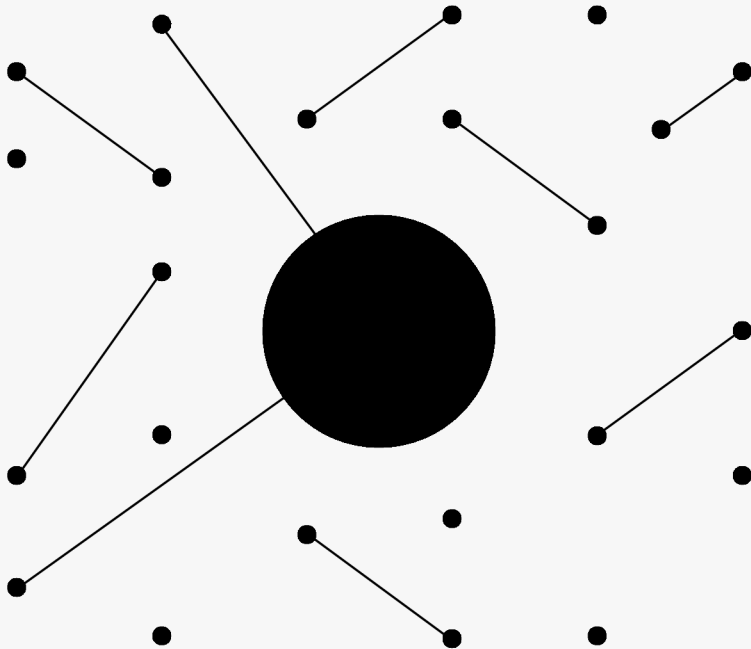


TRANSFORMATION

TOWARDS HUMAN-CENTERED MEDICAL DEVICES

SERVICE DESIGN FOR PRODUCT MANAGEMENT



IDA KOHO

Transformation Towards Human-Centered Medical Devices

Service Design for Product Management

Ida Koho

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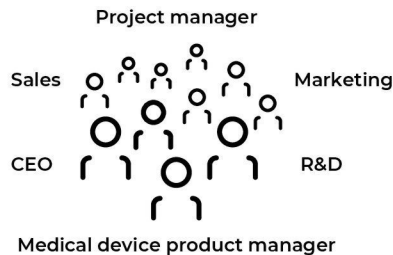
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Preface

Who should read this handbook?

This book was written for busy medical device professionals who seek professional growth and wish to keep their skills up to date. It's a good fit for anyone who likes to learn more about using human-centered approaches along technology-centered ones. The handbook is short and easy to read. **It takes the perspective of product management, but it can be a great resource for a wide range of medical device professionals regardless of their specific roles or backgrounds.** Visitor author Antti Brunni will discuss service design when the medical device is software.



This book is for you if you already see the added value service design brings to medical devices and wish to start applying it in practice. It's also for you if you are unfamiliar with service design but would like to understand the basics and discover the opportunities service design and design thinking have to offer. It's for you if you seek a new approach to liven up your professional life as well as the lives of patients, physicians, nurses, laboratory personnel, or other customer segments.

This book is a valuable resource for those who wish to observe and re-evaluate current working methods. It offers tools for recalibrating practices and increasing user involvement in product development.

As a **product manager or CPO**, you might use the book as an inspiration for all practical duties related to user research and user involvement in product development. Employing service design not only brings you closer to the users but also assists you in communicating with your internal customers. This handbook may also help you articulate the benefits of user involvement and human-centricity when talking to your colleagues.

Service design is a suitable approach whether your organization is a start-up, a scale-up, a small or middle-sized company, or a multinational corporation – public or private. Your product type could be a me-too product, a mass product, or a high-end device with a narrow target group – new or old.

Are you new to product management? Find the description of medical device product management and other key concepts on pages 81–83 and examples of product manager customer personas on pages 57–58.

How to read this book

Read

1

Read and scan the book, focusing on what feels relevant at that moment. There are tips, sources, or keywords on every page. Actively research different topics and talk with AI while reading the book.

Process

2

Let your mind process what you have learned. Analyze and criticize.

Iterate

3

Read the book again with an open mind, using the same active reading style. The amount of time you invest in each topic is your choice.

Search or chat with AI



The text boxes and **bold text** contain keywords or topics that might be useful to research further. You can utilize search engines or AI for inspiration. Remember that content created by AI may contain errors and inaccuracies.

Note #1

This is not a book on product development. Instead, this book addresses a variety of topics related to medical device business and medical device product management, including product development, user involvement in the development process, customer value creation, cost of service design and its implementation, ideation, prototyping, and many other important aspects of successful medical device business.

Note #2

This book does not suggest we should replace the process of medical device product development with the service design process. It aims to inspire the reader to start using the service design process, tools and mindset to increase the human-centricity of medical device products and development processes.

Note #3

Service design is not a cure-all. However, by applying service design, a medical device manufacturer may increase product safety, clinical effectivity, and patient and user satisfaction. It may even reveal new business opportunities.

Summary

- Part I explains the purpose and **background** of this handbook. It also presents the current situation of service design in medical device manufacturing.
- Part II explains **what service design is** from three perspectives: service design as a process, a toolbox, and a mindset. The definition of the service design approach often depends on its user. A person with a background in sustainability and circular economy will likely explain service design differently from someone producing digital or AI-supported services. Still, underneath, the design principles are the same. Part II aims to summarize service design in a way that is easy to understand and apply, even if this is your first time hearing about service design.
- Parts III and IV aim to answer the questions of **for what purposes** a medical device product manager or manufacturer could use service design **and why** they should do so. It offers suggestions on how to start using service design and may help you pitch service design to the director level.
- Part V walks you through the entire **service design process** (discover, define, develop and deliver). Along the way, you'll get tips and examples on how to do service design.
- The last chapter summarizes the handbook and suggests next steps.

After reading this handbook

You will have the basic knowledge to start using the service design approach to invent, innovate, and optimize

You will be able to explore new ways of thinking and working

You will have some practical tools for user involvement and co-creation

You will have a process to brighten up many product management tasks

You will better understand the language service designers speak

About the authors

Ida Koho, Biotechnology Engineer BSc., MBA, has a decade of work experience from medical device manufacturers of different sizes and clinical areas. During her professional journey, Ida has worn many different hats from product management to branding, marketing management, product training, and customer support. She has gained practical service design experience in projects related to energy transfer using blockchain technology, brand strategy, health mobile app, and the creation of this handbook.

"The more I practice service design and learn about it, the more convinced I am about the match between service design and medical device product management. Service design has made me more efficient, confident, and creative in my role as a product manager. It has given me versatile tools and motivation to increase user research and user involvement. If there had been a service design book specifically for medical devices, I would have loved to read it. But because there wasn't one, I started looking into how to create one."

I firmly believe that a human-centered design approach like service design will lighten product management work and increase a positive clinical impact. Those are my biggest motivations to spread the word of service design among medical device manufacturers. This book is my way of celebrating the fact that both you and I can now have our own process for the diverse and constantly evolving work of medical device product management! Isn't it wonderful to trust the process and let it help us in communicating, organizing and creating?

Additionally, a human-centered approach like service design will impact the performance of the entire organization, if adopted in the company culture. I hope this book initiates inspirational discussions and encourages medical device manufacturers to publish service design case studies. By sharing experiences, both successes and failures, we can develop best practices and prove that medical devices and service design truly are a good fit."

Antti Brunni is an experienced expert in service design and digital strategies, with over 15 years of experience in developing and managing digital and data-driven services, particularly in the fields of health and well-being.

Antti has a strong academic background: he holds a Master of Arts degree in Digital Media from the University of Lapland and is currently pursuing doctoral research focused on design strategies for medical software and supporting clinical decision-making. His interdisciplinary expertise bridges technology, design, and healthcare, making him a significant contributor to the research of service design and innovations in medical devices.

As a writer, Antti leverages his extensive professional experience and academic knowledge to provide practical tools for product management and service design professionals to improve the safety, usability, and regulatory compliance of medical software.

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“We are customer-centric” is an easy thing to claim, but in practice, it’s not true for all medical device manufacturers. What does it take to be human-centered? This handbook is a guide for a product manager’s journey towards more human-centered medical device product management. It provides tools, examples, and tips, acting as a stepping stone to the world of service design from the perspective of medical device manufacturing.

After reading this book:

- **You will have the basic knowledge to start using the service design approach to invent, innovate, and optimize**
- **You will be able to explore new ways of thinking and working You will have some practical tools for user involvement and co-creation**
- **You will have a process to lighten your product management tasks**

“This self-published book is a good starting point for medical device product managers to familiarize themselves with the possibilities that service design brings to their profession. It provides a very accessible overview of the processes and methodologies within the service design domain. The book is rooted in a good understanding of how product management works within the medical device industry. As such, it really relates to the real pain points and helps to bring a more user-centric perspective to the role, processes and methods of product management professionals. It includes easy-to-use checklists and very practical recommendations. For any product manager looking to broaden their horizons, this is a really valuable resource.”

**Prof. Birgit Mager, □
President of the Global Service Design
Network (SDN)**

“This handbook is an excellent resource for medical device professionals to explore service design and serves as a valuable reminder of the importance of participatory design methods in healthcare. It also delves into systemic service design—an area I would certainly prioritize if I were a product manager working in a field with such a complex network of customers and stakeholders.”

**Mari Suoheimo
Assoc. Professor (Ph.D.), Oslo School of
Architecture & Design**

“Transformation Towards Human-Centered Medical Devices is much needed hands-on reading on service design for product management. It has a clear description on how to read and apply the information provided. It is based on Ida’s research work for her master’s thesis and Antti Brunni’s vast experience in service design and digital strategies. This is a great combination of fresh views and hard-boiled experience. The world of medical device development needs the human-centered approach, design thinking and service design. The book is valuable when making connections between product management and service design. And it doesn’t forget strategic service design, either.”

**Dr. Satu Miettinen
Dean and Professor at the Faculty of Art and
Design, University of Lapland**

“Excellent tome. Three benefits of service design caught my eye: deep exploration of market demand, transition from innovation to value, and dispelling silos. There is content which is more for product managers than for R&D, but I still found it interesting to read to understand what my product management colleagues are most likely working on, or what I could ask them to look into.”

**Matti Peltonen
(MSc), R&D
Senior Systems Engineer
Thermo Fisher Scientific**

