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Whether you are designing a family of icons or a large-scale signage system, an instruction manual or an interactive data visualization, this book will guide you through the necessary steps to ensure you are meeting people’s needs.

Sheila Pontis is an information designer bridging theory and practice. She is currently Honorary Research Associate at University College London, UK, a lecturer at Princeton University, USA, teaching creativity, design thinking, and information design, and partner at Sense Information Design, a New York-area design consultancy.

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Preface

What is qualitative research? How does it differ from market research? What should I do first? Can I have a study with just five people? How can I collect data? There is not enough time to conduct a research study! What is a theme? What is coding? How does coding lead to themes? All these are frequent questions that I asked myself 12 years ago at the beginning of my career as a researcher. While I was already an experienced information designer back then, I was just taking my first steps as a qualitative design researcher. Nowadays, too often, I hear similar questions from my students and even from information design colleagues who believe that research isn’t really compatible with their practice. However, the reality is that information design practice demands research more than ever, because of the many ways it is changing.

A convergence of forces—the ready availability of design technology, the Internet explosion, and the proliferation of data—has generated considerable interest in information design in recent years. The increasing complexity of today’s challenges demands more frequent collaboration with professionals from other backgrounds. More and more information designers are tackling social and organizational challenges rather than only the redesign of existing solutions. As a result, the application of their skills to develop a tangible artefact as the only solution no longer plays a big role; instead, information designers must create solutions from scratch or design experiences. Paradoxically, as the need for information design skill to address complex and unframed challenges grows more urgent, the quality and performance of many information design outputs often falls short, failing to address the needs of intended audiences. Frequently, these solutions present prettier designs but with less understandable and harder to use information.

This recurring phenomenon highlights a key problem facing information design: there is too much emphasis on the production of design outputs and too little attention paid to fundamental understanding of problems and people. I have identified three main issues that contribute to this situation:

- **Working with assumptions.** Information designers tend to work with assumptions fed by previous projects. The more years of experience a team or we have, the more we prefer to start designing based on what we already know rather than to challenge any assumptions in our work. However, many of the things we think are “basic knowledge” and widely understood by our audiences, are actually very confusing
to them. For example, many people have no idea how to use online banking or their smartphone; others don’t understand voting instructions or how to complete a tax form. This lack of understanding is particularly prevalent with technological solutions, but certainly not exclusive to them.

• **Working fast.** Some information designers have started using agile processes and design sprints as part of their practice, although the former originated for software development and the latter was developed at Google Ventures, both as ways to generate tangible solutions. The issue I see with these approaches is that they seem to perpetuate the idea that speed is everything; spending time gaining deep understanding of problems and people tends to be de-prioritized. In addition, many information design problems don’t involve the creation of a tangible solution.

• **Working only with user research.** Recent years have seen an increase in the adoption of research methods in design practice in general and in information design practice in particular. However, the type of research typically done takes the form of user or market research and tends to mostly focus on optimizing or evaluating a design solution. This research approach focuses on “users” not “people” and assumes that the information designer already knows enough about the intended audience, so that they can create a solution that they think the audience wants and then test how well or poorly it works.

Proposing a way to address these three issues and my own struggles as an information design researcher was my motivation for writing this book. Creating effective information design involves more than relying on design expertise, conducting marketing research, learning how to use specialized software, or working with pre-defined design briefs. Research shouldn’t only be used to make sure you are designing an infographic or a website in the right way; it should be used to determine whether your intended audience needs an infographic, a website, or something else entirely. I suggest that information designers should work with a mode of research focused on gathering deeper understanding of the problem and spending time with their intended audiences. Knowledge gained from these interactions, before

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2 Hall, E. (2017) Design Sprints are Snake Oil [online], Available at: https://medium.com/research-things/design-sprints-are-snake-oil-fd6f8e385a27 [Accessed 9 January 2018].
deciding what the solution should be, will help build empathy and inform decisions throughout the design process that will lead to higher-quality solutions. *Field research* is the type of qualitative research that provides this level of insight and helps reveal the complexity of everyday life; it isn’t simply a complementary approach to marketing research. As I see it, field research is about the unknown, unexpected, and unanticipated.

As information designer David Sless pointed out back in 2008, the combination of qualitative research with design knowledge, principles, activities, and processes isn’t new; it has a long, but often marginal, history in information design, with a strong presence only in particular places (e.g. the UK) and larger design studios and organizations (e.g. Applied Wayfinding, Design Council UK). Nevertheless, the use of field research in information design isn’t a common practice, and, in general, the response to qualitative research remains hostile:

- ‘This isn’t the designers’ job’.
- ‘Time frames are too short’.
- ‘There aren’t enough resources’.
- ‘Directing a conversation and listening at the same time is too hard’.
- ‘No one will talk to you for more than ten minutes’.
- ‘I don’t need research, personas can be made up from our imagination’.
- ‘I have been an information designer for 20 years, I know what my audience needs’.

Rather than attempt to go into the field and try to use qualitative research, information designers cling to these and other myths and misconceptions, preventing them from developing confidence, deep understanding, and patience needed to use this type of research in their practice. Conducting research that involves actual contact with intended audiences seems intimidating, time-consuming, and expensive.

I believe that there is no better time than the present to break from these myths, get immersed, and gain deeper awareness about this form of research. The need to understand people’s contexts and behaviours has become a non-negotiable step in the information design process to create successful solutions. This book advocates the use of the investigative rigour and systematic methodologies of field research in combination with the dis-

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6 Students, teachers, colleagues, and clients from various countries (e.g. Argentina, Spain, Switzerland, Finland, Portugal, Germany, the Netherlands, the UK, the US) have expressed these myths and assumptions during the last decade.
cipled logic and visual principles of information design. In field research, methods are used to study and understand cultures and communities through observation and interpretation of traits and people’s behaviours in their environments. The selection of methods discussed here comes from context mapping, contextual inquiry, human sciences, and human-centred and participatory design. For most methods, the number of participants is small (6–20). These methods are relevant to professional contexts, in that, used in the field, they provide a deeper view into participants’ lives and, in some cases, give participants the opportunity to immerse themselves in the information design process.

This book presents both field research and information design as complementary practices. The former follows more established methodologies to understand people’s lifestyles, behaviours, needs, and emotions, where its practitioners are well equipped to understand cultures, but they don’t have the skills to visually make sense of and clearly communicate complex information and findings. The latter aims to help people make sense of situations and uses a more visual set of skills to identify patterns and analyse and communicate information, but its practitioners are less prepared to observe the field. While field research offers a way to observe and get in touch with people’s complexity, information design offers a way to make sense of and communicate that complexity. These combined sets of skills are needed to successfully tackle the complexity of current challenges. I propose the use of information design skills to tailor field research methods and create tools for the specifics of each project. This means that a same tool or method could be used at different steps for different purposes.

The goal of this book is to provide more robust support and clear guidance on both deciding how to gather field data to help inform and move forward in the information design process, and analysing and making sense of the collected data. The aim is to provide direction primarily to professionals, students, and researchers associated with information design, with a secondary audience of students and professionals from the social sciences, anthropology, and psychology interested in learning visual skills to improve their work and create more compelling stories. Suggestions and tips aren’t meant to impose a unique way to conduct field research but to indicate which aspects from the research process are essential to make it more credible, reliable, and efficient.

Most research books target graduate students or post docs working on their dissertations, and the language is mainly academic. This book is written for you: the information design practitioner or undergraduate student who isn’t familiar with research jargon and terminologies. The idea of writing a book specifically for information designers began while I was doing my PhD, when I started conducting research to help me answer my research
question. Back then, I had to learn the basics from various human sciences books and then extrapolate concepts and methods to address design needs. Since then, many books have been published to help designers gain the basic understanding of what research involves and how it can benefit design practice. However, few books explicitly discuss the use of field methods in information design or do so in plain language, understandable to designers. Furthermore, while there are books presenting a wide range of methods for gathering human-centred data, the subsequent phases, such as analysing, making sense of, inferring, communicating, and using it in respective steps of the information design process, have received less detailed attention. That is, how to get value from qualitative data. These steps are crucial for the development of successful solutions, and it is often where design professionals struggle the most. Although the analysis and sensemaking of large amounts of information are core tasks of information designers, they don’t often realize how to apply these skills in the research process. This makes the narrative of this book necessarily neither academic nor exhaustive. Rather, it has a practical focus, illustrating concepts through visuals and indicating further readings, where you can deepen your understanding of specific aspects of field research. Overall, research conducted in professional contexts has different standards from that of academic studies because it has a different end goal. The book provides guidance for conducting applied field research and doesn’t discuss academic standards.

An important part of the writing process has involved doing my own field research to gain a better understanding of how information designers work and the role that qualitative research plays in their practice. I conducted in-depth interviews with some of the information designers involved in the case studies, as well as clients, to understand how they see these methods contributing to a project. These interviews have been extremely illuminating, helping to uncover common research-related challenges that information designers face with clients, and issues frequently experienced when planning and designing a field study. Where relevant, I share excerpts from these.

The book is organized in four parts:

- **PART I** introduces a working definition of information design and applied field research. It provides examples of current information design challenges and describes how the role of information designers has changed. It presents an information design process, enhanced by the use of field research, which then becomes the backbone for the rest of the book.

- **PART II** provides a roadmap for planning and designing a field research study and gives guidance for going into the field. It describes methods to gather data and evaluate solutions in context, offering direction on
which methods to use. Also discussed in this part are the use of visualizations to support the research process and a step-by-step guide to make sense of field data.

• **PART III** explains ways and techniques to communicate findings to the rest of the team, intended audiences, and clients, and how they can be used at different moments of the information design process.

• **PART IV** describes the use of field research in information design practice. Five case studies explain how this approach was essential to the development of successful solutions. The selection of cases has been made from the analysis of 30 case studies from a range of information design fields and years of experience working with the methods in professional contexts.

This book is intended to provide practical guidance, tools, and techniques for conducting high-quality field research in information design practice. My hope is that it helps you to better understand the value of this type of research for your practice and to confidently conduct a field study as part of your next information design challenge.

Sheila Pontis

*March 2018*
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PART I:
Two practices, one journey
1 What is information design?

The information design community actively writes and theorizes about various aspects of the field (e.g. methods, tools, skills, processes), and case studies abound, but there is a lack of clarity regarding what information design is or what its boundaries are, and an agreed definition of the field is still elusive. Perhaps this is the result of the diversity of disciplines that inform the field, including graphic design, journalism, interface and user experience design, cognitive science, behavioural and applied psychology, and information science, among others. This cross-disciplinary and multi-faceted nature of information design makes it challenging to arrive at a concise definition that accurately captures its breadth and depth. On the other hand, the influence of these disciplines has helped to better equip information designers with a rich toolkit of skills. Terry Irwin summarizes information designers as:

‘...very special people who must muster all of the skills and talents of a designer, combine [them] with the rigor and problem-solving ability of a scientist or mathematician and bring the curiosity, research skills and doggedness of a scholar to their work.’

This book broadly defines information design as the field concerned with facilitating understanding in order to help people achieve their goals by translating raw or disorganized data into forms that can be rapidly perceived, understood, processed, and used. Information design work of any kind seeks to enhance understanding—of a situation, concept, space, place, time, quantity, phenomenon—for an intended audience. Information designers aim to design clear communication on any medium from paper to digital devices and public information displays. Regardless of context or project type, their goal is to maximize benefit and value for the client and end-user.

When we encounter raw data or unstructured information (e.g. highly specialized, confusing, or large amounts), we may experience anxiety, because our brain can’t identify patterns or connections or process what we see. As a result, we perceive raw and unstructured situations as complexity. To help people process situations and make connections, information designers give structure to raw hard or soft data, designing it in a way that makes it more accessible and meaningful. Most design decisions made throughout this process aim to support the intended audience’s cognitive activities and sensemaking.

Sensemaking is the process of understanding something (a situation or problem) which occurs when there is an intentional effort to discover connections among data (e.g. people, places, events) and find meaning from information. Through this process, we engage in cognitive activities (e.g. memory, perception, visual processing) to filter relevant from irrelevant information, give meaning to experiences, move from data to an interpretation, and construct broader understanding of a specific situation. As cognitive artefacts, information design outputs support and strengthen these mental abilities and functions, allowing the brain to process information more effectively.

When information is effectively designed, it facilitates navigation, supports collaboration, improves usability, and enables understanding. Effective information design involves a deep understanding of four dimensions (Figure 1.1):

- **Problem**: what challenge the audience encounters
- **People**: who the audience is and their needs
- **Context**: how, where, and when the audience accesses the information
- **Content**: what needs to be communicated

Information designers can help wherever there is a need to, for example, make decisions, build a strategy, understand and solve a problem, create a presentation, or write a report. This need for understanding is discipline-agnostic, spanning all disciplines and industries.