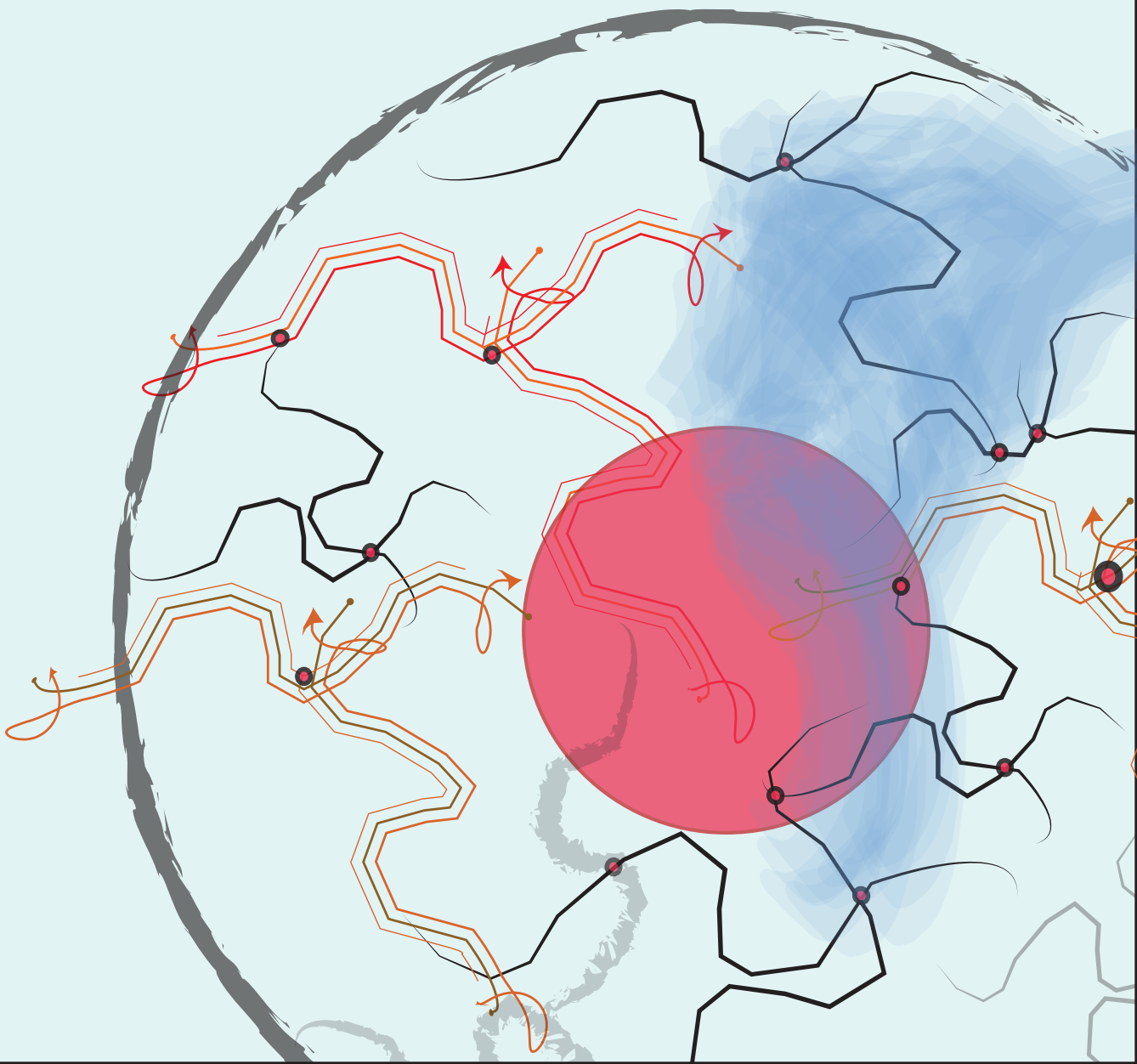


DTRS 14

The role of design in shaping sustainable futures

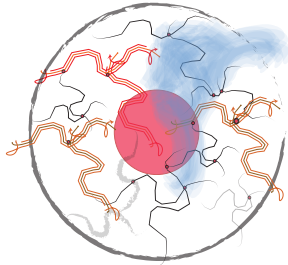
The 14th Design Thinking Research Symposium



DTRS 14

**The role of design in
shaping sustainable futures**

The 14th Design Thinking Research Symposium



Cover image:

An illustration of how a complex design problem can relate to and be interdependent with other things and systems, with intersecting paths and nodes, by Ulrika Florin ¹.

¹ Florin, U. (2022) *On design dialogues: Their roots, features, and usage* p 127. in *Different Perspectives in Design Thinking*, Eriksson, Y. (Ed.).

DTRS 14

**The role of design in
shaping sustainable futures**

2024

Mälardalen University Living Lab Press

ISBN 978-91-7485-650-7

Print: E-PRINT, Sverige, 2024

Editorial team:

Ulrika Florin
Karolina Uggla
Hasse Henningsson
Lasse Frank
Björn Westling

DTRS14 – The role of design in shaping sustainable futures

Focus for the 14th Design Thinking Research Symposium, DTRS14, is sustainability and we have raised the question: What role could design play in the shaping of sustainable futures? The question is motivated since we are facing complex systemic challenges, related to globalization, digitisation, and the need to reduce the negative impact on our environment.

Agenda 2030, and UN:s scaffolding framework with the 17 Sustainable Development Goals (SDG:s), aim to eliminate poverty and hunger, realize human rights for all, achieve equality and empowerment for all women and girls, and ensure lasting protection for the planet, its inhabitants and natural resources. The SDG:s are designed to serve as an integrated resource that balance all three dimensions of sustainable development: the economic, the social and the environmental. This means complexity and we need to take a holistic perspective to make progression. Hence to achieve organizational and societal systems that go in tandem with the Global Goals, we also need to pay attention to various aspects that could contribute to sustainability. The contributions to DTRS14 elucidate various aspect of how design can help us understand what is needed to change the accelerating situation. However, to support and educate future designers to contribute to solutions, addressing the challenges connected to Agenda 2030, it is necessary to involve all levels of education in the challenge and stage crossdisciplinarity teams on different themes.

DTRS14 is hosted by Innovation and design at Mälardalen University, MDU. The vision for MDU is to be a progressive and collaborative university where we together shape a sustainable future. In a strong growth region, we see ourselves as an engine for the entire society and have a responsibility to contribute to people's learning and society's development.

Besides the challenges of climate change, energy supply and resource utilization we are also facing challenges of the present and future that are linked to an aging population, inequalities in health, economic injustices, and threats to democracy. We hope to tackle these challenges through education, research, and innovation. This is done through interdisciplinary approaches, together with our collaboration partners and through our active participation in the public conversation.

This is addressed in research and education in Innovation and design, which is a subject and a research area with an interdisciplinary orientation, focusing on development processes based on the needs of individuals and groups in different situations and contexts. It is about social development to meet current and future needs for change within organisations, companies, authorities, and society at large. Examples of implementations can be communication processes, information processes and innovation, with social relevance and people at the centre. The subject Innovation and design include aspects of information design, innovation technology and innovation management. The subject practices creative approaches as enablers to combine different perspectives and competencies in the creation of artefacts and services as well as in processes and systems based on the individuals concerned. It is common to apply collaborative and user-centred methods that engage different levels of stakeholders in the design and innovation processes.

Internationalization increases the quality of research and education, among other things through the possibility of collaboration with others. The exchange of experience and the knowledge it generates contributes to raising the quality of education. Mälardalen University therefore strives to further develop internationalization, which offers development opportunities, collaboration in research and education and co-production with both the private and public sector and thereby contribute to creating value and benefit both globally and regionally.

The first DTRS was initiated by Nigel Cross with Norbert Roozenburg and Kees Dorst in Delft 1991. Since then, DTRS has been hosted by different universities in countries such as Turkey, USA, Australia, England, Denmark, South-Korea, Israel and now Sweden.

In the context of MDU Living Lab, design methods based on design thinking and soft system thinking have been developed, by participatory design, co-design and by applying ethnographic methods as photo elicitation, to explore together with users and stakeholders. We are therefore happy to publish the proceedings in Mälardalen University Living Lab Press, since the collective contributions present broad perspectives on design research and innovation, with sustainability at core.

Yvonne Eriksson
Ulrika Florin
Karolina Uggla

Contents

- Page 9** **Accommodating varying capabilities in open design: A layered approach for distributed value creation**
Yekta Bakırhoğlu, Lancaster Institute for the Contemporary Arts, Lancaster University
- Page 25** **Zero-waste Food Deliveries and Takeaways: Sustainable Design Solutions through Systems Thinking**
Yekta Bakırhoğlu, Lancaster Institute for the Contemporary Arts, Lancaster University
Çağla Doğan, Department of Industrial Design, Middle East Technical University
Owain Pedgley, Department of Industrial Design, Middle East Technical University
Bahar Şener, Department of Industrial Design, Middle East Technical University
- Page 41** **Do Make me Think - Towards an Integrated Model for Sustainable UX Design.**
Jesper Balslev, Ph.D., Copenhagen School of Design and Technology
Steen Carlsen, senior lecturer, Copenhagen School of Design and Technology
Peter Tolstrup, associate lecturer, Copenhagen School of Design and Technology
- Page 57** **Design of a Co-evolutionary Approach for Sustainable Educational Ecosystems**
Anders Berglund, Mälardalen University
- Page 69** **Food Sharing as a Community Design Approach**
Abdullah Tarik Celik, Istanbul Technical University
Witold Budzyński, Cracow University of Technology
Cigdem Kaya, Istanbul Technical University
- Page 91** **Design thinking for sustainable futures: opportunities to connect with other approaches**
Nathan Crilly, University of Cambridge
- Page 107** **Designing for hypercomplexity: a case study**
Kees Dorst, University of Technology Sydney
André Schaminée, TwynstraGudde

Page 121 Future Hunter: framing social change in times of transition

Kees Dorst, University of Technology Sydney

Rodger Watson, University of Technology Sydney

Simon Byrnes, University of Technology Sydney

Page 135 Layer-by-layer Design.

Design Inference in Additive Manufacturing for circularity.

Noemi Emidi, Politecnico di Torino

Page 151 Design and R&D Process of an Autonomous Water Surface Cleaning Vehicle

Oğul GÖRGÜLÜ, İzmir University of Economics, İzmir

Can ÖZCAN, İzmir University of Economics, İzmir

Page 167 Bridging the Paradox: Exploring Trajectories for Sustainability in Digital Design Education and Practice

Per Liljenberg Halstrøm, Copenhagen School of Design and Technology (KEA)

Sarah O'Neill, Copenhagen School of Design and Technology (KEA)

Jonas Fannikke Holbech, Copenhagen School of Design and Technology (KEA)

Alan Engelhardt, Copenhagen School of Design and Technology (KEA)

Page 183 Reshaping University — Industry Collaboration with Design Thinking

Verena Kaiser, Hochschule München University of Applied Sciences

Bettina Maisch, Strasczeg Center for Entrepreneurship (SCE) and Hochschule München University of Applied Sciences

Page 199 Investigating Gender Bias in Engineering Design Theory and Methodology

Samantha Kang, Oregon State University

Christopher Sanchez, Oregon State University

Andy Dong, Oregon State University

Page 215 Bamboo Houses in Bali: Evaluating Locals' Perception to Promote Sustainable Construction Materials

Audrey Mertens, University of Liège

Catherine Elsen, University of Liège

**Page 231 Generative Design Research Methods for Sustainability:
Graduate Research and Design Interventions on Effective
Use of Water**

Dilruba Oğur, Middle East Technical University, Department of Industrial Design
Çağla Doğan, Middle East Technical University, Department of Industrial Design
Senem Turhan, Mälardalen University, School of Innovation, Design and
Engineering

**Page 247 Supporting Reflexivity and Action on Equity and Justice in
Design Education: Insights from the Design Justice
Pedagogy Summit**

Anastasia K. Ostrowski, Massachusetts Institute of Technology
Madhurima Das, Massachusetts Institute of Technology
Gillian Roeder, Massachusetts Institute of Technology
Jana I. Saadi, Massachusetts Institute of Technology
Christina Harrington, Google Research
Aditi Verma, University of Michigan
Cynthia Breazeal, Massachusetts Institute of Technology
Catherine D'Ignazio, Massachusetts Institute of Technology
Maria Yang, Massachusetts Institute of Technology

**Page 263 Living-Centered Design: Embracing Collaboration and Co-
Creation with Nature for a Sustainable Future**

Carla Paoliello, FBA ULisboa / CIEBA
Ana Vasconcelos, FBA ULisboa / CIEBA
Rui Faria, FBA ULisboa

**Page 277 From Empathetic to Reflective Dialogue:
A Visual Tool for Future Social Design Education**

Michal Pazner, Shenkar - Engineering. Design. Art.
Jennifer Schubert, TH Augsburg
Jonathan Ventura, Shenkar - Engineering. Design. Art.

**Page 299 Redefining household activities: a metaphorical approach
to energy for shaping sustainable futures**

Resat Sasik, Luleå University of Technology

**Page 315 An Inception Fairytale – Stories on the Sustainable Future
in a Technology Center**

Andreea Strineholm, Mälardalen University
Jennie Schaeffer, Mälardalen University

- Page 331 Reimagining Sustainable Innovation: ReEVOLUTION 6, a Design Thinking Model for Circular Economy**
Katja Tschimmel, ID+ Research Institute for Design, Media and Culture, Porto University and Mindshake
Joana Alves dos Santos, Mindshake - Consultancy for Creative Thinking and Design
- Page 353 Across the Parallax: Human-Centered Design as a Community Engagement Tool**
Peter Tschirhart, Texas State University
Claudia Röschmann, Texas State University
- Page 367 Who Framed the Government Architect?: Cultural residue, and a role for design in reshaping organizations**
Rodger Watson, University of Technology Sydney
- Page 383 From Past Pandemics to Future Health Crises: A Systemic Design Framework for Building a Healthier Future**
Wibke Weber, ZHAW University of Applied Sciences
Valery Wyss, ZHAW University of Applied Sciences
Felicitas Högger Niedermann, ZHAW University of Applied Sciences
Louis George Schäfer, ZHAW University of Applied Sciences
Joël Floris, UZH University of Zurich
Kaspar Staub, UZH University of Zurich
- Page 397 Exploring Innovation Management System to Understand and Secure Preconditions for Design Thinking**
Anders Wikström, Mälardalen University
Carl Heath, RISE; Research Institute of Sweden
- Page 413 Understanding the Needs of Nonhuman Stakeholders in Design Process: An Overview of and Reflection on Methods**
Berre Su Yanlıç, Arçelik Research Center for Creative Industries, Koç University
Aykut Coşkun, Arçelik Research Center for Creative Industries, Koç University

Do Make me Think - Towards an Integrated Model for Sustainable UX Design.

Jesper Balslev, Ph.D., Copenhagen School of Design and Technology

Steen Carlsen, senior lecturer, Copenhagen School of Design and Technology

Peter Tolstrup, associate lecturer, Copenhagen School of Design and Technology

ABSTRACT

The paper explores the potential to stimulate more socially sustainable practices in the professional field of user experience design. We argue that the endeavour is mandated by political trends towards the regulation of “deceptive patterns”, rooted in a more general concern with manipulating algorithms, the user interfaces that mediate them and their consequences on the well-being of citizens and their effects on democratic processes. We argue that the project requires challenge of the status quo – i.e. current design frameworks models to “hook” users, that lack some key concepts to help digital professionals confront their practices to comply with societal demands. We strive to incorporate these concerns in a synthesized model directed at stimulating socially sustainable change, for use in design workshops tailored to industry professionals. We acknowledge the paradox and the inherent contradictions in the project and discuss them in the conclusion.

“All models are wrong, but some are useful” – George E.P. Box (Box, 1976)

Introduction: An emerging political focus on social sustainability

In recent years, the concept of social sustainability has gained traction within policy frameworks in Denmark and internationally. Decision-makers increasingly make the argument that long-term societal well-being depends on more than economic and environmental factors, sometimes called non-financial indicators. This emergent paradigm aspires to combine values like equity, inclusivity, community resilience, and social cohesion into sustainable development policies. In practice this means that we see an increase in legislation promoting equitable access to resources, fostering social justice, and ensuring that community members meet their basic needs and participate fully in society. Social sustainability initiatives may encompass diverse issues such as affordable housing, healthcare, education, fair labour practices, and the protection of vulnerable populations. In the United Nations SDG-framework e.g. social sustainability is expressed in goals for well-being, quality education and sustainable communities (The 17 goals, 2022). The inclusion of these principles within policy agendas marks a shift toward a more holistic approach to sustainability that acknowledges the interdependence of economic, environmental, and social systems.

The business side

Besides being a political concern, social sustainability also plays an important role in the ESG-framework, aimed at assisting investors in identifying companies that “*promote ethical and socially conscious themes including diversity, inclusion, community-focus, social justice, and corporate ethics, in addition to fighting against racial, gender, and sexual discrimination*”. (What Is Environmental, Social, and Governance (ESG) Investing?, accessed 14.5.2023.). In a sampling we made of 10 of the most visited web shops in Denmark, it is apparent that many companies have adopted socially sustainable values. Our sampling was guided by the “Sustainability Brand Index” (Official Report 2023 Europe’s Largest Brand Study on Sustainability, 2023), and we visited the five most sustainable brands (according to the report). We found elements of social responsibility in all companies (Rema, Lego, Thise, Coop and Aarstiderne). Elements included communication dedicated to diversity and inclusion, social responsibilities, typically formulated in CSR and compliance reports. See Figures 4-7 in the appendix.



Figure 1 Screenshot from supermarket chain REMA's website, page informing about CSR initiatives (CSR-rapport, accessed 15.2.2024)

Context: action research and other binds

The research is conducted from the Copenhagen School of Design and Technology. One of the diplomas offered at our institutions is a bachelors’ degree in multimedia design. A substantial part of the training consists of acquiring competences in UX-design (we will explain this professional role shortly). Its’ research ambitions can be explained using terms from the action research tradition. Action research is a form of collective self-reflective enquiry undertaken by participants in social situations to improve the rationality and justice of their own social or educational practices, as well as their understanding of these practices and the situations in which these practices are carried out (McNiff & Whitehead, 2002)

In contrast to other academic approaches, action research strives to

- try out theories with practitioners in real situations and real organizations.
- combine theory and practice in concrete, tangible and mutually recognizable problems and within mutually acceptable ethical frameworks.
- involve researchers and practitioners in iterative processes, aimed at acting together on a particular cycle of activities, including problem diagnosis, action intervention, and reflective learning – often gleaned methods from design thinking (Romme, 2004)
- Modify theory as a result of the feedback.
- Emphasize true and egalitarian collaboration between stakeholders.

A central tenet of action research is that researchers should be explicit about their approach, clarify their research aim, theory, and method at the outset and all the way through its application, as well as at the time of its publication. A prerequisite for the above, i.e. trying theories with practitioners, combining theory and practice, and involving stakeholders in iterative processes, is to have a guiding model that engages with new questions and new professional demands.

Research question and methodological considerations.

So: the research stems from an action research background, is driven by actors with extensive professional experience, for industry partners and aims at designing processes that intervene in practice. What are the practices that need to be intervened on? In this paper, it is on the field of user experience design. In the following, we will introduce UX design as a profession, argue that some of its practices are under pressure, and take steps in developing a new analytical model, by arguing that the design practices often embedded in action research and design thinking fall short in the light of new demands for social sustainability. In one sense, our project is a theoretical, exploratory, future-oriented, speculative project, aiming at laying the foundations for a new type of practice - by addressing issues that have been underprioritized. Despite its focus on theory, it is directed at grappling with very concrete and practical issues related to behavioural problems caused by dominant rationales in current UX – design, and thus subsumed a general action research agenda.

Research question: How could we develop a model to guide future UX-practice for the support social sustainability – to challenge practices deemed problematic by political organs?

User experience design

"While often at the forefront of expanding material consumption, designers are now increasingly facing the issue of how to achieve the opposite." (Cipolla, 2008)

A User Experience (UX) Designer is a professional who is responsible for creating satisfying or compelling experiences for users of a product. UX designers typically facilitate the design of products that offer a seamless and intuitive user interaction. User Experience (UX) Design is inherently multidisciplinary, merging principles, methods, and knowledge from various fields to create products, systems, and services that provide meaningful and relevant experiences to users. Some of the key disciplines that contribute to the multidisciplinary nature of UX Design are:

- Human-Computer Interaction (HCI): a focus on the design and use of computer technology, particularly the interfaces between people (users) and computers.
- Psychology - understanding human behaviour, perception, cognition, and emotions is essential in UX Design. Psychological principles help designers comprehend how users process information, what motivates them, and how they remember information.
- Design Thinking - a problem-solving approach that involves understanding user needs, challenging assumptions, redefining problems, and creating innovative solutions to prototype and test.
- Information Architecture (IA) - the art and science of organizing and structuring information in products and services to support usability and findability. This involves understanding how user process information and making complex content accessible and navigable.
- Usability Engineering - designing products that are easy to use and match user expectations. Usability engineers focus on quantitative and qualitative methods to measure user satisfaction and performance.
- Visual Design - the use of imagery, color, shapes, typography, and form to enhance usability and improve user experiences, drawing from graphic design principles to create an aesthetically pleasing interface.
- Other responsibilities include include content strategy, anthropology and sociology, computer Science and Software Development, accessibility and inclusion, with an understanding for product management and business strategy.

(Bika, 2017; Soegaard, 2024; *What Are UX Roles?* | IxDF, accessed 13.2.2024.)

The scandal of UX

To outsiders, the profession of UX-designer may seem like an odd mix of disciplines and a somewhat peripheral occupation compared to programmers or more specialised professions like graphic designer or copy writers, but the focus on the effects of UX - design have exploded recently – notably in the context of the Cambridge Analytica scandal in 2018.

“In March 2018, news of the Facebook-Cambridge Analytica scandal made headlines around the world. By inappropriately collecting data from approximately 87 million users’ Facebook profiles, the data analytics company, Cambridge Analytica, created psychographically tailored advertisements that allegedly aimed to influence people’s voting preferences in the 2016 US presidential election.” (Hinds et al., 2020)

Suddenly, our relationship with computers – and the role of UX in that relationship came under intense public scrutiny. One direct consequence of the scandal was a series of public confessions from Silicon Valley leaders and innovators who made startling confessions about their role in developing UX techniques that manipulated with users, ultimately to the extent of threatening democracy, and “destroying how society works” (as Chamath Palihapitiya declared, former Vice President for User Growth, (Karppi & Nieborg, 2021))

At the heart of the scandal were the addictive features that created the preconditions for the abuse of user data in the Cambridge Analytica scandal, and the behavioural design to make habit forming products that trigger desired outcomes built on principles of variable rewards, unpredictable content, and a (false) sense of autonomy – i.e. the feeling that you as a consumer have a degree of control over your actions. These psychological techniques rapidly became standard on social media and e-commerce websites, and built on insights from behavioural economy (Kahneman, 2012), theories of “nudging” (Thaler & Sunstein, 2009) and communicated through practical guides in how to hook the user (Eyal, 2014) or designing solutions that prevent the user from having to think (too much) (Krug, 2013).

These techniques, come from a position that focus exclusively on commercially preferred actions and share a reductive view of the user as a target of manipulation. One example, the “Hook Model” (Eyal, 2014) - figure 2 - below, divides the flow into four phases:

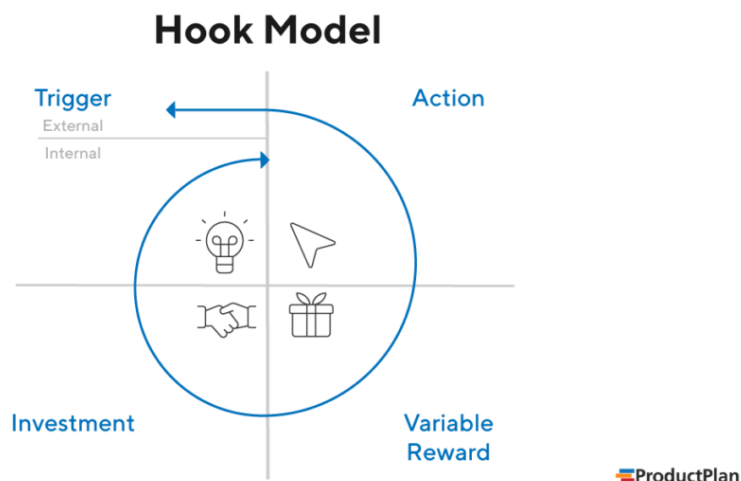


Figure 2 – The hook model from “Hooked” (Eyal, 2014)

Trigger: something intriguing that calls for an action.

Action: the behaviour done in anticipation of a reward.

Variable Reward: the exciting juxtaposition of relevant and irrelevant sets the users' brain "dopamine system aflutter with the promise of reward".

Investment: "An action that improves the service for the next go-around".

Another example of a popular approach to UX-design can be found in Steve Krug's "Don't make me think" (Krug, 2013). Steve Krug himself labels his approach a "common sense" one. Communication online should be "...self-evident. Obvious. Self-explanatory". As a rule, he continues "people don't like to puzzle over how to do things". He then proceeds to demonstrate how the average user is irrational and inattentive.

These two models have been widely adopted, wildly successful and have driven innovation in the field at an impressive pace. But one could also argue that they have been the driving force behind unwanted behavioural changes at a huge scale.

A European political trend – democratic interventions

"Deceptive design patterns aim to influence users' behaviour and can hinder their ability to effectively protect their personal data and make conscious choices." (EDPB, 2022)

The Cambridge Analytica scandal, the confessions of former Facebook CEOs and the public outrage over the manipulation of users, and films like Netflix's "The Social Dilemma" (Orlowski, Jeff, 2020) were probably instrumental in different political initiatives to regulate UX-patterns that risked compromising users' data and undermining their well-being.

In 2022, the European Data Protection Board (EDPB) published guidelines on how to recognise and avoid deceptive dark patterns (in the context of GDPR regulation). EDPB is a legal entity, that has the mandate to ensure "consistent application and enforcement of data protection law across the European Economic Area" (*Tasks and Duties | European Data Protection Board, 2024*)

The guidelines have three target groups:

"...social media providers as controllers of social media, designers and users of social media platforms on how to assess and avoid so-called "deceptive design patterns" in social media interfaces that infringe on GDPR requirements."

EDPB defines considers deceptive design patterns as

“...interfaces and user journeys implemented on social media platforms that attempt to influence users into making unintended, unwilling and potentially harmful decisions, often toward a decision that is against the users’ best interests and in favour of the social media platforms interests, regarding the processing of their personal data. Deceptive design patterns aim to influence users’ behaviour and can hinder their ability to effectively protect their personal data and make conscious choices.”

EDPB categorises deceptive design patterns into six categories:

- Overloading
- Skipping
- Emotional Stirring
- Obstructing
- Fickle
- Left in the dark

In this context, the patterns share the fact that they contribute to breaches in GDPR-principles - put in place to protect citizens’ data. The patterns prompt users to share more data than necessary, make it harder to manage data, make people forget about data protection aspects etc.

The report – 73 pages long – ends with an interesting take on “best practices”, which could be useful as a guideline for the development of “user-loyal design practices”, later. They consist of 19 principles, among them:

- Providing contact information for datacontrollers and supervising authority.
- Coherent wordings.
- Providing definitions.
- Explaining consequences of different choices.

The report is a testament to how seriously this subject is treated, and a strong indication of how current practices are being regulated.

Deceptive design also goes under the name of “dark patterns” According to a mapping by Colin Gray et. al (Gray et al., 2023) dark patterns can be described as “tactics of technology manipulation”. They have become pervasive in a range of digital services and “regulators are beginning to act in banning the most aggressive practices under consumer protection and data privacy” (p.1.). The scholarship about dark patterns “started as a small trickle within the HCI-community”, to “more than two dozen publications per year starting in 2021”. It is not within our scope in this article to conduct a full literature review on the dark patterns-scholarship, but according to Gray et al. it is still subject to scholarly debate, “which types of patterns produce the most harm” and “how regulators and legal professionals should identify (and sanction) the use of dark patterns”.

A Danish trend – a whitepaper and expert recommendations

In Denmark, the government has recently published two different reports (in 2022 & 2023), that signal a paradigm shift in political perceptions of IT. Historically, the government, through policy papers, strategies, white papers etc. has made the case that it was important to digitize as many processes as possible – resulting in increased IT-budgets, education, awareness campaigns. Before 2022, staying within the realm of political literature it was practically impossible to discern any negative perspectives on IT.

In 2021, however, that changed, with the governments' publication of "Towards a better society with tech-giants" (our translation (*Mod et Bedre Samfund Med Tech-Giganter*, 2021)). In the preface of the publication, it is stated that big tech, and their pervasive technologies, has become a challenge to our democracy. We are standing in front of challenges in health, law, media, tax and as consumers. The report puts forth 9 principles that should guide our use of technology in the future:

1. The business models of tech-giants should be under democratic control.
2. Children should be able to have a secure childhood in a good balance between the digital and the physical world.
3. Tech giants should support democratic dialogue instead of creating echo chambers and polarization.
4. Tech should giants, should to a higher degree be made accountable for the content on their platforms.
5. Free media should contribute to the democratic dialogue and creatives should be paid for their work.
6. The right of workers should be protected.
7. Tech-giants should contribute to society like all other companies.
8. Competition should be fair and transparent.
9. Democracy should decide on the frame for tech, not the other way around.

In the report, each item on the list is developed, often with reference to phenomena stemming from UX practices that (are considered to) cause addictive use of media, polarizing debates due to algorithmic logics (giving people more of what they want instead of what they need) and so on.

In 2023 the ministry of Business, published "Democratic control with the tech-giants' business models (our translation (Flyverbom, 2023)". Many of the themes from the 2021 report are echoed in this report, in the form of recommendations grouped under 4 headings, and several sub-categories.

- Limitation of data-harvesting and clearer choices
- Limitation of tech giants use of retention mechanisms
- Limitation of tech giants endeavour to predict and influence behaviour.
- the responsibility of tech giants to guard children from inappropriate content

Again, the document is addressing a range of phenomena, that would be unthinkable without a range of UX-practices that manipulate users to act in a way that is deemed counter-productive to collective and democratic ideals.

These three documents are just a few examples of a new sensibility in policy: this concern, especially for how the user and his/her data is extracted or used against the users' will is visible in large, all-encompassing frameworks like GDPR, the digital services act and the digital market act that have had a huge influence on businesses, and of course on the requirements for new UX-solutions – e.g. to ask consent for cookie-practices to name one well-known and ubiquitous feature of websites since GDPR was introduced.

In the light of these institutional developments, the role of the UX-designer is challenged:

“While often at the forefront of expanding material consumption, designers are now increasingly facing the issue of how to achieve the opposite.” (Cipolla, 2008)

A sustainable model for UX-designers

The field of UX-design has had a narrow focus of reducing friction for commercial interests, based on a one-dimensional view of who the user is, and what she ultimately wants. This envelope has been pushed to the point where loyalty towards the user has been compromised, in favor of tactics that work against conscious choices. If we accept the notion that deceptive designs aim is to override the users' initial intention (buying a plane ticket, ordering a seat at a restaurant e.g.), we suggest a model for UX-analysis and design, that broadens its perspective, and incorporates dimensions that comply with recent political foci. In this model, considerations about user behaviour, competitive edge and new potentials created by technological development, are infused with legislative, epistemic, and value-driven concerns from non-commercial actors: research institutions, educational institutions, and NGO's (figure 3). The model situates the different dimensions on a spectrum between deceptive and loyal poles. These are not binary states – but acknowledge that working with these issues in practice, is a matter of moving incrementally in one direction or another, rather than permanently switching to one preferred state over another.

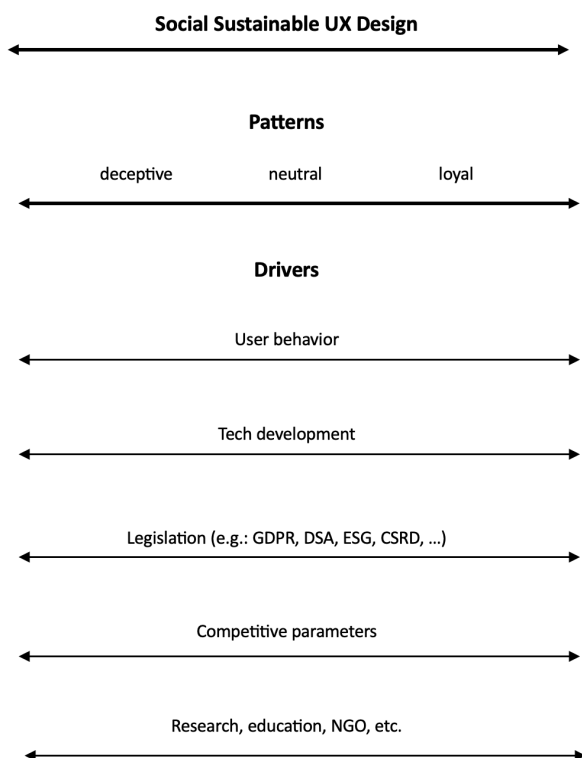


Figure 3 - the SSUX model

The model aims at expanding the parameters for the UX-designer, and at supporting the intentions of the rational and attentive consumer. This is a person who has a desire for products (a) in a sustainable tech environment (b), that complies with policy (c), that has a competitive edge (d) and whose consequences/values are supported by research and knowledge generated by NGO's (f).

A unified model of social sustainability in in UX: planning for future practice

In the section above (context and other binds), we described our commitment to action research. In one sense we did not live up to the principles, by taking steps backwards into modelbuilding. To compensate, we will describe how we could test the insights derived from the work with integrating political demands into a design model, into a concrete practice. The target audience is UX Designers, Product Managers, UI Designers, Interaction Designers, and could include typical design thinking concepts like user persona templates, prototyping materials, workshop handouts and the deployment of Sustainable value Business Model Canvas or similar frameworks.

Content	Purpose	Potential benefits
The communication of case studies where socially sustainable products has improved user experience.	To make the argument that the project has validity	To persuade participants of the realism of the project
Information about the EU data protection boards guide on how to identify deceptive design patterns.	To inform about legal developments	Heightened knowledge
To map instances of deceptive design practice in the stakeholder's own practice	Discover legal vulnerabilities	Self-awareness
Integration of EDPB's best practices (clear contact information, coherent wording, sticky navigation, cross-device consistency, explaining consequences etc (EDPB, 2022)).	Mitigate against legal vulnerabilities	Concrete action
To evaluate the impact of sustainable techniques on user behaviour and business models.	To gauge the realism of the project	Development o sustainable business models

Conclusion, discussion, and perspectives

In this paper we asked how we could support social sustainability in the UX-professions. We made the case that political attention has made the question relevant, and that it is a discursive phenomenon in mainstream company communication. We proposed a unified model for socially sustainable UX design to understand that challenges dominant models by Eyal and Krug, to confront and mitigate the negative effects of current practices. The aim has been to develop a method to stimulate reflection and start innovation-processes that align with emerging political demands. A unified model aims to develop more thoughtful and loyal design patterns. The model needs to be tested, and the next step is to develop methodical research on potential interest for products that are free from data-extraction, deception, and manipulation.

The scope has been narrowly professional and has avoided the larger philosophical and political discussions about the premise for doing business inside capitalist frameworks: as long as financial growth is tied to an increase in sales and revenues, as long as increased sales depends on extracting data from the user (Zuboff, 2019) it seems improbable that UX – practices that work towards creating obstacles for sale, and that reduce the data-economy could have any measurable success.

On the other hand, changes in consumer demands sometimes create the push for commercially sustainable offerings, even when they go against the grain of adopted business logics. Examples can be seen in the tourism industry, e.g. offering holidays for digital detoxing/austere products like silent retreats, functions that ask the user to rethink actions (when Microsoft Outlook gives the user the possibility to cancel the sending of an e-mail)

Another big flaw in this paper, is the lack of empirical knowledge about the prevalence of the models that we claim are at the basis of most UX-practices. We basically don't know whether professionals are integrating legal requirements and ethical consumer demands into their practices.

References

- Bika, N. (2017, April 7). *UX Designer job description*. Recruiting Resources: How to Recruit and Hire Better. <https://resources.workable.com/ux-designer-job-description>
- Bohé, A. H. (2023). *ESG Report 2023*. Aarstiderne A/S. <https://www.aarstiderne.com/media/3260/3d-esg-report-2023-aarstiderne-board-meeting-20240315.pdf>
- Box, G. E. P. (1976). Science and Statistics. *Journal of the American Statistical Association*, 71(356), 791–799. <https://doi.org/10.1080/01621459.1976.10480949>
- Cipolla, C. (2008). *Changing the change proceedings: Design, visions, proposals and tools; international conference, Thursday 10, Friday 11 and Saturday 12 July 2008 Turin, Italy, proceedings*. Allemandi.
- CSR-rapport*. (REMA). Retrieved February 15, 2024, from <https://ansvarlighed.rema1000.dk/csr-rapport>
- EDPB. (2022). *Guidelines 3/2022 on Dark patterns in social media platform interfaces: How to recognise and avoid them. Version 1.0* (March). https://edpb.europa.eu/our-work-tools/documents/public-consultations/2022/guidelines-32022-dark-patterns-social-media_de
- Eyal, N. (2014). *Hooked—How to Build Habit Forming Products*. Portfolio.
- Flyverbom, M. (2023). *Demokratisk kontrol med tech-giganternes forretningsmodeller*. Erhvervsministeriet. <https://em.dk/Media/638259804674509194/anbefalinger-fra-tech-ekspertgruppe.pdf>
- Gray, C. M., Sanchez Chamorro, L., Obi, I., & Duane, J.-N. (2023). Mapping the Landscape of Dark Patterns Scholarship: A Systematic Literature Review. *Designing Interactive Systems Conference*, 188–193. <https://doi.org/10.1145/3563703.3596635>

- Hinds, J., Williams, E. J., & Joinson, A. N. (2020). "It wouldn't happen to me": Privacy concerns and perspectives following the Cambridge Analytica scandal. *International Journal of Human-Computer Studies*, 143, 102498.
<https://doi.org/10.1016/j.ijhcs.2020.102498>
- Kahneman, D. (2012). *Thinking Fast and Slow*. Penguin.
- Karppi, T., & Nieborg, D. B. (2021). Facebook confessions: Corporate abdication and Silicon Valley dystopianism. *New Media & Society*, 23(9), 2634–2649.
<https://doi.org/10.1177/1461444820933549>
- Krug, S. (2013). *Don't make me think*. Pearson Education.
- McNiff, J., & Whitehead, J. (2002). *Action research: Principles and practice* (2nd ed). RoutledgeFalmer.
- Mod et bedre samfund med tech-giganter*. (2021). Regeringen.
- Nielsen, K. Ø. (2020). *Tid til at handle—Om ansvarlighed i Coop siden 1866*. Coop.
- Official Report 2023 Europe's Largest Brand Study on Sustainability*. (2023). Sustainable Brand Index.
- Ordentlighed—Sådan tager vi ansvar*. (2023). Thise.
<https://thise.dk/Files/Images/Historier/CSR-rapport%202023-Thise%20Mejeri-FINAL-DK-LOW.pdf>
- Orlowski, Jeff (Director). (2020). *The Social Dilemma*. Netflix.
- People—Sustainability—LEGO.com*. Retrieved May 14, 2024, from
<https://www.lego.com/da-dk/sustainability/people>
- Romme, A. G. L. (2004). Action research, emancipation and design thinking. *Journal of Community & Applied Social Psychology*, 14(6), 495–499.
<https://doi.org/10.1002/casp.794>
- Soegaard, M. (2024, February 17). *UX Designer Job Descriptions: The Comprehensive Guide*. The Interaction Design Foundation. <https://www.interaction-design.org/literature/article/ux-designer-job-descriptions-the-comprehensive-guide>
- Tasks and duties | European Data Protection Board*. (2024, February 5).
https://edpb.europa.eu/about-edpb/what-we-do/tasks-and-duties_en
- Thaler, R. H., & Sunstein, C. R. (2009). *Nudge: Improving decisions about health, wealth and happiness*. Penguin Books.


THE 17 GOALS. (2022). United Nations. <https://sdgs.un.org/goals>

What are UX Roles? | IxDF. Retrieved February 13, 2024, from <https://www.interaction-design.org/literature/topics/ux-roles>

What Is Environmental, Social, and Governance (ESG) Investing? Investopedia. Retrieved December 12, 2023, from <https://www.investopedia.com/terms/e/environmental-social-and-governance-esg-criteria.asp>

Zuboff, S. (2019). *Surveillance Capitalism*. Profile books.

Appendix: documentation of top sustainable brands' commitment to social sustainability



We strive to create a responsible place of work for our employees, one in which they can thrive and be their best. We focus on making our workplaces inclusive, safe and motivating, where only the highest standards of ethical business behaviour are maintained. We want all employees to be proud to work for the LEGO Group and help us build a diverse organisation that helps us reach and inspire children, regardless of who they are or where they come from.



Figure 4 – LEGO sustainability page about people (People - Sustainability - LEGO.com, accessed 14.5.2024.)

- Klimavenlig emballage. Thise mejeri anvender i videst muligt omfang genanvendeligt materiale i emballagen og laver detaljerede emballageopgørelse. I 2023 traf vi beslutning om at udfase plasticlåg på vores samlede konsummælksortiment. Med virkning fra Q1 2024 vil plasticlågene være helt udfaset.
- Reduktion af dieselforbruget til mælkeindsamling og køletransport, samt indkøb af virksomhedens første 100% eldrevne kølelastbil.
- Trivsel på arbejdspladsen. Igen i 2023 har Thise Mejeri arbejdet målrettet med at skabe en bedre arbejdsplads for alle, ligesom vi er fokuseret på at inkludere medarbejdere med vanskelige vilkår, herunder ukrainske krigsflygtninge.

Vi er stolte over at vi i 2023 har taget flere store skridt i vores arbejde med Ordentlighed, men anser det også som forpligtet at vi i 2024 sætte yderligere fokus på dette område.

God læselyst med vores 2023 rapport om "Ordentlighed".

Figure 5 – Quote from Thises "Ordentligheds"-rapport (CSR-report) (Ordentlighed - Sådan Tager vi Ansvar, 2023). Translation: "Well-being in the workplace. Once again in 2023, Thise Dairy has worked focused on creating a better workplace for everyone, and we are also focused on including employees with difficult conditions, including Ukrainian war refugees."



Styr på arbejdsforhold i Sydeuropa

— 2019 —

Arbejdsforholdene er ikke lige gode alle steder i verden. Det kræver ekstra opmærksomhed, og Coop stiller nu krav om, at de sydeuropæiske leverandører af frugt og grønt skal certificeres efter Global Gap Grasp, så de sociale risici forbundet med for eksempel migrantarbejde bliver sat ned.



Figure 6 - (Nielsen, 2020) Translation: "Labour conditions are not equally good everywhere in the world. This requires extra attention, and Coops now demanding that southern European suppliers of fruit and fruit and vegetable suppliers to be certified according to Global Gap Grasp, so that the social risks associated with, for associated with migrant labour, for example, are reduced."



S4 Social and Employee Conditions

Diversity and Inclusion

In total, we are more than 50 different professional competencies and 12 nationalities in one place, and the talk at the lunch table stretches out in a lot of different directions and is definitely not boring.

All managers in Aarstiderne work with a social, economic and sustainable responsibility, a purpose that is written directly into Aarstiderne's articles of association and has been part of Aarstiderne's business since 1999. It is therefore clear to all managers that Aarstiderne has a significant positive impact on society and the environment as a whole and that as a leader in one's daily work and decisions you must act accordingly. In all job postings, Aarstiderne draws attention to our diversity policy.

Figure 7 – Aarstiderne: Diversity and inclusion (Bohé, 2023)

2024, DTRS14, is hosted by Innovation and design at Mälardalen University in collaboration with Copenhagen School of Design and Technology. The symposium is also hosted in conjunction with Mälardalen University Living Lab, an arena for method development that strengthens collaboration between the university, companies and public sector, through the development of methods for co-production. The vision is to contribute, through collaboration, towards a sustainable society from a holistic perspective. The theme of the symposium is: *The role of design in shaping sustainable futures.*

Scientific committee:

Jesper Balslev, KEA

Yvonne Eriksson, MDU

Ulrika Florin, MDU

Per Halstrøm, KEA

Peter E Johansson, MDU

Karolina Ugglå, MDU

Anders Wikström, MDU



In collaboration with:

