.pdf [Accessed, March 2020]

Peruccio, P. P. (2017). Systemic Design: A Historical Perspective. In Barbero, S. (eds.). *Systemic Design Method Guide for Policymaking.* A Circular Europe on the Way. Available at: https://www.interregeurope.eu/retrace/news/news-article/1772/retrace-method-guide-for-policymaking/ [Accessed, August 2019]

Potter, N. (2002). *What is a designer: things, places, messages.* 4th ed. London: Hyphen Press

Prendiville, A., Sangiorgi, S. & Rickets, A. (2014). *Mapping and developing Service Design Research in the UK.* Available at: https://www.researchgate.net/publication/263255940_SERVICE_DESIGN_RESEARCH_UK_NETWORK_Mapping_and_developing_Service_Design_Research_in_the_UK [Accessed, March 2020]

Reason, P. & Bradbury, H. (2008) (eds.). *The Sage Handbook of Action Research: Participative Inquiry and Practice.* 2nd ed. London: Sage

Rebolledo, N. (2016). The Value of Service Design in Policymaking. In: Service Design Network & Mager, B. Service Design Impact Report: Public Sector. [pdf] Service Design Network. Available at: service-design-network.org/uploads/sdn-impact-report_public-sector.pdf. [Accessed, August 2019]

Reeves, S., Goulden, M. & Dignwall, R. (2016). The Future as a Design Problem. *Design Issues.* Vol. 32 (3) 6-17

Rittel, H. & Webber, M. (1973) Dilemmas in a General Theory of Planning. *Policy Sciences.* Vol. 4 (2) 155-169

Roberts, I. & Dahl, S. (2017). *Design in the Public Sector: An Interactive Map.* Available at: http://publicsector-map.designforeurope.eu/en/ [Accessed, March 2020]

Rosenqvist, T. & Mitchell, C. (2016). *Redesigning Governance - A Call for Design across Three Orders of Governance.* In: Proceedings of DRS 2016: Design Research Society Conference, 'Design + Research + Society - Future-Focused Thinking'. Brighton, June 2016. DRS

Rutten, K. (2016). Art, ethnography and practice-led research. *Critical Arts: A South-North Journal of Cultural & Media Studies.* 30 (3) 295-306

Rutten, K., Mottart, A. & Soetaert. R. (2010). Narrative and rhetoric in social work education. *British Journal of Social Work*. Vol. 40 (2) 480-495

Sanders, E. & Stappers, J. P. (2008). Co-creation and the new landscapes of design. *Codesign.* Vol. 4 (1) 5-18

Sangiorgi, D. & Prendiville, A. (2017) (eds.). *Designing for Service.* Fakenham, UK: Bloomsbury

Savage, M. & Burrows, R. (2007). The Coming Crisis of Empirical Sociology. *Sociology,* Vol. 41 (5) 885-899

Schön, D., A. (1983). *The reflective practitioner: how professionals think in action.* New York: Basic Books

Secomadi, F. & Snelders, D. (2013). Interface Design in Services: A Post-Phenomenological Approach. *Design Issues.* Vol. 29 (1) 3-13

Sennett, R. (2008). *The Craftsman. USA: Yale University Press*

Service Design Network & Mager, B (2016). Service Design Impact Report: Public Sector. [pdf] Service Design Network. Available at: service-design-network.org/uploads/sdn-impact-report_public-sector.pdf. [Accessed, August 2019]

Silverman, D. (2005). *Doing Qualitative Research.* 2nd ed. Trowbridge, Wiltshire, UK: Sage

Simon, H. (1988). The Science of Design: Creating the Artificial. *Design Issues*. Vol. 4 (1/2) 67-82

Simon, H. (1998). *The Sciences of the Artificial.* 3rd ed. Cambridge, Massachusetts: MIT Press

Snook (2017). *Designing Social Investment: Good Finance User Research Report.* [pdf]. London, Good Finance. Available at: https://www.goodfinance.org.uk/sites/default/files/post/pdf/Designing%20Social%20Investment%20-%20Good%20Finance%20User%20Research.pdf. [Accessed, April 2020]

Staszowski, E., Sypek, A. & Junginger, S. (2014). *Public and Collaborative: From participatory design to design for participation.* In: Design Management Institute: Proceedings from the 19th DMI, Design Management in an Era of Disruption. London, September, 2014: DMI

Steen, M. (2013). Co-Design as a Process of Joint Inquiry and Imagination. *Design Issues* Vol. 29 (2)

Teddlie, C. & Tashakkori, A. (2012). Common "Core" Characteristics of Mixed Methods Research: A Review of Critical Issues and Call for Greater Convergence. *American Behavioral Scientist.* Vol. 56 (12) 774-788

Teegavarapu, S. & Summers, J. D. (2008). *Case Study Method for Design Research: A Justification.* In IDETC/DTM 2008 ASME 2008 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference. New York. August 3-6, 2008. New York, USA

The Point People & Snook (2015). *Designing Social Investment.* [pdf]. London, Good Finance. Available at: https://www.goodfinance.org.uk/sites/default/files/post/pdf/DesigningSocialInvestment_PrototypingTesting_Report.pdf [Accessed, April 2020]

Tõnurist, P., Kattel R. & Lember V. (2017). Innovation labs in the public sector: what they are and what they do? *Public Management Review*. Vol.19 (10) 1455-1479

van der Bijl-Brouwer, M. (2016). The Challenges of Human-Centered Design in a Public Sector Innovation Context. *Design Research Society 50th Anniversary Conference.* Brighton, UK, 27–30 June 2016. Available at: drs2016.org/294. [Accessed, August 2019]

Wengraf, T. (2001). *Qualitative Research Interviewing Biographic Narrative and Semi-Structured Methods.* London: Sage

Wilson, S. & Zamberlan, L. (2015). Design for an Unknown Future: Amplified Roles for Collaboration, New Design Knowledge, and Creativity. *Design Issues.* Vol. 31 (2) 3-15

Wylant, B. (2008). Design Thinking and the Experience of Innovation. *Design Issues.* Vol. 24 (2) 3-14

Wylant, B. (2016). Design and Thoughtfulness. *Design Issues.* Vol. 32 (1) 72-82

Yin, R., K. (2009). Case Study Research: Design and Methods. 4th ed. London: Sage

You, X. & Hands, D. (2019). A Reflection upon Herbert Simon's Vision of Design in The Sciences of the Artificial. *The Design Journal.* Vol. 22 (1) 1345-1356

‘thoughts and actions intended to change thoughts and actions’

J. Christopher Jones, 2002