

Sebastian Greger

The Absent Peer

– Non-users in Social Interaction Design



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Aalto University
School of Art and Design
Department of Media
Media Lab

Supervisors:
Mikko Salasuo, Ph.D.
Prof. Teemu Leinonen

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ABSTRACT

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Abstract

This thesis aims to provide a framework for the consideration of non-users in the context of social interaction design (SxD), in particular for the design of social network sites (SNSs). It is based on the sociological perspective of symbolic interactionism.

Positioning social interaction design as a practice within the discipline of interaction design, its goals are defined through a discussion on user value and worth-centred design. Existing research on the non-use of technologies is being reviewed and contextualised with SxD, coming to the conclusion that non-use is not a pathological state that needs to be corrected but a form of use that has to be accommodated by an SNS.

The empirical research, presented as a diagnosis of the times, employs auto-ethnographic observations that are analysed applying an inductive Grounded Theory process. The emergent theory of “The Absent Peer” consists of two core concepts, presenting the network aspect and the sociality aspect that influence SNS concepts. Herein, the focus of the work is on the discovery of the impact of non-use rather than on its reasons.

The theory is then set into relation with the practice of interaction design and a worth-centred model of value in HCI. Building on the insights from the study, this discussion presents the conceptual considerations required in order to create valuable SNS concepts that acknowledge non-use as a permanent and complex phenomenon of social reality.

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<i>Keywords</i> non-use, interaction design, social interaction design, worth, user value	
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List of abbreviations

GPS	Global Positioning System
GT	Grounded Theory
HCI	Human-computer interface
ICT	Information and communication technology
IT	Information technology
IxD	Interaction design
SI	Symbolic interactionism
SMS	Short Messaging Service
SNS	Social network site
SxD	Social interaction design
TI	Technological intersubjectivity
UI	User interface
UX	User experience
WCD	Worth-Centred Design

Prolegomenon

This work has been written as a Master's thesis at the Media Lab of the School of Art and Design at the Aalto University in Helsinki. A sociologist by education, I have been working for several years in the digital agency business, recently as a designer for interaction concepts and digital strategy. Most of my professional effort in the last few years went into emphasising the strategic value of social insight in interaction design.

Jaron Lanier's (2010) manifesto "You are not a gadget" was published while I have been working on this thesis. It has been a great source of inspiration, as he articulates some of the issues that make me too feel uncomfortable with some of the ongoing trends in the industry. I share many of Lanier's critical views on current development, most importantly his statement on how the currently prevailing thinking reduces the individual human being into a heterogeneous database row within the so called "crowd":

...when we deploy a computer model of something like learning or friendship in a way that has an affect on real lives, we are relying on faith. When we ask people to live their lives through our models, we are potentially reducing life itself. (p. 70)

For me, Lanier's work complements another book whose thinking has influenced me for many years: in "The inmates are running the asylum", Alan Cooper (1999) not only describes how far digital artefacts often are from the reality of their users, but with his insights about interaction vs. interface, he also makes a strong case for the establishment of "interaction design" as an independent field of design.

This work has its roots in a project from two years ago. A client presented the working prototype for a service concept we were asked to refine. Upon reading the brief, we identified it would have very limited value to the users as, in order to be useful, it would require all their social peers to be active subscribers of the service as well. The surprising fact that the initial design had already undergone several user interface iterations, with its biggest conceptual shortcoming apparently undiscovered, was the initial motivation for the topic of this research – to form a conceptual understanding of the role of non-users in the design of social applications.

Ever since I started my research in 2008, I keep running into concepts and business models that either accidentally or deliberately neglect the broader social context beyond “the user”. It turned out there is only limited existing research on the topic of absence in the context of social media, particularly from the designer’s perspective (while most scholarly debate about absence and non-use is connected to public policy and discusses how to overcome the “digital divide”). Conceptualising the relevance of non-use also required essential investigation into general questions of how to frame the practice of interaction design and how to define the value of interactive digital artefacts.

Hence, this thesis is at the same time part of a personal quest for a definition of what my colleagues and I are doing. Calling myself a social interaction designer, I want to discuss interaction design in a broader sense than just the shaping of user interfaces or user experiences, as it is often perceived. My philosophical imprint from the school of symbolic interactionism and my belief in qualitative research methods as a way to understand the reality have created the desire to define and share my views about the fruitful combination of sociology and interaction design.

I hope to see my contribution understood as directions towards evolutionary improvements rather than a whole new way of doing things. In other words: this is not a call for revolution but an analysis of certain pitfalls related to online social networks and pointers towards a structured consideration of these issues. My research eventually took the shape of a diagnosis of the times. This format of sociological research, which had an established stronghold at my previous institutions of education¹, aims at gaining and sharing insight into social realities. It is used to describe currently ongoing phenomena and does not claim to generate universally valid theory, but theoretical constructs that serve as intermediate steps on the way to further investigation.

One of the things one gets used to when working in the digital sphere is that things are never ready in the sense of “final”. The same applies to research. This work has now reached the point where it is time to release it into the wild. It is not the full stop on a last page but the comma in the middle of an opening sentence. I am looking forward to discussing my ideas presented here and seeing them live their own life (which may eventually include seeing them die or being killed by a subsequent approach). I understand this work as a first conceptualisation rather than the ultimate answer to a question far too big to be answered within the scope of one thesis.

1 Professors Ulrich Beck, whose work “The Risk Society” (1986) is a much-quoted example of a diagnosis of the times, and Armin Nassehi were teaching at Munich during my time as a sociology student. The genre was also present during my studies at the University of Tampere.

1. Introduction

“Enthusiasts may like to think that once a person encounters the Internet, he or she will be launched on a life long love affair. Once experienced, Internet access is something the user will never want to be without. There is, however, growing evidence of a large body of ex-Internet users who have decided they can forego the pleasures of cyberspace.”

– Paul Kingsley & Terry Anderson²

Within the last decade, the leaping user base of the internet brought more and more people online; today more than a quarter of the world’s population are using the internet (ITU, 2009, p. 1). This growing amount of users enabled and triggered the development of ever more sophisticated modes of online interaction. A huge industry is engaged in developing new services around semantic data, user profiling and social engagement (Breslin, Passant, & Decker, 2009; Tapscott & Williams, 2010).

In this introductory chapter, I first position this work in the context of symbolic interactionism, the school of thought it is based upon. I then provide a baseline definition of social media, as the subject of my research, by establishing a framework of sociality on the internet. I then contextualise my topic and specify my research interest.

² In: “Facing life without the Internet” (Kingsley & T. Anderson, 1998).

1.1 Symbolic interactionism and design

This work stands in the tradition of symbolic interactionism (SI), a school of sociological thought that treats acts of human interaction as symbols that become meaningful through its participants' interpretation. A lot of design research concerned with communication technology builds on this thinking (e.g., Battarbee & Koskinen, 2005). Symbolic interactionism is based on three core premises that can be found concisely in Herbert Blumer's (1986) classic publication on the topic, originally from 1969:

The first premise is that human beings act toward things on the basis of the meanings that the things have for them The second premise is that the meaning of such things is derived from, or arises out of, the social interaction that one has with one's fellows. The third premise is that these meanings are handled in, and modified through, an interpretative process used by the person in dealing with the things he encounters. (p. 2)

Blumer's (1986) three premises allow me to introduce the philosophical position of this thesis: meaning is not innate in things as such, but in how individuals interpret them. This interpretive process takes place when individuals interact with each other and the emerging meaning is not universal, but based on the participants' understanding of the thing in the interactional context. Applied to design artefacts, this means that the designer's interest is not in directly creating something meaningful, but something that can be used for interactional processes that create meaning. Interactionists refer to these meanings created through interaction as **symbols**. A design artefact is an object that has the potential to become a symbol for meaningful interaction between individuals.

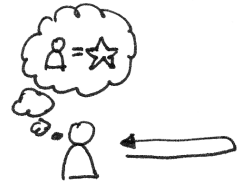
There is a variety of concepts in SI to explain how meaning is formed. Blumer (1986) refers to Mead's concept of **role-taking**:

...in order to become an object to himself a person has to see himself from the outside. One can do this only by placing himself in the position of others and viewing himself or acting toward himself from that position. (p. 12)

This role-taking in Mead's sense refers to the process where a person assumes the role of the other to interpret the symbolic meaning of that person's actions. At the same time, role-taking also enables the actor herself to reflect on how her own actions will be understood by the other.

Erving Goffman (1986) is attributed with the idea of **framing**, where a frame applied to a social situation allows the individual to assign meaning to the experience. As with role-taking, frame analysis assumes meaning to emerge not from the symbols of interaction themselves, but from their interpretation through the individual's experience.

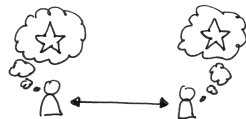
The instability of social processes is another core proposition of interactionist thinking, with interaction being seen as the ongoing negotiation of social relations between actors. This means that social



*Illustration 1:
Through role-taking
the actor understands
herself as a symbol.*



*Illustration 2:
Framing refers to the
process where a social
situation is under-
stood as a symbol
based on the individu-
al's interpretation.*



*Illustration 3:
Negotiation: The con-
stant mutual reassess-
ment of the social situ-
ation and its symbolic
values.*

reality is not a stable and constant condition (as it is considered by functionalist theorists), but the fluctuating assignment of meaning to symbols through interpretation. This process of **negotiation** is a permanent reassessment of social context, based on mutual interpretation of meaning between social actors. (Strauss, 1978)

From a designer's perspective, this symbolic interactionist philosophy implies that the meaning of a design never resides in the artefact as such, but in how its use is understood by the participants. I consider this an important definition, as it makes the creation of meaning the core task in designing interaction concepts, shifting the focus away from the artefact itself to its context:

When translating the symbolic interactionist principle to design, symbolic interactions are interpretations of a product's meaning and of the meaning of the experiences it provides, made relevant to the recipients. (Battarbee, 2004, p. 83)

In his most famous work, "The Presentation of Self in Everyday Life", Goffman (1959) introduced the theatre as a metaphor for social interaction. Based on above discussion, designing for social interaction can be considered the creation of a context for the exchange of meaningful symbols; designing a concept for computer-mediated sociality can be considered the creation of a frame for social play.³ Consequently, the first conceptual task in a design process is to accommodate the requirements of the play's participants, the scriptwriting. The later

3 As danah m. boyd (2010) pointed out recently, the extensive use of Goffman's theories in internet research is interesting considering he never experienced it himself. Mikael Jakobsson (2006) mentions a similar thought (p. 108). Still, I – and apparently boyd, Jakobsson and others too – believe that his theories are valid for social interactions of any kind, regardless of the medium.

interface design phase can subsequently be considered as building the stage for that play.

The emergence of SI as a counter-movement to functionalist social theory has been a similar “**semantic turn**” as Klaus Krippendorff’s (2006) appeal for designing artefacts that make sense to their users. His work can be understood in the same philosophical tradition as the symbolic interactionists’ emphasis on the meaning of interaction as the core of social reality. In fact, Krippendorff himself refers to George Herbert Mead⁴ as one of the predecessors in his line of thinking (p. 46). Therefore, I consider approaching the topic of interaction design from a symbolic interactionist perspective to be more than justified.

1.2 The social in social media

As John G. Breslin, Alexandre Passant and Stefan Decker (2009) point out, “the evolution of the Web is ... mostly a sociological and economic one” (p. 23). In my understanding, the much-used “**social media**” is above all a descriptive term, covering the emergence of the social use of technologies rather than a technical revolution – or a technology – in itself. The true step forward is the broadened access to communication technology and its increasing ubiquity in people’s everyday life. Its impact has been amplified by the growing feature set of consumer devices that led to an increase in the quality and frequency of user-created artefacts.

From my point of view, online networking technology has been “social” from the beginning. Already before the internet started to rise, Howard Rheingold (1987) described the exchange of ideas

4 Mead was a pragmatic philosopher whose idea of the emergence of mind and self from sign-based communication is the foundation of symbolic interactionism (Blumer, 1986, p. 61).

through computer bulletin boards, coining the term “**virtual communities**”. Also in regard to the internet, with the Usenet, e-mail and chat being some of its oldest applications, the communication between people (and of communities) has been at the core of its development. It can of course be argued whether e-mail, chat and bulletin boards are social “media”. The term media is often understood as closely connected to the notion of industrial media, referring to the publication of texts, still and moving images – which rightly would limit its scope to the kind of media supported by the web. Marshall McLuhan (2001) referred to media as extensions of the self, emphasising that all new technologies are part of it; he even considered speech, electricity and languages as media that help people to communicate. In this understanding, media also refers to tools to be used for communication, therefore covering the aforementioned services as well.

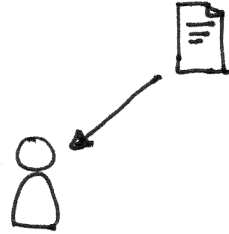
The World Wide Web was envisioned by Tim Berners-Lee (1998), whose proposal of a global hypertext system was not a pure act of engineering, but connected with a vision astonishingly close to today’s internet:

The dream behind the Web is of a common information space in which we communicate by sharing information. ... There was a second part of the dream, too, dependent on the Web being so generally used that it became a realistic mirror (or in fact the primary embodiment) of the ways in which we work and play and socialize. That was that once the state of our interactions was on line, we could then use computers to help us analyse it, make sense of what we are doing, where we individually fit in, and how we can better work together.

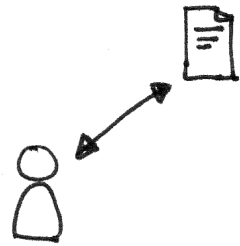
The web of the early years is often referred to as “the document web”. It was the time when the web was mainly understood as a broadcasting channel to deliver digital versions of formerly printed documents (Forlizzi, Zimmerman, & Evenson, 2008, p. 21). But already in those times, crowds of individuals engaged in producing content, cross-referencing other users’ content and participating in online discussions; the emergence of weblogs as described by Rudolf Ammann (2009) is a good example. First social networks started to emerge on the web in a still rather inexplicit form:

The social networks formed via these technologies were not explicitly stated, but were implicitly defined by the interactions of the people involved. (Breslin et al., 2009, p. 21)

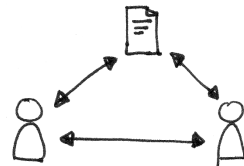
What changed with the arrival of the Web 2.0, or “the read/write web”, was that newly created services made it increasingly simple to publish personal content online (which at the same time became ever more rich in its form, for instance through the spread of digital photography). The new publishing platforms also offered ways to create an online representation of personal identities and to build explicit virtual relationships that brought the online activity of the



*Illustration 4:
The document web
was mainly about the
consumption of con-
tent.*



*Illustration 5:
The web 2.0 enabled
prosumption, the com-
bined production and
consumption on the
web.*

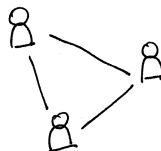


*Illustration 6:
The social dissemina-
tion of the prosump-
tion process is what
social media is about.*

users' peers to their daily attention. The "social web" was born⁵. While the key to the Web 2.0 was a change in the patterns of internet use from consumption to prosumption – a portmanteau of production and consumption⁶ – the core feature of social media is the dissemination of that process by means of social interaction: users publish content and they consume content created by others, with both production and consumption taking place as shared experiences through interconnected activity and real-time conversation.

A whole lot of powerful concepts have been employed to describe the processes on the social web – from network models that consider online contacts as social hyperlinks to activity-based explanations that understand social web content as social objects.

Most of the popular examples of social media are in fact "**social network sites**" (SNSs), online sites that enable individuals to maintain their social networks⁷. These have been defined by danah m. boyd and Nicole B. Ellison (2008) based on three basic functionalities they offer: the construction of (semi-)public profiles within a bounded system, the creation of



*Illustration 7:
SNS build socio-technical hyperlinks between their users.*

5 I avoid using the term "Web 3.0" in this context, as it is associated more with the semantic aspect of the web than with social media: "Web 3.0 extends current Web 2.0 applications using Semantic Web technologies and graph-based, open data." (Hendler, 2009)

6 The term "prosumer" was introduced by Alvin Toffler in his book "The third wave" (1981).

7 I herein adopt the perspective articulated by boyd and Ellison, who prefer the notion "social network sites" over "social networking sites" as the former highlights that social interaction in today's SNSs happens between already networked individuals rather than being used to build new, virtual, networks (boyd & Ellison, 2008, p. 211).

lists of connected users, and the viewing and traversing of these connection lists (p. 211).

As Tanguy Coenen, Wouter Van den Bosch and Veerle Van der Sluys (2009) point out, this is however a very functional description, focussing on the characteristics of the artefact. Following their argumentation, sociality in social networking sites is not achieved by offering a tool to create individual user profiles and connecting these with others, but by building “socio-technical systems” (p. 620) that allow the creation and maintenance of relationships that have a specific meaning in the social reality of their users:

Social networking systems are web-based systems that aim to create and support specific types of relationships between people. (Coenen, 2006, as cited in Coenen et al., 2009, p. 620)

The socially enhanced network aspect of online social networks has also been researched under the title “**social hyperlinks**” (Adamic, 2008, 2009), emphasising that these connections are not just relating information, but people. From a technical perspective, this rich online representation of an individual’s social network is also being referred to as the “social graph” (Facebook Inc., 2007).

In addition to the network aspect, more detailed definitions of social media, such as Jussi-Pekka Erkkola’s (2008) analysis, include the variable of content to the equation:

social media is a technology-related and structural process where individuals and groups are building shared meanings, through peer production and produsage, with help of content, communities and network technologies. (p. 83, as translated in Erkkola, 2009)

This definition moves the attention away from the bare connection between the individuals, towards the objects of their interaction. Jyri Engeström popularised the concept of the “**social object**” in the industry:

The fallacy is to think that social networks are just made up of people. They’re not; social networks consist of people who are connected by a shared object. (Engeström, 2005; emphasis removed)

This reminds of the notion of the “boundary object” from a classic paper by Susan Leigh Star and James R. Griesemer (1989). It describes objects that do not have a fixed meaning (i.e. their meaning is subject to interpretation by the individual), but have the potential for creating meaning in a community context. The social object in an SNS can be a photo or a text, but also a more abstract thing such as a job on a recruitment site or a date on a dating site – ultimately it is the reason why users interact with each other.

Engeström’s (2005) theory of “object-centered sociality” highlights that social objects are the most important aspect of sociality in social media. According to the object-centred thinking, it is the objects that have the potential to trigger and shape activity – the object becomes the starting point for the interaction facilitated by the communication technology artefact.



Illustration 8: The activity in social network sites evolves around social objects.

In my reading, object-centred refers mainly to the architecture of an SNS. For the user and her peers however, the boundary object has subjective value (the meaning in the community context), which is closely connected to the structure of the network. It is not in my interest to engage in a discussion about the differences and commonalities between network theory and

object-centred sociality. For the purpose of my work, I consider the contributions of both to be valuable, providing the social hyperlinks between users and the objects of sociality as two core variables for defining social media.

A third important aspect of social technology use – and at the same time extending the earlier two – is the experience of the individual user in the social context. Perhaps most comprehensively, this is covered by the concept of **intersubjectivity**. This concept describes “the process of many individuals coming to know a common phenomenon, although each does so through their own subjective experience”, as Katja Battarbee (2004) summarises (pp. 29-30).

Battarbee points out how the subjective experiences a user has with a system shapes her understanding of why it is meaningful; in consequence, it reflects in her own behaviour (p. 30). In the context of this dissertation, I want to present intersubjectivity as the process where meaning is created. It is where the user is viewing herself as a social object in the social context, as I earlier defined role-taking, thereby assigning herself symbolic value in the context of the SNS. Framing, the second term from SI introduced above, affects how the social setup of an SNS is understood based on the user’s interpretation of her experience with the interactions. Also the third cognitive process I presented from SI is part of this creation of meaning: the symbolic value of the interactions offered by social media is not a once defined, stable construct but constantly mutually re-assessed by the participants.

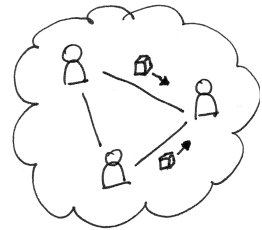


Illustration 9: The social web is a virtual space in which individuals experience being connected by social hyperlinks and acting through social objects.

Ravi K. Vatraru (2007) describes his more specific construct of “technological intersubjectivity” (TI) as “the experience of being with others through technology supported interactions” (p. 4). In his dissertation, Vatraru refers to psychological and phenomenological intersubjectivity as the underlying dual distinction of intersubjectivity, a distinction that does not consider the technological aspect and constructs a theory of TI that covers aspects of intersubjectivity mediated by computers. He emphasises that communication technology does not just digitise existing communications but that computer-mediated interactions have a social value as such:

Technological intersubjectivity refers to an interactional social relationship between two or more participants. This interactional social relationship emerges from a dynamic interplay between the functional association of the participants as communicators and the empathetic association of the participants as actors in a technology supported self-other relationship. (p. 81)

The definition of social media in this thesis applies technological intersubjectivity as a roof concept. Sociality through interactive artefacts is above all an intersubjective experience, where services are assigned with meaning based on the individual experience of the users. These are subject to a process of role-taking as social actors, a framing of the situation based on the value of the interactions it mediates and the continuant negotiation of the symbolic values between the participants. All this is facilitated by a technological infrastructure that allows for the representation of interpersonal hyperlinks through which the participants can together produce and consume social objects and disseminate that common presumption process.

“Social media” is however a difficult term, as its connotations in the “media” context are not in the interest of this discussion.

The less media-centric “social web” on the other hand is too restrictive, since also services like Skype or Spotify are covered by my research (neither of these internet applications are directly related to the world wide web)⁸. I am therefore primarily employing the term “social network sites” to refer to the subject of my dissertation, using social media and social web as synonyms where I see them fit without the risk of unintentionally broadening or limiting the scope.

1.3 Research interest and structure of this work

A lot of the public debate about social media circles around the emergence of opportunities, new business models and a revolutionary change in the world we live in. We are thrilled thinking about all the potential that resides in the wide adoption of these technologies and we celebrate that every new user is one person less excluded from the benefits of the internet. And we are, I believe, by all means right to be passionate about it.

Nevertheless, there is a problem emerging from the ever-spreading access to online media that is so far only being discussed on a macro level, labelled the “digital divide”: the bigger the share of people using the internet, the more

8 In this work, I am referring to services as SNSs that do not entirely comply with the definitions referred to above, most prominently Skype. From my point of view, there is no strict division between social network “sites” and other online tools for engaging with a social network from a design perspective. I found a source using the notion of “social network application” (Miluzzo, Lane, Eisenman, & Campbell, 2007), covering both SNSs in the traditional sense (Facebook, MySpace) and instant messaging (Skype, Pidgin) – a perspective that I adapt in my thinking, while using the more established term SNS to avoid the related semantic discussion in the context of this thesis.

marginalised are those who are not taking part. And at the same time, the more social interactions take place in a sphere that not everybody is part of, the more difficult it becomes to interact with those who are not there. The aspect that I see regularly being overlooked is the relevance of this divide on a micro-level, the impact of non-use on the interactions of those who – as regular internet users – are not affected by the digital divide (a concept describing the inequality in participation caused by the lack of access to information and communication technology (ICT) by certain social groups).

I do not intend to be critical about the technological development. Quite the opposite, I believe in the great opportunities that many of these new online tools and concepts provide. From a designer's point of view, however, I am concerned about how little the phenomenon of absence is part of the debate within the field of design. After all, it's not only non-users who this concerns, but also those at the core interest of interaction design – the users. I suspect that these missing links – real-life contacts of the user that are not or not constantly present online – have an impact on the perceived (and factual) value of applications for online interaction.

In this dissertation, I investigate how non-use can be understood as a broad phenomenon, from those involuntarily excluded to those actively opposing the use of particular or all social network services online. This discussion seeks an understanding of how non-use affects both the users and the value of service concepts. It is the aim of my work to provide an analytical perspective on the connection between non-users and interaction design for social applications, posing the **research question** “how can non-use be conceptualised in the context of social interaction design in order to inform the design process for social network sites?”

The work has **three objectives**: (1) to provide a definition of social interaction design in the context of interaction design, (2) to discover the role of non-use as a design factor, and (3) – as the main objective – to conceptualise the dimensions of non-use in social network services and put them into context with design practice.

For this purpose, I first look into the discipline of social interaction design through a discussion of interaction design and value (chapter 2). Next, I examine the phenomenon of non-use as a scholarly concept and embed this understanding in the context of the earlier discussion about interaction design (chapter 3). These two chapters provide preliminary answers to the first two research objectives, forming an interpretative framework for my research. The topics will serve as sensitising concepts for the research phase and are contextualised with the results of the study in the final discussion.

The third objective is being addressed in the second half of this work. Through the analysis of auto-ethnographic field data (chapter 4), I investigate how the dimensions of non-use can be conceptualised in a social media context, proposing the theory of “The Absent Peer” which aims at providing a framework for the consideration of non-users in social interaction design (chapter 5). In the following discussion, I then relate my findings to the practice of social interaction design and discuss pointers for future research (chapter 6).

2. Interaction design goes social

“First, the word design refers to a process. Second, the process is goal-oriented. Third, the goal of design is solving problems, meeting needs, improving situations, or creating something new or useful.”

– Ken Friedman⁹

For about 20 years, the term **interaction design (IxD)** has been used to describe the craft of creating meaningful interfaces for human-computer interaction. Interaction designers are the trusted partners of software engineers and business managers, ensuring that interactive technology products are made usable and useful for the masses.

This chapter starts with a definition of social interaction design, building on the established discipline of interaction design. After a brief investigation into design as a reflective process, I outline the practice of social interaction design and provide a taxonomy of the social sphere it is related to. Next, I discuss the concept of value in digital artefacts and establish an understanding how a value-centred approach supports the goals of social interaction design.

2.1 Positioning social interaction design

Within the broad field of professional design, **interaction design** as an independent design discipline refers to the process of designing artefacts that enable humans to engage with a (technical) system in a meaningful way. The skills and interests of professionals carrying the title of an interaction designer are

⁹ In: “Theory construction in design research: criteria: approaches, and methods” (K. Friedman, 2003, p. 507).

widely spread from individuals with a conceptual, sometimes strategic approach, to designers who are working on very specific aspects of interaction, such as user interface (UI) designers – whose main focus again may vary from usability to user experience or brand experience. All of these fields overlap, and the role title of the interaction designer will therefore never be self-explanatory; it requires framing in order to be understood correctly.

The coinage of the term is generally attributed to Bill Moggridge and Bill Verplank who worked together at IDTwo and IDEO during the latter half of the 1980s. The aim was to establish a design discipline similar to industrial design, but for digital rather than three-dimensional artefacts. (Moggridge, 2007, p. 14)

The Interaction Design Association IxDA (2010), a non-profit organisation promoting IxD and providing networking for the professional community, defines interaction design in two concise sentences:

Interaction Design (IxD) defines the structure and behavior of interactive systems. Interaction Designers strive to create meaningful relationships between people and the products and services that they use, from computers to mobile devices to appliances and beyond.

With the evolution of the internet, the traditional understanding of interaction design experiences a paradigm shift. The interaction designer had traditionally been considered to be the connector between human users and a computer system, making sense out of an interactive piece of technology. Over time, this perception has changed towards a role where designers do not only act as sense-makers between human and computer, but of the artefact-mediated communication process in general. And today, with large parts of innovation in communications being driven by information

technology and social applications, interaction design experiences yet another broadening of its field: the designer's role is to embed technology-based interactions into the everyday social practice of the users, to design online human-human interactions (Rettig, 2004).

As presented, the umbrella of interaction design has always embraced a broad palette of professionals with specific skills. The latest addition to that portfolio, the social dimension of interaction design, has been identified to be of such importance that the new term “**social interaction design**” (SxD) has been coined to describe it (Chan, 2006; Jakobsson, 2006)¹⁰. Thinking about the social dimension of interactions in design is not new. However, the radical shift in the prevailing modes of online communication makes it sensible to think about qualifications, tools and methods for designers working on digital artefacts for social interaction.

As a newly emerging field, there is literally no scholarly debate investigating the SxD practice. Mikael Jakobsson (2006) presents social interaction design as a methodology for the “[d]evelopment of new socio-technical practices in collaboration with the participants” (p 85-88), whereas Adrian Chan (2009a) refers to SxD as a “user-centric design framework for social media”. Despite the differences in focus, these sources complement each other. Both, I believe, place SxD as a practice within IxD rather than as an own discipline.

My intent is to contribute an additional perspective, building on a discussion from a value-centred standpoint. Neither of the

10 Adrian Chan appears to have contributed a lot to the popularisation of the concept – and, I believe, the acronym – of SxD (2006, 2008). Around the same time, Jakobsson proposed his “model of social interaction design studies” (2006). I have not been able to determine whether the coining of the term can be assigned to any individual in particular, as neither author refers to the other nor to any third sources using the term.

existing approaches explicitly refers to non-users as participants, but their holistic perspective on the interaction processes in the context of the design artefact can be understood to account for all participants of the social context.

Why interactions need to be designed

At this point, I want to share a brief view on the role of the designer. Literature repeatedly refers to a baseline definition from the 1960's by Herbert Simon (1996), who in his book "The Sciences of the Artificial" defines design as

[devising] courses of action aimed at changing existing situations into preferred ones. (p. 111)

These courses of action devised by the designer are based on a reflective process. Jonas Löwgren and Erik Stolterman (2007) describe the concept of the "**thoughtful designer**", stating that "good design work is knowledge creation and production" (p. 24). Design as a profession is not limited to taking problems as set and developing solutions for them, but courageously challenges the problem and the designer's own tools. Donald Schön (1987) describes "the designer's reflective conversation with his materials" (p. 44) as "**reflection-in-action**". Through this process, the designer is able to abstract, question and explore the design challenge and her ideas. (Löwgren & Stolterman, 2007)

Schön's work is among the most frequently quoted contributions to a philosophy of design. His concept of the "reflective practitioner" is a delineation from the positivist understanding of technical rationality – the differentiation that the professional interest of the designer does not lie in finding solutions based on pre-existing scientific knowledge (as the technical rationalist would propose), but in employing methods to discover the best possible solution (Schön, 1987). Schön also describes how knowledge is not universal, but "embedded in the

socially and institutionally structured context shared by a community of practitioners” (p. 33). This concept of “knowing-in-action” describes that the knowledge applied by a professional designer is not universal knowledge (as something one could find from an encyclopaedia), but the manifestation of professional experience, skill and tactility (p. 25).

A paper by Nigel Cross (2001) describes the development of the design profession throughout the 20th century from “design science”, which considered design a science following strict rules to be discovered and defined, to the radically different understanding of “**design as a discipline**” from the 1960’s. It was a shift in focus away from scientific facts as the basis of design towards the discipline’s own core: the knowledge about artefacts. The creation of and reflection on artefacts, Cross manifests, are in the core of this post-modern understanding of design as opposed to the thinking in design science. (Cross, 2001)

Krippendorff (2006) describes this shift from a positivist to a human-centred understanding of design by emphasising the role of the designer as an intelligent actor:

[Schön] discovered that most professionals do not pursue worked-out plans, enumerate alternatives, and calculate utilities for each, but think in small incremental steps, and act and reflect on their actions recursively. (p. 34)

This summarises well how design as a professional domain is a process in which the value of the designers’ work is first and foremost in their reflection on the design problem, the emergence of their own understanding and the incrementally developed solutions. This happens based on a common knowledge specific to the discipline and through applied methods of reflective investigation, interpretation and iteration – a designerly way of thinking.

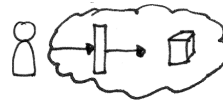
Why this definition of design is of relevance in the context of this dissertation, is that it emphasises that interaction design challenges – such as the existence of non-users in the sphere of social media – cannot be solved by applying a certain set of rules to create a solution. Instead, they require in-depth analysis of the context (knowledge creation), tacit knowledge of the artefacts’ modes (design as a discipline) and the constant processing of the insights gained through the process (reflection-in-action) – a designerly way of creating a solution.

The practice of interaction design

This thesis is anchored in design practice. As mentioned, my motivation to research the subject of non-users in the context of social interaction design grew from practical experiences in the industry – at the centre of my interest lies the question what role these, still to be defined, groups of individuals play as design factor. In order to answer this question, it is crucial to build an understanding of interaction design practice.

The IxDA’s broad definition quoted earlier and my introductory words on the various understandings of the interaction designer’s role already indicate that IxD practice goes far beyond interface design, even though the designation “interaction designer” may often be used to describe designers with a very specific scope of working, such as UI designers. Jon Kolko

(2007) emphasises that interaction designers are not multimedia designers or interactive designers – titles applied to professionals who are in charge of the technological, not the conceptual, sphere of interaction design (p. 13). “Concept designer” is a popular

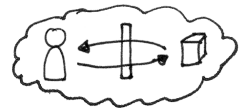


*Illustration 10:
Interface design: humanising interactions; the focus is restricted to the computer system and the interface.*

synonym used for interaction designers in Finland¹¹, stressing the conceptual role as opposed to the interactive designer. But as Jonna Iljin (2005) describes, this term carries the same problem of being understood either too broad or too narrow.

The often interface-centric understanding of the designer's role in the information technology domain can be explained with the history of **Human-Computer Interfaces (HCI)**. HCI is the branch of human factors sciences interested in the interface that enables human beings to communicate with computers. In the early stages, the designers' scope of involvement was to humanise the interaction between people and computers. They were in charge of ensuring that computer systems were accessible for their users. Ensuring the ease of understanding and the efficiency in use were the areas where early interaction designers were involved in computing, which pretty much meant to put a layer on top of the engineered artefact – often quite literally through the visual appearance. (Forlizzi et al., 2008, pp. 20-22)

Stating that the concentration on the interface reduces the work of the designer to covering the surface of a black box (the code) with something that enables the users to interact with that box, Cooper (1999) draws a very clear picture, not only of the semantic message of the term **interface design**, but also of the traditionally established practice in the industry. Cooper widens up the scope, including the behaviour of users and the



*Illustration 11:
When designing interactions (IxD) the entire interaction context is considered as the system to be designed.*

11 This title has traditionally been applied to interaction designers in the digital agency business, likely because of their roots in the digital marketing business.

ultimate value expected from an artefact, and defines the work of the interaction designer as a three-step process:

To deliver both power and pleasure to users, interaction designers think first *conceptually*, then in terms of *behavior*, and last in terms of *interface*. (p. 23; emphasis in original)

I believe that these three steps are the core elements of interaction design as a practice: the interaction designer has the responsibility to ensure conceptual, behavioural and interface-level consistency with the user's needs and goals.

Jenny Preece, Yvonne Rogers and Helen Sharp (2002) contribute a definition of “four basic activities of interaction design”: identifying needs and establishing requirements, developing alternative designs, building interactive versions of the designs, and evaluating designs (pp. 168-170).

Together with the process laid out by Cooper, this leads to a comprehensive understanding of what IxD practice consists of: throughout the three steps of designing the concept, the behaviour and the interface, the designer repeatedly combines the activities of identify, develop, build and evaluate to achieve an optimal solution for the design challenge at hand. This does not imply that every interaction designer is constantly involved with all these activities, but draws a clear picture of the competencies forming this profession. Löwgren and Stolterman (2007) describe interaction design as

the process that is arranged within existing resource constraints to create, shape, and decide all use-oriented qualities (structural, functional, ethical, and

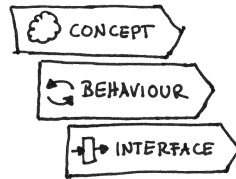


Illustration 12:
First comes the concept, then the behaviour, then the interface.

aesthetic) of a digital artefact for one or many clients.
(p. 3)

The authors' limitation of interaction design to digital artefacts is not an undisputed statement, as for example Kolko (2007) suggests to define IxD as "the creation of a dialogue between a person and a product, system or service" (p. 12), pragmatically understanding it as the intellectual process of shaping the behaviour of users in interactive systems, even if no advanced technology is involved. Since the discussion in this thesis is interested in IxD as practice rather than in a debate about its definition as a discipline¹², I will refer to "interactive artefacts" as a neutral term.

A taxonomy of social action for meaning

In the context of introducing action systems in a series of blog posts titled "Social Interaction Design Primer", Chan (2009b) highlights that the core role of a social web service is not to enable user action, but "social action". This comparison helps to consider how SxD extends IxD. It shifts the attention from the variables that are of relevance for the value of interaction design artefacts in general to those of relevance in SxD. The social interaction designer is not concerned with creating artefacts that enable actions valuable in themselves or for the individual user, but that

12 Löwgren's clear distinction in one of his encyclopaedic articles highlights the relevance of the digital aspect for the definition of IxD as a discipline: "The recommended use of the term interaction design is limited to products and services which more or less rely on digital materials for their realization. This is due to the significance for a design discipline of knowing its respective design materials. It is impossible to design interaction per se, even though the term unfortunately implies otherwise, but what interaction designers do is to create conditions for interaction." (Löwgren, 2008)

can serve as enablers for what is the ultimately meaningful activity for the human being – social practice.

Chan (2009b) presents an action system that I consider a valuable tool for the designer. I present it here as a taxonomy for my further discussion, employing the example of photo sharing:

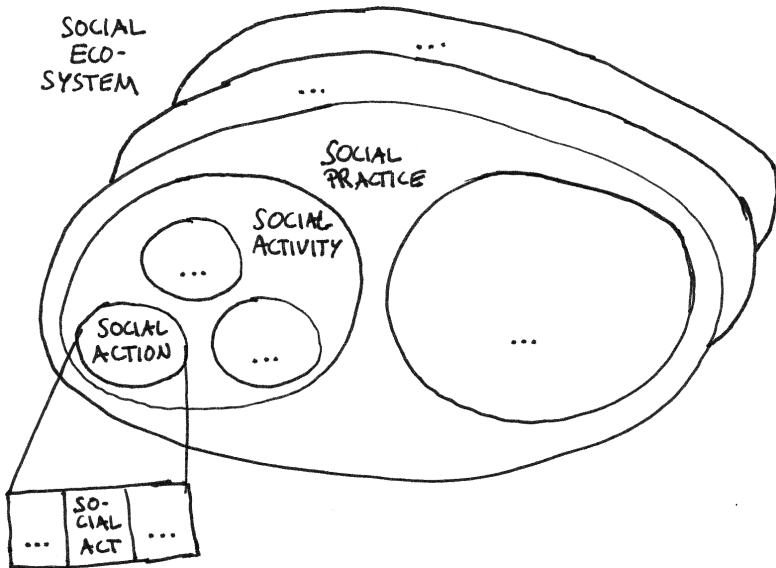


Illustration 13: A taxonomy of SxD, built upon Chan's action system.

- “**User act**” describes the individual action carried out in an interactive interface. For example, uploading a photo to a photo sharing site.
- A series of single interactions with the application, user acts, forms a “**social action**”. It is a task of social interaction carried out through the service, for example “uploading the holiday pictures”.

- Multiple social actions represent a “**social activity**”. While “user activities” have traditionally been at the focus of IxD (e.g. “finding a document from a repository”), SxD views at activities as social interaction – in my example, the “sharing of experiences in form of photographs”.
- Social activities are embedded in a “**social practice**”, their broader social context. To conclude my photo sharing example, it would be embedded in a social practice of “sociality by sharing of experiences”. In IxD, for contrast, a “user practice” could be “knowledge management in a database catalogue”.

This action system provides all the elements needed to create use cases for SxD. Where IxD for applications with no social component aims at designing entities of user actions that help to achieve a meaningful goal, the social interaction designer is working in a context where meaning resides in the context of a broader social practice.

As I elaborated in my presentation of intersubjectivity, the meaning of an SNS is connected to the symbolic value of the interactions it mediates, based on the experience of the individual. The user frames the interaction concept based on the social practices and activities it is embedded in, and experiences the single (interface-level) social action as part of a bigger entity of meaning.

For the purpose of completeness, I am adding an additional category to the taxonomy described above: the “**social ecosystem**”. It refers to the entire social context of an individual – the network of social contacts the social practices are embedded in. This is an important category as it defines the baseline environment for all social interaction of a person.

Summary: Social interaction design

Based on above insight, it can be summarised that social interaction design is a practice within the discipline of interaction design. Social interaction designers are interaction designers with a specialised focus on the social dimensions of artefact-mediated social activity.

SxD deals with the development of socio-technical practices in a user-centric approach. Social media is one field where today a lot of such interactions are situated, but naturally the design of online social interactions also take place in other contexts (such as telephone systems, for example). The design of socio-technical practices in the field of SNSs is directly connected to the concept of intersubjectivity I presented in my earlier discussion of social media: the social interaction designer designs facilitating artefacts that are meaningful for the users through their individual experiences with them, taking into account the bigger context of the social practice they are rooted in.

In her work, the social interaction designer does not create according to pre-defined rules, but through a reflective process. Insight, for example through ethnographic research, is combined with the tactile knowledge, professional experience and skill from the IxD discipline. The same design thinking process is applied: the designer first thinks about the concept, then the behaviour, then the interface. In the same way as IxD is not about wrapping computer interactions into a user interface, SxD is not about translating human interactions into a computer system and then making it worthwhile for the user. It is a holistic approach that is concerned with understanding the relevance of a social practice for the individual in the context of their social ecosystem and designing a behavioural framework that accommodates these meanings and ideally adds some new dimension to it. The interface that the user experiences in use is, as presented, the

manifestation of the single social actions that add up to meaningful social activities.

2.2 Value: meaning in the social context

If the design of meaningful artefacts for online sociality is defined as the main target of SxD, there is a need for a model that allows to evaluate what are meaningful solutions and what are not. In this thesis, I want to employ the concept of value as a metric for how well a SNS fits into the social reality of its users.

I claim that value creation can be assumed to be the driver behind the creation of any product or service. This can refer to value for the creator of a product or to value for its users. It can refer to economic value, cultural value, political value etc. While the term “**value**” may appear self-evident at first – something can be of either high or low value – further investigation uncovers an extremely unspecific term, requiring close examination in order to define the aspect relevant in the interaction design context. Since digital artefacts cannot, due to their virtual nature, have a material value, it has to be considered how their value can be measured.¹³

The introduction of Susan Boztepe’s (2007) article “User Value: Competing Theories and Models” is a good primer on the topic. In particular, I want to emphasise her reference to David Graeber who presents four key definitions of value:

(1) the notion of values as conception(s) of what is ultimately good in life, (2) in an economic and business sense, value as a person’s willingness to pay the price of a good in terms of cash in return for certain product benefits, (3) value as a meaning and

¹³ A comprehensive philosophical discussion of “value” would fill several books. Therefore, I herein attempt to stay within the debate related to value in a design context.

meaningful difference, and (4) value as action.
(Graeber, 2001, as cited in Boztepe, 2007, p. 56)

As in philosophy, there is no common understanding on a definition of value in HCI either. Obviously, the topic of value in interaction design has been subject to many discussions. A variety of concepts have been proposed to define the value of design artefacts, such as use qualities, worth and user values.¹⁴

Defining value for digital artefacts

Thinking about the digital design object as a means for value creation leads me to the work of Gilbert Cockton (2004), whose article “From Quality in Use to Value in the World” is an argumentation why the focus of HCI on usability or “**quality in use**” is wrong and a call for a reconsideration of value in the HCI context. Cockton makes clear how there cannot be any general guidelines of what form of a design is good or bad, as this will always be influenced by the context of its use. (Cockton, 2004, p. 1287)



*Illustration 14:
The focus of HCI on
“quality in use” focuses
on the object’s
overall appearance.*

He introduces the methodology of **Grounded Design**, “an attempt to extend the methodological rigour of qualitative social science to the design of interactive systems” (Cockton, 2002), as a means to shift the focus of HCI from the quality in use to what he calls “fit”: the contextualisation of design artefacts in order to

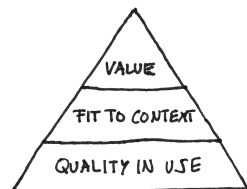
14 One approach to value that does not relate to the discussion in this context, but that I consider worth mentioning is Value Sensitive Design, where “value” is understood in its ethical meaning. This model is concerned with topics such as well-being, dignity, justice, fairness etc. (B. Friedman, Kahn, & Borning, 2006)

make them valuable in their application, rather than searching for value in the optimisation of their quality in use (Cockton, 2004, pp. 1287-1288). Explaining the concept in more detail, Cockton (2002) explains that

we need to design computer systems to fit organisations, lifestyles, leisure activities and social interactions - indeed to fit any aspect of human existence that could interact with a computer system.

Where quality in use means the value of the well-designed artefact, fit denotes the capability of a design to fit the purpose for which it has been created. An additional layer Cockton adds is initially named “value” and describes the suitability of the design object to deliver what its user is searching for. He later refines the term to “worth” and presents “**Worth Centered Design**” (WCD), a model with a focus on developing “the worthwhile” – something that will be valued, not valuable itself. (Cockton, 2006)

Sari Kujala and Kaisa Väänänen-Vainio-Mattila (2009) present the goals of HCI based on WCD as a pyramid, where “value” (or: “the worthwhile”) is the top goal, depending on the underlying “fit to context” and “quality in use” (p. 29).



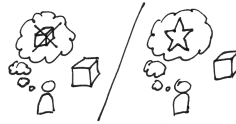
*Illustration 15:
The goals of HCI as
presented by Kujala
and Väänänen-Vainio-
Mattila.*

The concept of worth puts all emphasis on the symbolic value of the design artefact. This relates directly to another important concept, Krippendorff’s (2006) “**product semantics**”, which he describes as “the study of the symbolic qualities of man-made forms in the cognitive and social contexts of their use and the application of the knowledge gained to objects of industrial design” (p. 10). When relating the notion of product semantics to interaction design in the light of above

discussion, it becomes evident that the value of an interactive system resides in

- the worth it is able to create for its users, i.e. how worthwhile it is in order for the user to be able to achieve a specific goal,
- the way in which it fits into the context of its use, and
- last but not least, its “quality in use”, which is a crucial part of the product experience and will strongly impact the perceived value for the user.

This is an important insight when searching for the meaning of a design artefact from a symbolic interactionist standpoint. Boztepe (2007) highlights that the value a designer is striving for does not reside within the artefact itself, but in its potential to create value as a symbol in social interaction:



*Illustration 16:
The value of an interactive artefact does not refer to the object as an object, but as a symbol.*

...developing the capacity of objects for value is perhaps a better definition of design’s role in value creation. In developing that capacity, designers’ heightened understanding of users’ contexts and their reasons for and methods of imbuing objects with different types of value is essential. (p. 61)

Symbolic value & experience value in interaction design

Boztepe (2007) differentiates between three definitional approaches to user value (p. 85):

- the “**Exchange Approach**”, an objectivist and utilitarian point of view that considers value as currency for exchange of goods or services,

- the “**Sign Approach**”, emphasising social and cultural context where value is based on the “symbolic meanings that can be attributed to goods” (p. 56), and
- the “**Experience Approach**”, defining value as the consumption experience of the user.

From the symbolic interactionist point of view, the most interesting value concept is value as meaning. As Graeber (2001) states, “value is simply meaning: giving value to something is a matter of defining it by placing in some broader set of conceptual categories” (p. 40). This defines value as the meaning that emerges from the symbolic role the design artefact takes in the reality, the social practices, of its user. The “Sign Approach” – derived from anthropology and sociology – represents this thinking. Boztepe’s (2007) explanation of the approach highlights how, in this line of thought, the value is not in the object itself but in its context:

From the standpoint of the source of value, a value-as-sign approach posits that value emerges through the subjective experience of the user, and thus, objects cannot contain value. Value does not necessarily reside in an object’s tangible materiality, but rather in the message it communicates. (p. 57)

The intent is not to deny the importance of user experience and the author also expresses that a purely symbolic interpretation of value does not reflect the reality. She stresses that the “Sign Approach” towards user value does not give enough emphasis to the role of design for a product:

Disregarding a product’s capacity to shape meaning and users’ experiences, this view is as easily refutable as the objectivist one. After all, designers create and alter forms with the purpose of modifying meaning and creating value. (Boztepe, 2007, p. 57)

The “Experience Approach” is described in the paper to include certain aspects of both the other approaches. As a matter of fact, the three approaches should not be considered to be competing with each other, but rather as layers of value. Or, as Boztepe puts it, as “a perspective of value as experience, where a product’s value pertains to the experiences associated with that product, offers the potential for reconciling the different approaches” (p. 57).

For the purpose of this discussion on the value of interaction design concepts however, a combination of the “Sign Approach” and the “Experience Approach” is probably most appropriate. Given the earlier holistic definition of IxD – concept, behaviour, interface – I propose to think about the goals of interaction design in terms of **symbolic value** (the meaning experience) and **experience value** (the consumption experience).

Based on above discussion, the goal of IxD is to create objects or services that serve as enablers for the meaningful application by its users. However, the meaning of the artefact (i.e. its quality as a sign or symbol) is not the only value created by the designer. Also the experience of consumption contributes to the overall value of the product. In the case of digital artefacts, this consumption is referred to as use.

In defining sense of quality as a core element of interaction design, Löwgren and Stolterman (2007) refer to use-orientated qualities of digital artefacts, which are almost impossible to be measured objectively. Their concept of “**use qualities**” (not to be confused with above “quality in use”, referring to usability) contains a variety of dimensions that can lead towards an understanding of what are the goals to be achieved by interaction design in order to create value:

One set of qualities concerns the user’s motivations for engaging with the digital artifact, another

addresses the immediate sensation of interacting with the artifact, and a third set has to do with the social outcomes of interaction. There is also a set of qualities pertaining to the structural features of the artifact as they manifest themselves in use and a final set addressing the induction of users' reflection upon their situation. (p. 102)

Extending the value concept to the social experience

The quote from Löwgren and Stolterman includes a reference to the “social outcomes” of interaction. My considerations earlier in this chapter already presented worth and “fit to context” as the cornerstones of symbolic value in SNSs. These are related to anchoring an interaction concept to the context of its use, the social practice of the user and her social ecosystem. I still want to add some thoughts on the experience value in the context of SxD.

When talking about networks, as those building the backbone of all SNSs, one aspect of value that must not be forgotten is the value that resides in a network itself. Metcalfe's law¹⁵ describes how two networked devices enable one connection, five devices allow ten connections and twelve devices already feature a theoretical number of 66 different connections (Hendler & Golbeck, 2008). From this, we could derive the understanding that the

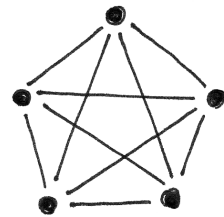


Illustration 17: Metcalfe's law describes how five devices enable 10 connections.

15 Metcalfe's law originally was a hypothesis stating that “while the cost of the network grew linearly with the number of connections, the value was proportional to the square of the number of users.” (Hendler & Golbeck, 2008, p. 1)

value of a social network can simply be measured by the number of its nodes – and, implicitly, the amount of possible connections between them.

Discussing Metcalfe’s law and **network value** in general goes beyond the interest of this dissertation. However, it shall not remain unmentioned that, despite this law being considered one of the backbones of internet theory, the direct influence of the number of devices or users on value is disputed. The main argument for the limited applicability to users lies in the difference between devices, which Metcalfe originally referred to, and users:

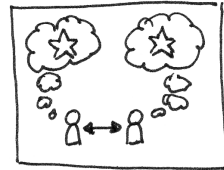
Machines can easily scale the number of connections or conversations they have with other machines. They are good at processing a lot of information. Humans cannot do that. The brain is not designed for it. (Simeonov, 2003)

My motivation for mentioning Metcalfe’s law in the context of this research is to emphasise that neither a social network nor the design artefact built around it are meaningful (or valuable) as such. For the social interaction designer, network economics contribute the insight that the potential value of networks is growing with their size. At the same time this is only one variable in the complex construct of network-related value. A broad set of variables, such as reach and link quality, have to be taken into consideration. Discussing them in further detail is beyond the scope of this discussion.

In the introduction, I introduced the concept of intersubjectivity and how meaning is created through users’ interpretations of their experiences with mediated interactions. When raising the topic of value in the context of the design of interactive artefacts, the term “user experience” will inevitably be brought up. Battarbee and Ilpo Koskinen (2005) point out that user experience has traditionally been defined mainly from an individualistic

perspective (p. 6). This is understandable considering the history of HCI, but a particular shortcoming regarding the context of digital solutions designed for social interactions.

Battarbee (2004) presents an approach to user experience design that takes into account the social aspects, named “**design for co-experience**” (p. 79). It is based on a thorough analysis of existing theories and frameworks of user experience and suggests that designers approach the topic of experiences created together or shared by means of a user-centred process. But co-experience is a notion not only connected to a certain design methodology, but more than that an all new way of thinking about user experience:



*Illustration 18:
Co-experience puts
the emphasis on
shared experiences.*

co-experience is a perspective that opens designers’ eyes to a feature of reality that sometimes is blinked away: the fact that people often make sense of their experiences together, and the definition of the meaning or purpose of a technology emerges from these shared experiences. (p. 96)

A framework proposed by Jodi Forlizzi and Battarbee (2004) embeds it in the wider context of (user) experience. The authors describe three types of experiences: “experience” (the constantly ongoing assessment of our environment), “an experience” (a particular experience that is limited by time or for example can be named), and “co-experience”. The aim is that designers understand to consider experiences of all levels when designing interactive systems.

Summary: Value in social interaction design

In social interaction design, the meaning to be created through social-technical practices is not limited to the artefact and its immediate context of use but includes the broader social practice and social activities. Networks, social practices and the shared use experience of the interactive artefact have to be considered – in addition to the underlying core categories of value which I summarised as symbolic value and experience value. Jakobsson (2006) describes social interaction design studies as the merging of social interaction studies and interaction design studies.

All the different (overlapping) approaches to explaining symbolic value in the context of interaction design can be summarised to meaning: interaction designers aim to create meaningful interactions. And they are deeply interwoven with the approaches to experience value, since – as the model of intersubjectivity communicates – the subjective interpretation of experiences is what forms symbolic meanings. While interaction design brings forth artefacts for the facilitation of dialogues between people and products, systems and services in general, the interactions of interest for SxD are dialogues between people and products, systems and services that enable acts of human interaction understood as valuable by their participants.

3. Understanding non-use beyond the not-yet-user

“...we suggest that HCI might learn a good deal about technology use by placing it in the context of non-use, because when we do so, we see it not as simply an inevitable response to some inexorable march of technological progress, but rather as a creative, complex, and contingent act of its own.”

– Christine Satchell & Paul Dourish¹⁶

When reviewing interaction design literature, the term **user** is almost omnipresent. As designers, we talk about user testing, user studies, user research, collaborative design with users – all approaches that (legitimately) concentrate on the user. Non-users are usually considered as “not the target group”, therefore most of the time not even mentioned. We invent, design and optimise for the user – ignoring that those not using our artefacts may well play a role in their value as well. There is a small but still significant amount of debate about the need to re-frame the understanding of use and non-use. My argumentation in this thesis builds upon these works, which are examined below.

This chapter mainly consists of a literature review on the topic of non-use. I investigate different understandings of the term and offer a model of how non-use (and use) can be understood apart from the popular misconception that non-users are people that need to be turned into users. On this base, I formulate why non-users are relevant design factors in social interaction design.

¹⁶ In: “Beyond the user: use and non-use in HCI” (Satchell & Dourish, 2009, p. 15).

3.1 Exploring non-use as a social phenomenon

HCI initially emerged from the spheres of information technology (IT). Its history is a story about users (Satchell & Dourish, 2009, p. 9). The user has always been one of its two core concepts, with users tasks – the actions a user would want to carry out – being the second (Dix, Finlay, & Abowd, 2004, p. 125). Thus, contemplating about the user – the antipode to the non-user – inevitably takes us into the world of engineering (as in technical concepts such as user account, user rights etc.) and from there on to the current practice in the field of HCI.

Simply understanding non-users as potential users or “lost cases” is not doing their heterogeneity justice. From a social interaction designer’s point of view, I consider rethinking the concept of users to be the key to understanding non-users:

users are not simply passive recipients of technology; they are active and important actors in shaping and negotiating meanings of technology, which is significant both for understanding design processes and the relationship between the identities of technologies and their users. (Wyatt, 2003, p. 0)

Even though HCI has been concentrating a lot on the user as the target group of information technology, the concept has been broadened by scholars who – in the same spirit as Sally Wyatt’s statement – call for a broader understanding of users as actors rather than recipients (Lamb & Kling, 2003). Mike Cushman and Ela Klecun (2006) refer to Roberta Lamb and Rob Kling, highlighting that they

argue for a view of individuals as social actors (networked beings) who have an engagement with technology, rather than simply as users: people who contribute to the construction and disposition of ICTs,

not passive consumers, and who are co-constituted by the technologies with which they engage. (p. 351)

The traditional perception of the user as a rational and target-driven subject is reflected by the widely applied **Technology Acceptance Model (TAM)**. In this model, originally developed by Fred D. Davis (1989), the adaptation of new technologies is explained through the two propositions of perceived usefulness and perceived ease of use. In other words: the adaptation of a technology is based on how useful it is considered and how easy it is to use.

The TAM is being criticised by many authors for failing to address the fact that individuals' use of ICTs is influenced by much more versatile factors than Davis' two base constructs; Lamb and Kling (2003, pp. 221-222) classify it as an individualistic approach. Cushman and Klecun (2006, p. 11) point out that TAM is more directed toward rational decision when technology is considered as a tool, but fails to accommodate the processes when individuals consider the use of a technology in the context of their life-world¹⁷.

This is why I decided to begin this exploration of non-use with some critical thinking about the established concept of the user – and the importance it has received in the past. In the traditional thinking, the user is a recipient of innovation, expected to adapt new technology based on its immediate usefulness and usability. The alternative understanding of users is that of actors, who engage with technologies based on the meaning they have through the context of their own life and their social practices. The contrast between those approaches helps to explore the phenomenon of

17 In their text, the same critique also extends to the Model of Adoption of Technology in Housholds (MATH), which is based on TAM and is described as sharing its shortcomings (Cushman & Klecun, 2006, p. 2).

non-use apart from seeing individuals who haven't adopted a technology quite yet.

Christine Satchell and Paul Dourish (2009) summarise the motivation behind thinking about non-users as “a discursive formation” (p. 9): interaction is not to be thought of as synonymous with use. Technologically mediated interaction and the experience thereof goes beyond the context of its use, also embracing its non-use. (Satchell & Dourish, 2009, p. 9)

What Satchell and Dourish are pointing out, is in direct line with my argumentation in the earlier chapters of this work. When explaining social practice as one level in the taxonomy of social action, I stressed how SxD concepts are assigned meaning based on their relation to the individual's social practice. Social practice – in my example I referred to “sociality by sharing of experiences” – always includes offline or non-use elements. If we think about the semantics of a digital artefact, its worth stands in direct relation to its capacity to take a meaningful role in that real-life context, not in the limited context of users.

From exclusion to voluntary absence

In her book chapter “Non-Users Also Matter: The Construction of Users and Non-Users of the Internet”, Wyatt (2003) elaborates on how the discussion around the “**digital divide**” is often led by the understanding of non-users as socially excluded people, which can for example be seen by policy decisions. In these, the provision of access is repeatedly considered the best way to make those not-yet-users a part of the online society.

Other research goes even further and presents concepts such as “**digital exclusion**” to replace the digital divide. This term, promoted by Cushman and Klecun (2006), is based on the thinking that the phenomenon at hand is not really just a divide – and it also is not just technologically induced (i.e. through non-

access) – but an exclusion from the sphere of information technology that is correlated to a degree of social exclusion in general.

Also other disciplines frequently consider non-users to be a group of people that can be turned into users, for example in marketing where turning “Internet Non-Users” into “Internet Users” is being seen as a separate task from turning “Internet Users” into “Online Buyers” (Roy & Ghose, 2006).

This “pathological approach”, as it is called by Neil Selwyn (2003, p. 106), plays a dominant role in politics, design and marketing: non-use is perceived as a problem that has to be solved. Not only in design and social sciences, but up to the highest levels of policy-making, the solution is often being seen in providing access, increasing usability, stimulating ICT acceptance and educating people to turn them into users (Cushman & Klecun, 2006, pp. 12-13; Verdegem & Verhoest, 2009; Wyatt, 2003, pp. 68-70).

In his review of existing accounts for non-use, Selwyn (2003) refers to **diffusion theory** – the popular “s-curve” used when trying to explain the growing user base of a new technology from innovators and early adopters to the early and late majorities¹⁸. In this model, which is ultimately based on the presumption that access to technology will eventually lead to its use, non-users are accounted for as “laggards” or even “defectors”, people

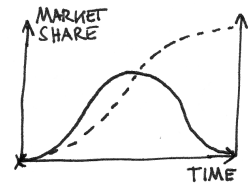


Illustration 19: Diffusion theory presents the distribution of adaptation groups as a bell curve and the market share over time as an s-curve.

¹⁸ This technology-deterministic theory of technology adoption has been popularised through Everett M. Rogers’ book “Diffusion of Innovations” (1983). It is also being referred to as the “Technology adoption lifecycle” (Moore, 2002).

who are either so late to adopt that they are not of relevance or who ultimately fail to take a technology into use. (Selwyn, 2003, pp. 105-106)

But non-users are not necessarily laggards who will eventually become users; they have to be considered a permanent phenomenon. Therefore, it is utterly important for us as designers to develop an understanding of this group and how their absence affects the concepts we create for users. Also those not using information technology – or parts thereof – are still to be considered part of the information society. Wyatt (2003), Selwyn (2003, 2006) and others (e.g., Sambasivan, Ventä, Mäntyjärvi, Isomursu, & Häkkilä, 2009) suggest to expand the discourse beyond the involuntary lack of access to include those excluding themselves by their own will:

voluntary rejection of a technology raises the question of whether non-use of technology always and necessarily involves inequality and deprivation. In other words, is the policy assumption that all non-users of a particular technology wish to become users appropriate? (Wyatt, 2003, p. 68)

Based on these insights, it is inevitable to differentiate between two qualities of non-use: involuntary and voluntary. While involuntary non-use covers the aforementioned “traditional” concepts of non-users (people with no physical access, cost issues, lack of digital literacy), voluntary non-users and their motives for absence deserve special attention.

The topic of consciously non-using individuals is not new. Highlighting the generally low degree to which non-adaptation of technologies has been researched, James E. Katz and Ronald E. Rice (2002) describe a research project which somewhat unexpectedly provided evidence of **internet drop-outs** as a group proving that non-use is not just an issue of digital exclusion

(pp. 67-81). The research had brought forth four reasons for dropping out: loss of physical access, lack of interest, problems with usage and high costs (Katz & Aspden, 1998, p. 338). Given how the internet has since permeated almost any area of society, the high numbers of drop-outs from overall internet use identified in their research might not quite look the same in 2010¹⁹. The same applies to the four main reasons discovered from a now 15 year-old data set. However, it is likely that the same phenomenon of dropping out can be applied to specific online services or applications (possibly also from internet use in general). This calls for a model of thinking that accommodates former users as dropped-out non-users.

While the involuntary non-users have received a lot of attention, their voluntary counterparts have only lately been lifted to the stage of HCI discourse. Building on existing work, Selwyn (2003) claims that “individuals’ non-use of technology is enabled and constrained by structures which themselves are the result of previous agency” (p. 110) and provides a set of concepts to understand voluntary non-use. All of them can be summarised to meaning: he talks about “relative advantage” (whether the effort for adopting an innovation is worthwhile compared to the benefits gained), “relevance” and “social quality” (p. 107-109).

Selwyn, Stephen Gorard and John Furlong (2005) summarise how non-use is based on a complex set of reasons:

...the social reasons underlying people’s (non)use of the internet are complex and entwined with a host of factors. For example, although it is tempting to see people’s use of the internet as patterned in stark terms of socioeconomic status or age, we should not

¹⁹ The studies were carried out between 1995 and 2000. Also, the authors themselves noted that, since the future of the internet cannot be predicted, drop-outs may well become users again.

overlook the importance of the micro-politics and moral economies of households and families, social and cultural capital, gender identity and even issues of status and fashion in an individual's internet acquisition and use. (pp. 19-20)

In the light of my earlier explanations on how SNSs are embedded in the real life of the individual, these factors mentioned by Selwyn et al. are of great interest regarding the symbolic interpretation of social media concepts. Not only do they tell why individuals may actively or passively decide not to use a certain product, but they also reveal a lot about the anticipated value of social network services that is part of their user's expectations but may not be as universally prevailing as often assumed.

Use and non-use as one phenomenon

Bringing together the exclusion aspect and the voluntary non-use into one common model can help to build a holistic understanding. Wyatt, Graham Thomas and Tiziana Terranova (2002) suggest a new taxonomy of non-use. This model has two main dimensions, differentiating between **“have-nots”** (the involuntarily excluded) and **“want-nots”** (the voluntarily excluded) as well as between those who never used a technology and those who stopped using it. This leads to four groups of non-users:

HAVE-NOTS	EXCLUDED	EXPULSED
WANT-NOTS	RESISTERS	REJECTERS
	NEVER USED	STOPPED USING

Illustration 20: The taxonomy of non-use as described by Wyatt, Thomas and Terranova.

- the “**excluded**”: people who don’t have access, no matter whether they do or do not want it,
- the “**expelled**”: former users, who do not have access any more,
- the “**resisters**”: people who are not willing to use a technology,
- and the “**rejecters**”: former users who decided to not use the technology any longer.

Two more dimensions that Wyatt et al. bring forth are “passive avoidance” vs. “active resistance”, and the non-use of an entire system vs. the non-use of specific aspects. This set of variables provides a comprehensive framework to classify non-users.

A lot of the research I reviewed on the topic of non-use is at least remotely related to the topic of inclusion, of offering services or access to non-users, therefore particularly interested in motives and forms of non-use (Cushman & Klecun, 2006; Selwyn, 2003; Verdegem & Verhoest, 2009). Still, there is one even broader approach that I believe to be most useful in the context of interaction design. While the model by Selwyn (2003) concentrates on re-conceptualising non-users, both Satchell and Dourish (2009) and Wyatt (2003; et al. 2002) approach the topic from the point of view that use and non-use are not separate phenomena, but to be considered “a single broader continuum” (Satchell & Dourish, 2009, p. 10).

Since this dissertation is interested in non-use as a general social phenomenon, it would be counter-productive to build an (artificial) border between use and non-use. The interest here lies on the symbolic meanings of presence and absence from a certain medium, and these are deeply intertwined. After all, absence is just another form of presence, and, as presented earlier, non-use is as much an act of meaningful behaviour as is use.

Satchell and Dourish (2009) outline six categories of non-use, intentionally not titled as a taxonomy, but rather as a tentative classification²⁰:

1. The category of **lagging adoption** is closest to the s-curve's laggards of the diffusion theorists. Its members have not yet adopted a technology, but – and here this differs from the understanding of diffusion theory – at the same time it is not predetermined that they ever will.
2. As a conscious process, **active resistance** is related to some internal reason of the individual that leads to the avoidance of an innovation.
3. Connected to “nostalgia” by the authors, **disenchantment** plays a role in technology use when the user realises that the new tool does not have the potential to take the expected role in her life-world. Therefore, this category is one of not-any-more-use.
4. **Disenfranchisement** is a category that holds all those who are not using an artefact because its concept or design either does not meet their own life



*Illustration 21:
Lagging adoption.*



*Illustration 22:
Active resistance.*



*Illustration 23:
Disenchantment.*

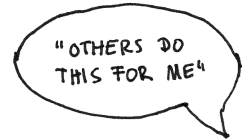


*Illustration 24:
Disenfranchisement.*

20 I chose to employ the models by Wyatt et al. and Satchell and Dourish for their generality. More specific models, for example the “ASA profiles” by Pieter Verdegem and Pascal Verhoest (2009) (based on an approach that explains ICT use through the resources access, skills and attitude), incorporate a strong connection to the multi-dimensional motives for non-use that are not the subject of this dissertation.

realities (i.e. the product is built with different social, economic or cultural groups in mind) or it is not accessible for them. The authors highlight that this is actually one of the most obvious groups of non-users, still the least observed.

5. When talking about **displacement**, we refer to people that use interactive technology even though they do not have direct access to the systems themselves. This category describes individuals that are non-users as they lack the possibility for direct interaction, though they are users by indirect means (e.g. temporary access or access through a third party).



*Illustration 25:
Displacement.*

6. **Disinterest** describes the situation where a service or tool does not attract the individual as its purpose or concept differs from the needs of the person. Other than the category of disenfranchisement, this irrelevance is not related to social, economic, or cultural differences, but simply with the fact that it is not relevant as a product.



*Illustration 26:
Disinterest.*

What all these categories have in common is that they represent fluid borders between use and non-use. Neither the question of involuntary vs. voluntary nor the question of whether the non-user has been a user before are in focus here. Instead, this model concentrates on the quality of the non-use and shows how even non-use can be a form of use:

The Internet “user” should be conceptualized along a continuum, with degrees and forms of participations that can change. ... Internet use encompasses not only different types of use, but also the possibility of

reversals and changes of direction in the individual and collective patterns of use. (Wyatt, 2003, p. 77)

Considering the model presented above, one more aspect is important to be highlighted: Non-use is not necessarily a general, persistent property. I already identified that use and non-use are a continuum, but the following aspects add even more to the complex overall picture that non-users are not just those not using a technology:

- While some people may have a general attitude of non-use, even a user of one service will always be a non-user of another. Given that there are thousands of SNSs offered on the internet, **partial non-use** is an even more complex phenomenon than the use or non-use of one entire technology (the internet or the telephone, for example).
- A related phenomenon is **passive use**. “Lurkers”, as they are referred to, are described in the literature as users who, for a variety of reasons, choose to participate only passively (Nonnecke & Preece, 2003). In the context of social interaction, this group is of interest as “lurking is one style of participation” (Takahashi, Fujimoto, & Yamasaki, 2003, p. 2), therefore likely to have symbolic value within the intersubjective sphere of an SNS.
- As Nithya Sambasivan, Leena Ventä, Jani Mäntyjärvi, Minna Isomursu and Jonna Häkkinä (2009) present, “[a]ctive users of technology can also exhibit non-use of devices” (p. 4533). Their finding that good user experience design should take into account phases of disengagement adds another important dimension to the notion of non-use: **temporary non-use**. It describes users who show non-user behaviour for a limited period of time.

- Furthermore, Selwyn et al. (2005, p. 19) observed a behaviour they describe as “**use-by-proxy**”. This mode of use (or non-use), which I see overlap with the category of displacement in the above classification, refers to individuals who are not users themselves, but have an “agent” who carries out online tasks on their behalf. While use-by-proxy as the externalised holiday booking described by Selwyn et al. is mainly an interesting user behaviour, users-by-proxy surely must have an effect on how their proxy’s is perceived by his online peers in an SNS.

Summary: Non-use

As presented here, there is a variety of research about the facets of non-use, investigating reasons and motives. Non-users may be excluded, expelled, resistant or rejecting – and there is no binary differentiation between use and non-use. People may be slow adopters, actively reluctant, disenchanted, disenfranchised, displaced or disinterested. Also, individuals are selective in their usage: partial, passive and temporary non-use, even use through a proxy, have to be considered. First and foremost, it has to be acknowledged that non-use can be a voluntary, conscious decision rather than a lack of access that could be solved by supportive public policy or bargains from commercial players. Ultimately, it has to be summarised that “non-use” is not the pathological form of “use”; not something that could be healed or solved, but a fact of the social reality within whose constraints we are acting:

It is therefore possible to adopt an alternative, anti-essentialist view of individuals’ non-engagement with ICT. From this perspective, technology has no essential properties. For example, ICT is not inherently beneficial and non-users are not automatically at fault for avoiding use. (Selwyn, 2003, p. 111)

Selwyn (2003, p. 111) proposes to see technology as text that is not meaningful as such, but through the interpretation of the participants when it is constructed and used. This means understanding artefacts of information technology as symbols, which leads me back to my earlier discussion of interaction design and the value/meaning of its artefacts. Like Satchell and Dourish, I too believe that use and non-use are two forms of the same phenomenon. They are the behaviour of individuals who interpret interaction artefacts based on the symbolic value they assign to them, which Selwyn (2003) points out saying:

Not using ICT is one way that individuals can assert some control over their lives—in the same way that for some people there is a symbolic value to using ICT. (p. 111)

Concisely, this means that the plentiful variants of non-use are nothing more than particular forms of use. Applying my earlier definition of social interaction design, the artefact is an enabler for a dialogue, in which to engage is ultimately every individual's own decision. Some will engage, others won't – and, undeniably, some will not be able to engage even though they would want to.

3.2 The relevance of non-users in social interaction design

Their heterogeneity and the fact that they are and will always be part of social reality make non-users highly relevant to interaction design. Based on my literature review, I propose to interpret the relevance of non-use in SxD as two-fold – applying my previously defined two goals of IxD, symbolic value and experience value:

On the one hand, non-users are a group of people that are not, not regularly, or not unlimitedly using an interactive artefact. They are individuals that are not actively engaging in the dialogue facilitated by the artefacts of social interaction design. Still, their

absence has symbolic value in these interactions as it is interpreted by the other participants and assigned a meaning.

On the other hand, non-use is a form of use experience. Both users and non-users experience absence – either their own or that of somebody else – subjectively, which ultimately contributes to the perception of the meaning of an SNS.

The symbolic role of the non-user in IxD

User-centred design is based on the thinking that taking users into account in a design process allows for the elimination of the problem of following only the most powerful actors (Wyatt, 2003, p. 78). Where, in the early years, a computer system would have been designed based on a business owner’s specifications (and a user interface designer asked to wrap it nicely), methods like participatory design involved the end users as a key group of stakeholders. In regard to non-users, Wyatt (2003) points out that it is as important “to take non-users and former users seriously as relevant social groups, as actors who might influence the shape of the world” (p. 78).

In their chapter on the use of user personas as a tool for interaction design, Cooper, Robert Reimann and Dave Cronin (2007) state that the (potential) users are playing a central role for the interaction designer, but

it is sometimes useful to represent the needs and goals of people who do not use the product but nevertheless must be considered in the design process. (p. 84)

The authors particularly mention “customer personas”, addressing the behaviour of persons purchasing software, encouraging the consideration of people who are not going to use it. This aspect is also of interest in the context of the value discussion in my earlier chapter: “Value may emerge not only in

purchase and use situations, but also in the disuse or dispossession of a product.” (Boztepe, 2007, p. 58)

From another angle, non-users and their motives are also relevant for interaction design to discover the dimensions of the gap between the social needs of the (anticipated) users of a service and the capabilities of the technology applied. This **socio-technological divide** has been defined by Ackerman as

the divide between what we know we must support socially and what we can support technically. (Ackerman, 2000, p.179, as cited in Coenen et al., 2009, p. 620)

This refers to social activities in which the consideration of non-users’ needs is not possible because there is no technology (or technique) to accommodate them. Coenen et al. (2009, p. 620) extend this definition by adding a layer of reciprocity: “it is not always clear how social practices can adapt to the technical possibilities in order to better realize the social goals of the system’s participants” (p. 620).

Reviewing these sources and the earlier explanations of non-use in general, the symbolic relevance of non-users resides in the fact that they are absent from the designed sphere of interactions, but do still stand in meaningful relationships to some of the users, i.e. the social practice intended to be mediated by a digital artefact might include social actions that include non-users.

Non-use as part of the use experience

The second dimension of non-use in the context of IxD is the consideration of non-use as user behaviour. The study by Sambasivan et al. (2009) titled “Rhythms of Non-use of Device Ensembles”, refers to non-use as a form of conscious use:

almost no research exists on how the perpetual possession of devices impacts how we escape them

.... We argue that non-use is not a reason for failure, but is a form of use in itself. (p. 4531)

Their report illustrates how non-use is a form of use, when users turn off their devices for the purpose of avoidance (i.e. logging off), deception (pretending to use, while not using) or resistance (e.g. not answering incoming calls). This discovery is connected with the call for the consideration of non-users in user experience design, where non-use is one of the intended forms of use of an interactive design artefact. The contribution of the study is the move away from thinking just of artefact usage to taking into consideration intentional phases of disengagement. (Sambasivan et al., 2009)

This perspective differs from the non-use described earlier in that the non-users are in fact users and that their relevance for the interaction designer lies in the acknowledgement of a certain form of user behaviour.

To provide an example, I believe that the mobile phone networks' voice mailboxes are an exemplary implementation of non-use experience. For the caller (the user), the mailbox provides the positive experience that her call is being answered and – depending on the caller's intention – it is possible to achieve the goal of the call. For the non-user (the phone owner), the mailbox and its automatic notification during the next online phase ensures that being offline is not experienced as a faulty situation, but a normal use case that has been covered by the design.

Battarbee (2004) describes the sharing of experiences with others as the key to the co-experience approach (p. 27). The foundation of the approach is closely connected with the concept of intersubjectivity, ultimately explaining that meaning is created through the sum of subjective experiences of the participants. Therefore, any form of experience an individual has with forms of non-use has a direct influence on the meaning of the interactive artefact as well.

Summary: The role of the absent in SxD

Non-users are important design factors in HCI, but they are often underestimated or forgotten. They are not a homogeneous group of people that are “not users”, but actually a group of users with a variety of reasons for not participating in the use of a technology. Satchell and Dourish formulate what I identify to be the ultimate reason why non-users are at least as relevant as users in interaction design:

non-use is not an absence or a gap; it is not negative space. Non-use is, often, active, meaningful, motivated, considered, structured, specific, nuanced, directed, and productive. (2009, p. 15)

This is an important understanding: non-use is not something that is not there – and that could eventually be fixed by putting something (i.e. use) into that empty spot – but a phenomenon that is a permanent and shaping factor of online communication and therefore has to be taken into account as a given factor. Regardless, the terms “absence” and “gap” remain important in this discussion: while I agree that they are not appropriate on a philosophical level, non-use is still being perceived as absence by either those present or those absent and therefore conceptually creates a gap between the users and non-users.

For the interaction designer, concerned with the concept, behaviour and interface of an interactive artefact, this conceptual gap represents a challenge that needs to be reflected upon. As my research revealed, non-use is a very granular scale of different forms of reduced interaction with an artefact. It is another set of interaction needs that may influence design decisions and are to be accommodated in the final product – both on a symbolic and an experience level.

4. Method

"Exploration is by definition a flexible procedure in which the scholar shifts from one to another line of inquiry, adopts new points of observation as his study progresses, moves in new directions previously un-thought of, and changes his recognition of what are relevant data as he acquires more information and better understanding"

– Herbert Blumer²¹

Design is the process of conceptualising a challenge and its solution. Design practitioners will often find themselves – sometimes unconsciously – applying some kind of mental model as a basis for conceptualisation. As pointed out earlier, social interaction design focuses on far more than the bare interface between man and machine. This led to an extension of the interaction designer’s toolbox beyond the traditional methods of interface and product design, to include methods that allow for a deeper insight into the underlying social and interaction processes.

This work does not intend to solve a particular project-related design problem, but to form an understanding of a broader context. However, the methodology is the same: qualitative methods are applied to get an understanding of the reality and to create theory that helps designing an appropriate solution. The only difference is that, in a more concrete project context, the outcome would be specific design drivers, not a general theorisation framework as in this case.

In this chapter, I describe – starting from some general considerations on the role of theories in design – my research

21 In: “Symbolic interactionism” (Blumer, 1986, p. 40).

methodology. I explain how I gathered my research data through auto-ethnography and analysed it applying a Grounded Theory process. Finally, I summarise how this theory is presented herein as a diagnosis of the times.

4.1 Theorising for social interaction design

For the symbolic interactionist researcher, Blumer (1986) suggests the examination of the social world in order to discover its nature (p. 48). Earlier, I elaborated on the need for an in-depth analysis of the context as a form of knowledge creation and reflection-in-action in professional design. I described how an understanding of “design as a discipline” (Cross, 2001) calls for a “thoughtful designer” (Löwgren & Stolterman, 2007). Consequently, the most important tools for high-level conceptual work in social interaction design are methods that allow evaluation of the social reality and practices of the target group.

The mental model a designer applies when creating a solution is not always necessarily a theory in the scientific sense. Often, these models emerge from experience, intuition or tacit knowledge:

Design theory is not identical with the tacit knowledge of design practice. While tacit knowledge is important to all fields of practice, confusing tacit knowledge with general design knowledge involves a category confusion. (K. Friedman, 2003, p. 519)

This is where research – the search for knowledge – comes in. Ken Friedman (2003) describes the value of theory construction in design research as a foundation for design practice. He points out how experience alone does not constitute knowledge, but that a systematic approach is needed for designers to interpret and understand their experience. Systematic knowledge can be considered one of the attributes that distinguish design as a

profession from art. Theory is the tool for conceptualising desirable goals and reasonable change strategies. (K. Friedman, 2003)

This argumentation reminds of Schön's (1987) differentiation of reflection-in-action vs. technical rationality: finding the optimal solution is not possible by applying pre-defined rules but happens through thoughtful abstraction and questioning. As Löwgren and Stolterman (2007) point out, designers are part of a knowledge construction culture (p. 2).

4.2 Discovering theory from qualitative data

For the purpose of conceptualising non-users in the context of SxD, I chose a theorising process based on auto-ethnographic data, an analysis according to the principles of Grounded Theory and the presentation format of a diagnosis of the times. Below, I describe the rationale for this choice and how the research has been carried out.

A theory grounded in auto-ethnography

In his explanation of social interaction design studies, Jakobsson (2006) refers to the acquisition of insight as one stage of the model, ethnographic insight in particular (p. 87). For this work, I too selected an ethnographic approach. More specifically, I chose analytic auto-ethnography to be the appropriate method for my investigations.

According to Leon Anderson (2006), there are two traditions in ethnography. **Evocative ethnography** (also referred to as emotional ethnography) rejects the traditional values of the social sciences and its claims for universal validity, instead concentrating on storytelling in the style of individual biographies. In contrast,

realist ethnography considers the understanding of the researcher only as a starting point. While the former aims at coming to indisputable conclusions, the goal of the latter is to understand the topic under study by placing it within a social analytic context – the experience of the ethnographer gives access to understanding the world. (L. Anderson, 2006)

Analytic auto-ethnography is a sub-genre in the tradition of realist ethnography. The term refers to ethnographic research where the researcher is part of the field. This is why I consider it a highly appropriate method for the design researcher, in particular in the context of SxD:

...autoethnography provides an opportunity to explore some aspects of our social lives in a deeper and more sustained manner. The resulting analysis recursively draws upon our personal experiences and perceptions to inform our broader social understandings and upon our broader social understandings to enrich our self-understandings. The kind of self-understanding I am talking about lies at the intersection of biography and society: self-knowledge that comes from understanding our personal lives, identities, and feelings as deeply connected to and in large part constituted by—and in turn helping to constitute—the sociocultural contexts in which we live. (L. Anderson, 2006, p. 390)

As an interaction designer researching certain aspects of interaction design, observing the field I am working in – through benchmarks, observations and explorative inquiry – is an effective way to gain data for generating theory as it has been done in this work. Anderson also describes how being embedded in the field gives the researcher improved access to data (through insider meanings and the inside perspective) and provides incentives for thorough research (2006, p. 389).

For processing the data collected, I applied a scheme that is based on **Grounded Theory** (GT), a formal qualitative research method aiming at the discovery of theory contained in data. Such grounded theory is of descriptive nature, discovering the dimensions of a social phenomenon rather than making generalising statements on causalities or probabilities. Briefly put, it could be described as the discovery of concepts that emerge from structured exploration.

What makes GT an interesting method for the designer is its goal of creating a general theoretical understanding rather than the investigation of a limited number of user personas or use cases. As ethnography per se is more of a descriptive rather than an inductive method, I believe that the use of analytical tools informed by GT can help to answer the abstract questions posed – ultimately aiming at discovering the theoretical relation of observed concepts, which is the core aim of GT.

Study design and research process

In my chapters on social interaction design and non-use above, I presented a framework of **sensitising concepts** for this study: preliminary concepts that help to guide the research process and the collection of data. These are tools that help the researcher decide where to look for data, serving as a tool to help build initial knowledge before an entire context is fully understood. The notion of sensitising concepts was introduced by Blumer (1986), who differentiated them from definitive concepts:

Whereas definitive concepts provide prescriptions of what to see, sensitizing concepts merely suggest directions along which to look. (p. 148)

The considerations on the definition of SxD (chapter 2) and the literature review regarding non-users (chapter 3) informed a theoretical understanding of how value is created by means of social

interaction design and what are the overall dimensions of non-use. Hence, the two sensitising concepts applied in here can be described as follows:

- **Symbolic value, experience value and social practice:** The design of meaningful artefacts for interactive social network systems aims at the creation of symbolic value and experience value. The facilitation of meaningful socio-technical practices by the design is achieved through a high degree of integration into the social reality and social practices of the user.
- **Non-use as a form of presence:** The absence from an SNS is at the same time just a different form of presence. It also is not a temporary or involuntary state related just to the utilisation of technology, but a core feature of social reality.

The systematic analysis of my observations described here is based on data collected during the past two years. It consists of observations of situations and reported experiences where users or non-users encounter the boundaries of the social web as well as benchmark cases where non-users are either conceptually integrated or neglected in existing online services.

The data in my research has an acknowledged bias, as the data has been collected chiefly from the context of Western societies (with a strong focus on Finland, but including other EU countries and Northern America). It may also be biased towards social strata with an over-average degree of education and a low threshold in access to information technology, if desired. Neither bias affects the outcome of the study, since ethnographic research is by definition selective in scope. As pointed out earlier, a research like this does not aim at empirical representativeness. It describes the current state of the subject of inquiry and tries to provide an explanation for the phenomena observed.

These field notes were mainly gathered through participatory observation, the review of secondary sources and unstructured interviews. Both as a designer and a researcher, I have spent considerable time in the field, working with the benchmarking of existing services, the creation of new services and interviewing users as well as non-users. In summary, this data forms an auto-ethnography, providing a structured understanding of the observations I have made.

Under consideration of the sensitising concepts I had built earlier, I processed my notes applying the coding process as described by Barney G. Glaser, Anselm L. Strauss and Juliet M. Corbin (Glaser & Strauss, 2006; Strauss & Corbin, 1990)²²:

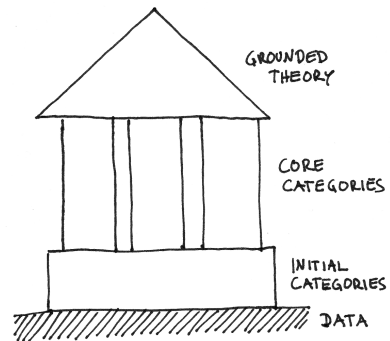


Illustration 27: Grounded Theory: categories emerge from the research data through open coding (base-ment) and axial coding (pillars); the theory is built on top (roof).

During “open coding”, I collected common themes and patterns emerging from the data, which provided some initial concepts. As it is at the centre of interest to discover as many perspectives as possible, the data for open coding is gathered through open sampling, a highly unspecific method with no conscious selection of the data sources. During the coding itself, the researcher breaks down the data into main categories

²² I would like to mention a paper by Maryam N. Razavi and Lee Iverson (2006) that is not of relevance regarding my topic, but has served as an important benchmark on how to report about GT research. The structure of my presentation here and in the following chapter is inspired by this source.

that inform the further proceeding of the research (Strauss & Corbin, 1990, pp. 61-74).

In the next step of “axial coding”, I related these emerging concepts and identified a series of core categories. In this phase, I adapted the perspective of Strauss and Corbin which, according to Keith F. Punch and Keith Punch (2005), is based on an interactionist paradigm that aims for an understanding of the conditions, context, interaction strategies and consequences of the central phenomenon (p. 210). This approach has been criticised by Glaser for forcing data into categories rather than letting them emerge (Punch & Punch, 2005, p. 210), which probably occurred in my analysis as well, though I – from my symbolic interactionist point of view – do not consider that an issue in this work.

Finally, in the “selective coding” phase, I concentrated on coding only concepts that were related to my previously discovered core categories, which led to a small subset of high level concepts – the grounded theory. As usual in a GT research process, the coding took place synchronously with the data collection and when certain concepts required more insight, additional data was collected through selective sampling.

Creating consciousness for the unobvious

The format of this report is a **diagnosis of the times**. This type of sociological research (originally described with the German term “Zeitdiagnose”²³) emerged already in the early 1900s as a format that was half scientific, half moralistic; aiming at the creation of insight into the distinct nature of the present (Osrecki, 2009). Today, as Arto Noro (2000) describes, diagnoses of the times are

23 Another translation used in English is “diagnosis of the present” (Osrecki, 2009), the Finnish language uses the term “aikalaisdiagnoosi” (Noro, 2000).

an established format, referred to as “practical wisdom”, “looking for the lost coherence of the modern epoch” and “a message that reaches beyond the boundaries of the scientific community, in comparison with other uses of social scientific knowledge” (quoted as in the English abstract: Westermarck Society, 2000).

While the two traditional genres of sociological research aim at generating scientific theory – Noro (2000) describes them as “general theory”, dealing with how society and the social are constituted, and “research theory”, that explores limited phenomena of social reality based on empirical data – the genre of the diagnosis of the times is concerned with general questions of “Who are we?” and “What is our own time?”. It is important to note that the concepts emerging from such diagnoses cannot be used for the interpretation of empirical data. Still, diagnoses of the times are rooted in the context of social scientific research, employing general theory and research theory. (Noro, 2000; Pyyhtinen, 2008)

The value of the research results, Mikko J. Virtanen (2007) explains, lies in the insight they provide, in other words: the outcome of a diagnosis of the times is not intended to be tested through empirical research but to inform the debate about a topic identified through the researcher’s work:

Diagnoses of this kind lack the potential to be proven wrong – and therefore can never be right or wrong in a scientific sense. Diagnoses can only serve as informing heuristics – they don’t explain but only describe social phenomena. (p. 99, my translation)²⁴

24 Original quote: “Tällaisilta diagnooseilta puuttuu siis falsifioitavuudelle alttiina olemisen tuottama tuki – ne eivät ole koskaan, tieteilisessä mielessä, oikeassa tai väärässä (ks. myös Joas 1988 ja Alapuro 2000, 110). Diagnoosit voivatkin näin ollen toimia vain informaatiota tuottavina heuristiikkoina –ne eivät selitä vaan ainoastaan kuvailevat yhteiskunnallisia ilmiöitä. (Ks. Baert 1998, 182–189.)”

In this particular research, the value of describing insight into a social phenomenon related to design practice lies in providing a framework for the consideration of non-use in an SxD context and informing a debate about the phenomenon.

Summary: An auto-ethnographic diagnosis of the times

Theories from a diagnosis of the times are not necessarily going to live for long. They are rather tools that help to understand a theme and that have an aim to inform further development. Fran Osrecki (2009) applies the metaphor of a physician that identifies an “illness”, creates consciousness for it and examines its sources behind the visible interface (p. 6). This is exactly the intent of this work: through the discussion of the social interaction designer’s professional practice and the phenomenon of non-use, this research has been carried out in order to provide a theoretical model that can be used as an analytic conceptualisation of observed issues related to absence in SNSs.

The general theory this work is based upon is symbolic interactionism, providing a framework for the understanding of social interaction, and the chapters on SxD and non-use made extensive use of research theory. My role as a design researcher is to be the physician who analyses the sources of the observed phenomena related to non-users as contained in the field data and explains them through the application of general and research theory, presenting the findings in a theoretical model – the diagnosis of the times.

5. The Absent Peer – a conceptualisation of non-use

“If you can’t explain it simply, you don’t understand it well enough.”

– Albert Einstein

By means of the method described in the previous chapter, my research aimed at the discovery of theory emergent from the data. The model that ultimately emerged from my analysis consists of two core propositions regarding the impact of non-use on SNS concepts: the “social network mismatch” and the “sociality gap”.

To illustrate the conceptual insights discovered during my analysis and how they ultimately led to these two high-level concepts, I am first presenting two auxiliary categorisations leading towards the final theory. These were by-products from the coding process, intermediate steps that eventually led to the final theory. Afterwards, I present the theoretical model that emerged from the research by introducing the two concepts of the theory.

As presented earlier, the terms user and non-user stretch over a complex set of phenomena. The causes range from forced exclusion to voluntary disinterest and its manifestations from temporary non-use and passive use to more abstract cases as use-by-proxy. To avoid overcomplicating this description of my analysis, the notion “user” is herein applied for an individual that is either currently or regularly using social media or a particular

SNS. In the same sense “non-user” may refer to temporary as well as permanent non-use²⁵.

In this chapter, I am also repeatedly referring to “in-groups”, a sociological notion that describes groups of individuals with certain commonalities. “Out-groups” are groups of individuals as seen in opposition to in-groups. When referring to “inclusive tools” in this text, I refer to tools of SNSs that enable communication between the in-group and members of the out-group of non-users.

5.1 Initial categories: Expected qualities

In the early phase of my research, I discovered that different observations can be grouped based on **expected qualities** – the expectations of the individuals in regard to the interaction through social network services. This is the most obvious – and at the same time least abstract – way of grouping the data into patterns and recurring themes, closest to the observations made. It became apparent that the data repeatedly refers to situations where the user or

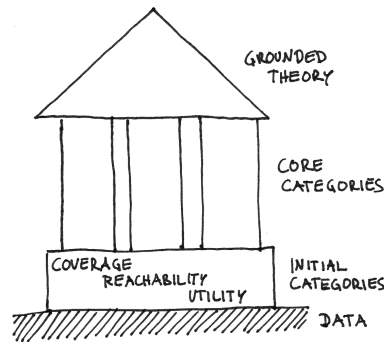


Illustration 28: The initial categories coverage, reachability and utility are the basement for the emerging theory.

25 My discussion also disregards the question whether non-users who are enabled to interact with users through additional functionalities of an SNS aren't at the same time becoming users. This is an interesting question, but the philosophical discussion of the related semantics has to stay outside the scope of this work.

the non-user encounters absence as an issue in the context of coverage, reachability or utility:

- **Coverage** describes the perception of an SNS as a place where an in-group participates in social practice mediated by technology. This virtual space however does not cover all personal contacts of the user, but is restricted to other users.
- **Reachability** refers to an SNS as a communication channel, where presence creates the potential for interaction. The possibilities to reach non-users from within social media or to participate in social media interaction as a non-user are limited.
- **Utility** depicts the applicability of an SNS for engaging in the social activities it is designed for. While new forms of sociality find their way into the daily life of a user, they can only be applied when interacting with other users.

Many of the limitations of SNSs I am going to describe apply to other modes of interaction as well. If the non-user's unawareness of a topic discussed in Facebook is herein presented as a disruption in terms of coverage, this does not mean that it wouldn't occur as well if the same people would instead exchange about that topic in a face-to-face setup or on the telephone. The intent of this chapter is to highlight the dimensions in which non-use becomes a variable of relevance, not to present shortcomings of social media as compared to other forms of social interaction.

I chose to present my data through scenarios, some of which combine several observations. These are not 1:1 excerpts from the data, but rather exemplifying narrative tools to illustrate the phenomena discovered.

The place where everybody is (coverage)

The category of "coverage" is grouping together experiences that are related to the overall concept of social networking sites as a

space for sociality. It could also be described as the inclusive dimension of SNSs. From the coverage perspective, non-users become relevant due to the fact that they are excluded from the social activities taking place within the service.

When investigating social practices on the internet, an endless amount of forms of sociality can be encountered. Online interaction leads to the creation of new ideas, where free-time activities are invented or business ideas are born. People make spontaneous plans, exchange seemingly irrelevant information and by chance encounter things that may change their lives. Sometimes, such simple things as 27 people pressing the “Like” button for a Facebook message can create a community feeling or trigger further interaction, as I observed in one instance. The list of examples could be continued indefinitely.

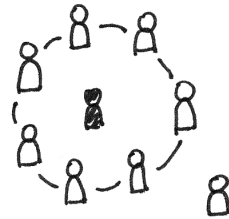
Standing inside: Somebody is missing

My data indicates that users experience the absence of non-users from the virtual arena of sociality by seeing them stand outside of the social interaction going on in the online space.

Occasionally, a user may notice that some real-life peer is not included in the social activity, for example when a topic comes up that relates to that person:

In a discussion on Facebook, A mentions something about B. She points out that it is a pity that B is not present to comment.

Or the user might recognise the non-user’s unawareness of information exchanged online in a face-to-face setting. These situations bring to the user’s attention that the circle of social activity in SNSs is limited:



*Illustration 29:
Coverage as experienced by the user:
"She's not with us
where things happen."*

C and her friends are meeting up. They continue a discussion that refers to a photo one of them posted online the day before. Only after a while, they notice that D cannot really participate in the discussion as he hasn't seen the picture. E digs out his mobile to load the picture from the internet.

The strongest embodiments of this category are the contact lists of social network services. In the most constricted case, the contact list of a service can only contain people that are also users of this particular service. When users join that kind of service, they are usually presented with an empty list that allows to search for other people they know or to invite friends to the service:

F joins a social network intended for sharing browser bookmarks with friends. However, when he watches the "Bookmarks of your friends" page, it is empty, as he is not connected to any of his friends through the service. His friends still collect their bookmarks on their hard drives offline.

If the user had been invited to the service by somebody, this one contact would likely be pre-added to the list, as all kind of mechanisms are built around this problem colloquially referred to as the "first to the party problem"; for example advanced import tools (allowing to import contacts from other services) or messages to a user's first contacts to suggest him more friends to connect to.

Interestingly, the "first to the party" problem adds a dimension of non-use that had not been covered in my literature review: non-use as a subjective experience. If a user is not aware that her friend is a user as well, she experiences that friend as a non-user:

G tends to chat with her friends in Skype on Sundays to make plans for the evening. For many months, she always sent an SMS text message to H, sharing the plan of the day as H was not on Skype. One day it

turns out that G just wasn't aware that H was also a Skype user.

However, another example illustrates how this "inner circle" itself is not defined by the contact list only, but temporary absence can turn even those on the list into non-users:

J posts a note on Facebook that she would like to go for a coffee now, with the intention to meet some of her close friends. However, none of them read the message in time. In the end, the person replying is a former colleague she hasn't seen for months. It turns out to be a great meet-up, but not what she initially had in mind.

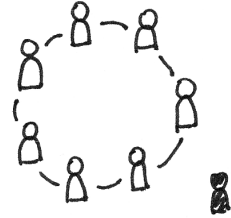
When making announcements in an online service, only a subset of peer users may read it. Those currently logged off or applying filters to manage the amount of incoming information will not be aware of it. In order to reach non-users, even temporary non-users (those not in front of an interface to the service at the time), the user still has to ensure by other means that the message reaches the intended recipients:

K is sharing the link to a hilarious video on Twitter. From experience she knows that her friend L follows Twitter only occasionally. She decides to send him the link by e-mail as well. Rather than on Twitter, their discussion about the link takes place in Skype once they are both online again.

Standing outside: Something is going on

Based on the results from my field work, non-users' experiences with coverage are mainly related to exclusion of some form. Naturally, if users experience the coverage of social media through the inclusion of as many contacts as possible, the non-users are those that are left out.

Above, I listed some examples of sociality in SNSs. Non-users may or may not be aware of the social interaction going on in these in-groups:



M is coming to a bar to meet her friends. They are talking about N's planned around-the-world trip. M has never heard about the plan, which is a surprise to many: "But she has been talking about this on Facebook for weeks!"

*Illustration 30:
Coverage as experienced by the non-user:
"Something happens without me."*

When a significant share of an individual's real-life peers regularly engage in social interaction through a tool she does not have access to, this leads to experiences where implicit mutual information does not reach her and even essential news might not come to her attention. The non-user is dependent on one of the users to remember to act as a proxy, by calling or texting to share the information exchanged online:

O posts a link to a new restaurant on Facebook in the afternoon. His friends P and Q reply in the comments, proposing to meet and check it out right after work. O adds a comment: "Please, everybody else, come and join us!" Once at the restaurant, he receives a call from R, asking whether he would like to meet up for dinner. R is annoyed to find out that O forgot to give him a call, as he knows that R is not on Facebook.

A channel for communication (reachability)

The category of interaction potential labelled "reachability" covers observations related to the role of SNSs as a communication channel. In this communicational dimension, the limitation of a service in regard to non-users lies in the fact that its interaction tools cannot be used to communicate with them. This effectively

limits meaningful interaction through the service to user-user interaction only. As compared to the category of coverage, which is related to social practice, reachability refers to the lack of capacity for interaction.

Most SNSs are built around the idea of communicating within the service, using built-in messaging tools or other mechanisms around common social objects (“Like”-buttons, comments, rating tools, automatically detected location or proximity etc.). This communication is therefore members-only which effectively turns non-users into an out-group. This causes issues for both sides: the users cannot interact in the same way with their non-user friends and the non-users cannot participate in the communication that is occurring.

Standing inside: The non-user cannot be reached

Non-users are (at least partially) out of reach of the internal communication channels of SNSs. The research data revealed how users experience this limitation by not being able to communicate with the non-users in the same way as with other users:

S met T’s friend U on a party. They had a great conversation and it would be fun to keep in touch. The next day, he checks T’s contact list on Facebook for U’s name, but cannot find him. U, it appears, is not on Facebook. The next time he meets T, S already forgot he had planned to ask him for U’s phone number.



*Illustration 31:
Reachability as experienced by the user: “I cannot reach the non-user by the same means.”*

But from the users' perspective, coverage becomes not only relevant due to the limited reach of the mediated activity, but also due to the need to extend the interaction to non-users:

V uploads all her holiday photos to the photo sharing site Flickr. Unfortunately, only three of her friends are photography enthusiasts who are also Flickr users and will be notified automatically. For her other friends, she has to send out an e-mail.

Including non-users with the ongoing social processes means additional effort for the users:

At work, W and her colleagues are having a group chat in Skype. For the last two hours, they have been coordinating important project-related tasks, but X has been missing the chat due to a client meeting. W has to call X to give a summary of what has been decided. In order to give him all necessary information, he decides to e-mail a transcript of the chat afterwards.

SNSs sometimes allow to add non-users to contact lists. This is not only a measure to reduce the friction of the process when including non-users in the ongoing social activity, it also integrates the non-user into the communicational ecosystem of the service:

Y loves to have a conference call with his family on Sundays. The family, which is spread around the globe, gathers on Skype to exchange news and socialise. Y's brother Z, however, does not have an internet connection at home. Using the feature to call landline phones, Y can include Z in the conference call.

Here, the possibility to call regular telephones in addition to network-internal calls integrates non-users almost seamlessly. This is because the inclusion is based on using the same tool for

communication, speech (this inverts my earlier observation on non-use as a subjective experience: this user experiences the non-user subjectively as a user). In many other services, the non-user integration is more disruptive, as it involves a change of medium:

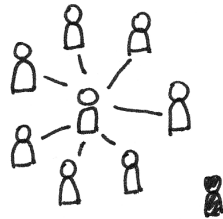
A sets up a Facebook event for a theme party. Thanks to the feature for inviting non-users by sending them an e-mail notification, all his invitees receive a message. However, when he meets his non-user-friend B a few days later, he notices that B has totally missed all the interaction going on at the event page, where people send theme-related photos, exchange opinions through “Like” buttons and discuss through comments.

Standing outside: Users communicate differently

For non-users, it appears from my observations that the lack of access to specific channels of communication manifests itself in the experience of being excluded from social action that is going on in an inaccessible place.

As described, alternative modes of contact can serve as proxy media. These are reaching the user apart from the interaction context of a social network service, but with a notable difference in quality:

C’s friends have started to communicate using a location-based service that maps the location of each user, accompanied with a status message to announce what they are doing or planning to do. Even though they regularly call her to inform her about spontaneous meet-ups, she feels that the lack of



*Illustration 32:
Reachability as experienced by the non-user: "I can't reach them where they are."*

access to the real-time map makes her a second class member of her very own circle of friends.

Sometimes, being a non-user even means an entire exclusion from the means of interaction a majority of peers is using:

D attends a small-scale conference. On the last day, it is announced that a Facebook group has been formed to ensure that the participants can stay in touch. For D, this brings up the dilemma of whether he should join Facebook (which he always refused to do because of privacy concerns) or accept that he will lack the networking channel everybody else is using.

A lot of social media interaction is at least partially public. This allows a non-user (in this case more accurately described as a passive user) to access and follow a conversation, but engaging in it would require her to join the service:

E has been following her fellow student F's channel on the Vimeo video sharing site for some time, as F posts video clips from her research that are related to E's thesis as well. She then sends follow-up e-mails to discuss the content, as she does not have a Vimeo user account that would allow her to comment on the site.

Sometimes, the non-user experiences a form of limited inclusion: when a service allows for messaging with external contacts, the non-user is turned into a temporary and indirect user:

G receives an e-mail from H, inviting her to view her photo gallery from a conference on Flickr using a so called "Guest pass". G browses the photos without signing up to the service.

In these cases, the participation of the non-user might be limited; often there is no way to fully participate in the interaction around the social objects to the same degree as the users:

G is browsing H's conference photos using an invitation as a guest viewer and encounters a photo that she would like to comment on. In order to leave a comment, Flickr requires her to create a user account.

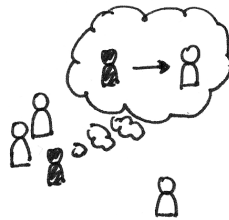
New forms of social activities (utility)

The third category, "utility", groups together observations about emerging social activities in SNSs. Newly developed tools provide (or lead to the emergence of) new modes of interaction, but the user can engage in those only with other users. Non-users are either not aware of or do not have access to these forms of being social.

Standing inside: The application of a new form of sociality is limited

I observed that this category, which combines elements from the two others, is mainly experienced by users. It becomes apparent when a user would like to extend a social practice from a social network site to a bigger share of their real-life peers but these are not available as contacts.

The value propositions of most SNSs are built around the interaction carried out on, or at least through, their platforms. A design artefact built to facilitate interactions is of no use if those interactions are not taking place. Since the participation in these social activities usually requires the participant to be a user, the causal connection between non-use and limited utility is obvious: if a critical mass or critical individual contacts are missing, the utility decreases:



*Illustration 33:
Utility as experienced
by the user: "I cannot
engage in this social
activity with her."*

J has been using this brand-new instant location sharing service for a few weeks now. It is big fun to learn so much about her colleagues K and L who are also using it. But sometimes she wishes her best friends M, N and O would be online as well.

On the other hand, some observations show how the utility can be increased regardless of the non-user phenomenon. Many services do offer ways to allow some of the interaction to be practised with non-users as well, ensuring a sufficient amount of peers for the social activity the SNS was intended for:

When P joined Flickr, his intention was to have an easy channel to share his latest photos with friends. Over time it turned out that a lot of the attention his shots received came from unknown photo enthusiasts. Also, in order to show his pictures to his friends, he can send out “Guest pass” links via e-mail.

The external inclusion of non-users may even go beyond sharing content. For example, e-mail based clones of internal functionalities may broaden the target group of the interactions a service provides, allowing users to make use of new forms of social activity while keeping everybody included (at least on a basic level):

Sending out birthday party invitations via Facebook is convenient for Q, as most of her friends are on her contact list. To invite non-users as well, Facebook allows her to add invitees using their e-mail addresses and sends them a notification.

Sometimes, the nature of a service is such that integrating the extension to non-users is possible so seamlessly that the user hardly is conscious of it when using it:

R is on a tight budget during her exchange year. To call home, she uses Skype. Her grandma, however,

does not have a computer. Instead, R can call her on her landline phone using the same software she uses to call her parents. She also purchased a call-in number from her home country, so her friends at home can reach her through a local phone number when she is online.

The aspect of utility appears as a limitation in contexts where users recognise that sharing their content does not trigger the desired interaction:

Sports Tracker is being marketed as a social web service to share workout data with friends. However, none of S's friends are using it. For him, the service is just a personal training tool where he can compare his own workouts.

But social activity is of course not restricted to one SNS at a time (even though in the practice of the social interaction designer, other services can only be taken into account as they are, but not influenced). When thinking beyond the border of one particular service, the possibility to share social media content through other web services immediately increases the utility of the service:

S ran the city marathon in a personal record time. Watching the analysis of the GPS track on the Sports Tracker is very rewarding. He decides to make the exercise public and post a link to his Facebook profile, which earns him a bunch of excited comments from his buddies.

Standing outside: No interest in this form of sociality

Nonetheless, the utility aspect plays a role for non-users as well. It is mainly encountered when peers start to use an SNS for which the non-user cannot see any application in her own life.

This expands the experience of “being left out” that I referred to under the category of coverage to be not necessarily a negative experience. For the voluntary non-user, staying outside of a SNS’s circle can be connected with accepting the impact on their own social practice:



*Illustration 34:
Utility as experienced
by the non-user: "I am
not interested in enga-
ging in this social acti-
vity online."*

T is aware that most of the people in his business network through the professional network LinkedIn, but has privacy concerns that keep him from sharing his CV online. Not joining the service, he consciously takes into account his reduced visibility in the job market.

The feeling of irrelevance of a tool can play a role too – with non-users explaining that they cannot see any value in a service offering. At the same time they still recognise the value of the SNS based on the impact it has on themselves, even as non-users:

“What is the point of sharing my location in real time?”, U asks her friend V. She has never really understood why she should put in the effort to constantly check a map on her phone to see where all her friends are. Still, she regularly has the feeling of missing some information.

In both previous examples, the non-user does not experience being “left out”, but is “staying out”. Also “staying out” as a personal statement can be a motive, finding some utility in personal benefit from non-use, such as their image being different from the mass:

Every time her friends start talking about Facebook, W can’t but wonder why everybody is so excited. “To me this whole fuss is like kindergarten”, she states, “I

have my phone and when I want to tell my friends what I am doing, I give them a call.”

Sometimes it can even be fashionable to not use something. In that case, non-use actually serves as a mutuality that creates or intensifies the bonds of an in-group forming within the out-group:

While their colleagues are giggling about how X got busted calling in sick because of a hangover, after posting drunk messages from a party at 4am, Y and Z assure each other what a good thing it is that they don't even have a mobile phone that would allow them to use a service like Facebook at a party.

Summary: Expected qualities and SNS features

As the intertwined presentation over the last pages indicates, the observations about social media's qualities and non-use cannot be clearly sorted into one of the three categories. Many of the experiences a user or a non-user has in regard to non-use-related issues belong to two or even three of the categories of coverage, reachability and utility.

The model has been an important step in the analytic process, as it has built the bridge from the participants' perspective to the conceptual level. By reflecting on the three categories and how they covered the broad variety of observations, this eventually led me to understand how these expectations of users and non-users can be translated into service features:

- The phenomena perceived as related to coverage are all related to the features related to the **sociality** within the service – the core of the social interaction concept.
- What surfaces as issues related to reachability in the users' and the non-users' experiences are conceptually connected with the **communication features** of social network sites.

- The utility category translates directly into the feature set related to **social practice**, the social activities around which an SNS is built.

5.2 Core categories: Symbolic values

My three initial categories provided insight into the non-use-related limitations of the qualities of social media artefacts, as experienced by those involved. Above, I abstracted them to the feature-level as they are of relevance in a service concept.

Subsequently, I turned my attention to the relationship between the different categories, searching for core categories of **symbolic value**

attached to the social interactions involved. This second degree of abstraction leads to categories that allow an understanding of the use motivation rather than the form of use. Again, since they are in a direct line of evolution with the previous categories, I refined the framework to three main categories: **conversation**, **content** and **social acts**.

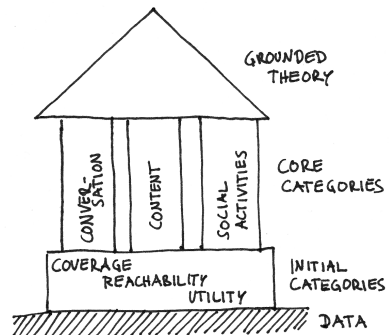


Illustration 35: Conversation, content and social acts are the next categories that emerged from further analysis.

Facilitating dialogue (conversation)

Not surprisingly, “conversation” appears as the strongest symbolic value in the use of services for social networking. The data refers to use motives, such as “sending a message”, “seeing what somebody is doing” or “asking for opinions” throughout. The tools of SNSs are perceived to be facilitators for dialogue both

explicitly (by sending messages or media content serving as a message) and implicitly (i.e. through action, not words or media).

The potential to engage in a conversation with friends and acquaintances is what motivates a person to use a certain interactive artefact: its value is being seen in its role as a symbol for meaningful interpersonal conversation. Non-use affects this perception of value, as it limits the amount of possible conversations to those accessible through the service.

For the user, the artefact turns from a symbol that allows communication in a certain mediated form into a symbol that allows communication with only selected people. Common experiences are reflected in statements like “I still have to send those photos separately to my friend who is not subscribed” or “we can agree on the date for the trip in this thread, but I will call X to ask for her opinion”.



*Illustration 36:
Meaning through the
symbolic value of con-
versation.*

The non-user, on the other hand, experiences the service as a symbol of exclusion rather than as a conversational tool. The outside perceptions of the same example situations are: “I got a link to these photos by e-mail, but I cannot comment on them” and “if I want to have equal influence on the plan, I’ll need to sign up”.

Shared meaningful subjects (content)

“Content” is the other strong symbol that appears continuously throughout my empirical sources. Peoples’ experience with SNSs hovers a lot around the items of data that are shared and distributed among its participants – and the lack of access to it is one of the most visible dimensions of non-use.

This category describes the experiences users and non-users have in relation to content: content is being shared but cannot be viewed by everybody a user wants to reach, content is inaccessible even though all personal friends are talking about it, or certain forms of content (such as real-time location data) makes sense only to a certain in-group. All this makes content one of three core categories regarding the symbolic value of social media – it is created, shared and consumed based on a common understanding of its interactive value. For non-users, understanding such content as conversational symbols can be difficult or impossible: it is either unreachable or the context of its presumption is inaccessible.



*Illustration 37:
Meaning through the
symbolic value of
content.*

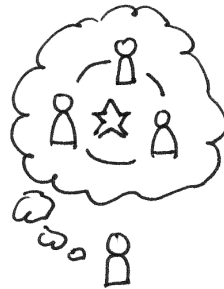
Describing content as a symbolic element of an SNS raises the question of whether this is the same as the “social object”, the boundary object of sociality I presented earlier. However, I believe that “content” in the understanding of this category is closer to the role of a subject, as it is the substance of the conversations and the social activity (the two other categories). The qualities of content as an object are probably more relevant in terms of the action surrounding it, whereas its qualities as a subject are of more interest in terms of symbolic value and meaning.²⁶

²⁶ This train of thought is inspired by some of the discussion around the topic of “object-centred sociality”, for example in a blog post by Jack Park (2009) who proposes to consider “subject-centric sociality” in his discussion of Engeström’s work on the social object.

Sociality with a meaning (social activities)

The third category of symbolic value I discovered can be summarised as “social activities”: SNS are perceived as a place for social practice. The related activities are not always as obvious as “I want to invite all my friends to the party”, but can also be of a more inexplicit nature: “LinkedIn is where I come to follow the whereabouts of my former colleagues”.

The users’ engagement with a service is based on the meaning it has for fulfilling such social activities. The potential for social activity is directly affected by non-use. When some key contacts are missing or the majority of friends are perceived to be inactive lurkers, the offering of the service loses its strength. It then has to be complemented with other ways of communication, usually the traditionally established channels that are already in use in the context of the particular social practice.



*Illustration 38:
Meaning through the
social value of the
social activity.*

For non-users, the (factual or perceived) lack of use for the social activities a service offers is a frequent motivation for not using it (e.g. “why would I keep a public diary on Facebook if I’m already calling my friends every day?”). The fact that the absence from a service affects its potential for completing meaningful tasks is naturally not of concern for the non-users. Still, they sense how certain activities are taking place in an SNS, as reflected in statements where non-users feel that they were not told about an event since it was planned online.

Summary: Observed non-use and symbolic values

At this stage of the analysis, the interest lies not only in the categories as such, but on the relationships between them. These three categories provide a set of values that can be used to explain the impact of non-use on SNSs from a symbolic interactionist point of view. What I am ultimately looking for is the symbolic meaning of the use of an artefact that is subject to the social interaction designer's work and how it is affected by non-use-related phenomena. The categories give partial answers to this question, but only together form a complete picture:

- “Conversation” refers to the capability of the tools to provide channels for the exchange of meaningful symbols. The symbolic value is based on the interpersonal relationships of those involved in these virtual interactions. These can be relationships from the world outside the SNS (the user missing her non-using peers) or relationships that emerge or are intensified through the online sociality – an aspect of relevance for the non-user as she cannot engage in this sphere of interaction.
- “Content” describes the concrete objects exchanged through social media that carry subjective symbolic value based on their meaning outside of the virtual context (i.e. in the broader social practice, the real life of the users). The failure to transfer either the content or its meaning between users and non-users is the source of disruptions in this context.
- “Social activity” depicts the form of how individuals interact with each other. The social tools give access to new modes of sociality to the user, who can apply them mainly with other users. Meanwhile, the non-user experiences a divide when parts of her social ecosystem engage in forms of interaction she cannot assign any symbolic value to.

5.3 The theory of The Absent Peer

The core categories describing the symbolic values of interaction in SNSs and their summarisation led to two high-level concepts in the final analysis. By looking for commonalities among the three core categories, I encountered two underlying effects that caused the described non-use-related issues.

Firstly, the issues are caused by an inconsistency between the social graph in a socio-technical system and the user's real-world social ecosystem. While the user engages in social practice with a set of contacts that do not reflect his offline networks, the non-user is affected by parts of his social network engaging in social activity that she does not have access to.

Secondly, the utilisation of technology-mediated sociality leads to the emergence of new forms of sociality. The user is limited to applying these forms of social activity with other users, while the interaction with non-users continues through other social activities. Non-users on the other hand may not even be aware of technology-mediated social concepts and experience a disconnection from the evolution of their peers' social practices.

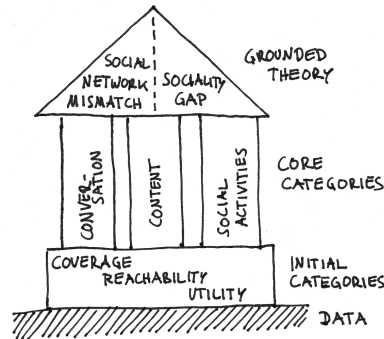


Illustration 39: The final theory (the roof, consisting of two concepts) is grounded in the data and emerged through the categorisation of the data.

Concept I: The social network mismatch

The **social network mismatch** describes the fact that the online network of a user (her “social graph” or her “social hyperlinks”, as

I referred to it earlier) does not reflect the real-life social environment. Real-world contacts may not be covered by a social network site, leading to a reachability issue for the user: the service cannot be utilised for interaction with non-users. Vice versa for the non-user, this is above all an exclusion issue, with the non-user standing outside of the social activity and communication going on within an SNS.²⁷

I already presented examples of how users experience the coverage and reachability issues caused by this mismatch. For example this is apparent when friends use a photo sharing site to view pictures from a party, but the related memories and gossip are processed only among the in-group. Often, services attempt to bypass this shortcoming through external access methods. But this mismatch also causes issues that cannot be solved by technical solutions – for example, when a user reads a status message from another user and would like to discuss it with a friend who is not using the service. The extra effort to call that



Illustration 40: The online social network does not match the real-life social network.

27 In a related phenomenon discovered during the data analysis, a user may have “web friends” that are not real friends, which may influence the online behaviour to be less authentic than real sociality. Also, the representation of contacts on social web services is often a simplified representation of the reality – lacking the granularity of real social contacts. Both these dimensions should be part of a concept of “social network mismatch”, but are not further discussed in the scope of this text as they are not related to non-use.

friend lets the user experience the limited inclusion of her social ecosystem in the service.

Earlier, I also referred to the notion of non-use as a subjective experience. Along with the aforementioned obvious cases where absence-induced limited reachability has to be circumvented by using other channels, this can cause even more complex effects. One user reported a case where she tried to invite an apparently non-using friend to a Facebook event, using her e-mail address. However, the system reported that inviting the friend by e-mail was not possible as she was already a Facebook user (but not a contact).

The social network mismatch phenomenon also has conceptually relevant technical consequences. Since many social network sites rely on the users' activity to calculate a rich picture of their social graph, these graphs only reflect the online social environment of the user, but not her real life context. A social graph based on a database will always be only as accurate as the data it contains. Even if the algorithms used by an SNS can detect with whom a user interacts the most, it still is incapable of seeing that the most important interaction partner in her real life may actually be a non-user; for example somebody who is never reading her Facebook messages so that she is calling the friend instead of posting internal messages. Also use-by-proxy has the capacity to interfere with both the social graph and the social practice of the peer users, for example if a non-user uses her boyfriend's account to communicate with her friends: friends can never be sure who is going to read a private message they send, and the database engine gets a falsified picture of the user's network and behaviour.

Concept II: The sociality gap

Concepts for online interaction lead to the emergence of new forms of sociality from which non-user peers are excluded. With social media being positioned around the creation, sharing and consumption of digital social objects, their interactive dissemination becomes a new part of users' social practice. Meanwhile, these social processes do not find their way into the reality of the non-users. This generates an in-group (with the challenge that absent peers can be included only to a limited extend) and an out-group (with the problem of being left out), and between them the **sociality gap** emerges.

Often, I observed, interactions in SNSs replace other forms of interaction. For instance, many users have moved conversations formerly subject to e-mail communication to Facebook, where either public or private messages serve the purpose as well or – thanks to the wider reach – even better. For the non-user, this shift can imply being left out from the information flow or having less means to communicate with her peers. In the worst case this leads to situations where a friend is forgotten to be invited to a social event, simply because it didn't come to the users' mind that she is not part of the online discussion.

Also, the social practice in a closed environment leads to phenomena such as in-jokes or memes, where users adopt repeating patterns of funny behaviour or share joke content – for example, observations I made where funny terms or phrases from a shared video clip were used in regular conversation. These jokes are carried from social media into everyday life, where non-users encounter them as

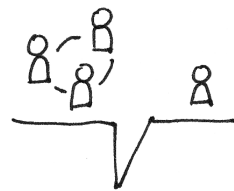


Illustration 41: Using peers engage in different social practice than the non-user.

unfamiliar concepts that may not necessarily make sense even after they have been explained.

The effect of the sociality gap for the non-user can even be multi-dimensional. For example, I observed a service experiment where users shared their location through a GPS-based micro-blogging service. This led to a sudden increase in contact density among a subgroup of a circle of friends, who were constantly aware of each others' movements. In consequence in-jokes emerged and the opportunities for spontaneous meet-ups increased significantly – with those not part of the experiment starting to miss out on mutually shared information.

Summary: The non-user is the absent peer in SxD

My theoretical model has been titled **The Absent Peer**. By applying this name, I want to highlight the two most important aspects of this conceptualisation: non-users and user are peers, who interact with each other offline and/or through technologically mediated channels, but the fact that not everybody is a user (and even users are occasionally non-users) leads to the observed social network mismatch and sociality gap. Above examples draw a rich picture of how SNSs are enablers for social interactions (sharing photos, inviting to events, exchanging whereabouts in real time), but at the same time can be a road block for engaging in these interactions with those absent.

As presented, the theory has been discovered through several layers of abstraction from the original data. It has been derived from the symbolic values involved with SNS use or non-use. These had emerged from an analysis of the issues experienced by users and non-users that I translated into service features in an intermediate step.

Table 1: The theory of The Absent Peer and related categories.

Theoretical concepts	<ul style="list-style-type: none"> • The social network mismatch • The sociality gap 	Two concepts representing the core dimensions of non-use – explaining both the cause and effect of the phenomenon.
Symbolic values	<ul style="list-style-type: none"> • Conversation • Content • Social activities 	The values that define the meaning of SNSs for both users and non-users.
Service features	<ul style="list-style-type: none"> • Sociality • Communication features • Social practice 	The elements of social interaction design concepts affected by non-use.
Perceived qualities	<ul style="list-style-type: none"> • Coverage • Reachability • Utility 	The core contexts in which non-use is perceived as a factor for users and non-users.

In the introduction, I described how the social web is a tool for technological intersubjectivity and provided the models of social hyperlinks and social objects to support this perspective. The theory of The Absent Peer reflects this thinking through its bipolarity, relating to the network aspect and social practice.

In the chapter on social interaction design (chapter 2), I discussed how SxD is concerned with the extension of HCI into the social sphere, and how the creation of meaning – as defined by the symbolic value of the mediated social processes – can be seen as the ultimate goal for the social interaction designer. The Absent Peer model describes the two dimensions in which the use experience of SNSs can be disrupted by effects of non-use: the mismatch of the personal social network with the online social network and the divide in social practice between users and non-users directly influences the symbolic meanings a user assigns to a digital artefact.

In my investigations regarding non-use (chapter 3), I discovered that the phenomenon in question is not not-yet-use, but a permanent and multi-dimensional phenomenon. For the Absent Peer theory, this implies that the designers' answers to the challenges posed by both the network and the social practice aspects of non-use are not solutions to turn non-users into users, but solutions that accept and accommodate non-use as a permanent characteristic trait of social activities online. The categories of my model provide a framework for the consideration of the different impacts of non-use on SNS concepts.

In the analysis of the field data, it turned out that the different forms of temporary non-use or indirect use are of particular relevance, as individuals appearing to be users do not actively participate in the social activities. In a similar way, I discovered an additional form of non-use, "subjective non-use" – the situation where a user perceives a friend to be a non-user regardless of the fact that she is a user.

6. Discussion

“...interaction design is architecture, not interior design. Interaction design determines where the concrete for the foundation will be poured as much as it determines which fabric will be most appropriate for the window treatments.”

– Alan Cooper²⁸

The most important insight this research provides – based on my conclusions from the literature review and supported by the results from the field research – is the understanding that the impact of non-use on SNSs is impossible to be solved in the sense of being eliminated: what is of interest for the interaction designer working on SNSs is to take these social realities into account and find the optimal balance between disruptions by and accommodation for the related issues.

The contribution of my work is the conceptualisation of non-use in an SxD context. To my knowledge, this is the first attempt to provide a holistic model for understanding how non-use and the related subjective experiences of the individual, both users and non-users, affect the value of digital artefacts for social interaction.

In this chapter, I evaluate the practical relevance of the theory for the work of the social interaction designer and present suggestions on how this research could be continued.

28 In “The inmates are running the asylum” (Cooper, 1999, p. 227).

6.1 Implications for social interaction design

Referring to Schön's explanation of how reflection-in-action differs from technical rationality, this thesis is not aiming at the provision of step-by-step guidelines, but at serving as a conceptual tool for a reflective design process. This work does not provide a universal answer on how specific effects of non-use can be accounted for in a social interaction design project. Instead, the two core dimensions of the model can be applied to evaluate an artefact's meaning in the social context – considering both network aspects and social practice. They serve as a framework to assess and understand how non-use may influence the value of an SNS.

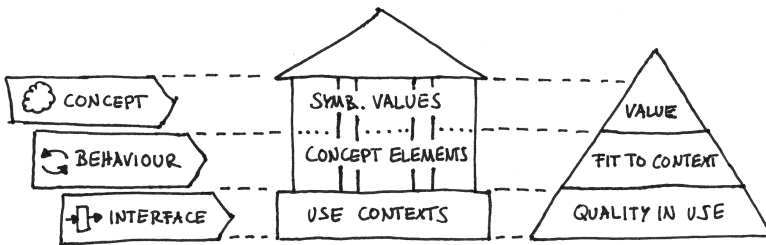


Illustration 42: Relating the theory of The Absent Peer to the three steps of IxD and the goals of HCI.

In order to relate theory to practice, I base my evaluation of the findings of this research on Cooper's (1999) three steps of interaction design: concept, behaviour and interface. Since the categories of my analysis correspond to the steps of an abstraction process from the user experience through service features to symbolic values, it appears feasible to relate them, in reverse order, to these three steps that already served as one of the backbones of my definitions of SxD. Also, as I will explain below,

I argue that these can roughly be related to Cockton's (2004, 2006) definitions of value as represented in the "goals of HCI" pyramid by Kujala and Väänänen-Vainio-Mattila (2009): value (or "the worthwhile"), "fit to context" and "quality in use".

Concept

Concepts for digitally mediated social interaction are usually based on the creation or enhancement of social practice by the means of networked computer systems. Their starting point is an idea that illustrates how smartly designed algorithms and available interconnected computer systems can add value to a social practice of the user. As Cooper (1999) puts it, the concept is the level of design "which considers what is valuable for the users in the first place" (p. 23) – a perspective that directly relates to Cockton's (2006) definition of "the worthwhile", which stands on top of the value pyramid by Kujala and Väänänen-Vainio-Mattila (2009).

The social interaction designer has to think about how a concept fits into the social ecosystem of the individuals it is designed for. At this stage, the key consideration is on the overall symbolic value of the social interactions mediated by the system: what are the social activities the online service is enabling, what are the meaningful conversations and what is the content whose exchange has a subjective meaning for the user?

Non-use becomes relevant on the conceptual level as a variable that directly influences the overall value of the concept.

Table 2: The relevance of non-use for concepts in SxD.

The social network mismatch	The sociability gap
<ul style="list-style-type: none"> • The target group of a user’s social interactions will always be larger than the share of peers using an SNS; even the most valuable service is unlikely to achieve a 100% coverage in a user’s social ecosystem • The benefit of using the SNS competes with a limitation of interaction to users only (causing disruptions or extra effort) • Users are never permanently online, non-use-related disruption even occur between what is perceived as “users” • The absence of certain key contacts can reduce the motivation to produce or share social content – or even to use the entire service • The processes going on within an SNS may lead to the conscious or unconscious formation of in-groups, circles of users within a broader social ecosystem, connected by something that non-users do not have access to 	<ul style="list-style-type: none"> • The social activities within an SNS are related to social practice that is not limited to the online space but part of a bigger social ecosystem • The tools of an SNS only enhance or partially replace the existing social practice; since the online tool cannot reach 100% coverage, alternative social activities will remain of importance • The interaction in an SNS will become part of the user’s social ecosystem, where non-users are not aware of the ongoing processes • The content mediated by an SNS is meaningful also in the wider context of the user’s social ecosystem, beyond the peer users • Modes of sociality within an SNS may be meaningful only to its users (e.g. a “poke” tool as on Facebook), non-users may not understand the communication users engage in with each other

The notions of the social network mismatch and the sociality gap help to identify the boundaries of a concept in terms of how it is embedded in the real-life social network of the user (the “social ecosystem” from my taxonomy of SxD earlier in this work). They

provide an analytical view on how the forms of sociality provided by the service interact or interfere with existing social practice. These are the foundations for shaping the experience of technological intersubjectivity within the SNS.

On this level, it has to be decided to what degree non-users and their needs shall be taken into account in the concept: does the service aim at maximum coverage of the social actions it facilitates (this would call for an extensive consideration of non-users through inclusive tools) or is it a desired property of the SNS to provide value primarily through sociality among its users (a strategy often to be observed in a commercial context, where the limited integration of non-users is used as an incentive for non-users to subscribe).

Behaviour

“‘Behavioral design’, tells how the elements of the software should act and communicate”, Cooper (1999, p. 23) writes. Designing the behaviour of an SxD artefact, the conceptual elements of the service are defined based on an understanding of how they are intended to operate in order to serve the social practice the concept is addressed at. At the same time, the designer also defines the behaviour of the user who will later engage in the social actions mediated by the service – ensuring what Cockton (2004) described as “fit”: making the artefact valuable in its application. This is referred to as “fit to context” in the pyramid of value in HCI (Kujala & Väänänen-Vainio-Mattila, 2009).

Within the frame of the overall concept, which relates the concept to a social practice it will be embedded in, the social interaction designer’s role on this level is to identify those social activities that are to be addressed by the SNS. She has to consider the forms of sociality involved and what features are needed for related communication.

On the behavioural level, non-use is of interest in regard to the ability of the communication tools of an SNS to extend sociality features to non-users. Also, it is playing a role in how the system processes the social graph of the user.

Table 3: The relevance of non-use for behaviour in SNSs.

The social network mismatch	The sociability gap
<ul style="list-style-type: none"> • The internal interaction in an SNS is limited to those who are users, even though the social practice it is part of includes a greater amount of individuals • Guest access tools can help the user to include non-users in the ongoing social processes within an SNS; tools that make use of more widely used systems (e.g. e-mail) can enable interaction between users and non-users • The real social ecosystem of the user does not equal the social graph of an SNS, which is only a subset of it – the degree of communicational activity between users does not necessarily reflect the strength of their social bonds, as it is influenced by the usage patterns of those involved 	<ul style="list-style-type: none"> • New modes of social activity are intended to fit into existing social practice that may also include non-users • A non-user experiences the sociality of an SNS only indirectly, as a guest or spectator – or even only through personal mediation of a user • When a non-user is included through tools designed for external participation, she is lacking the context of the interaction and is likely to frame it differently • Peer activity presented to the user reflects only a subset of her social ecosystem

The behaviour of the SNS (and, through its design, of its users) is where the social network mismatch distorts the perceived relevance of the internal social activity. The system has to assume the social network within the service to be a representation of the reality. The design of an SNS provides tools that allow for new (advanced) forms of sociality, while at the same time additional

tools may be required to connect them with the social context outside. The sociability gap becomes apparent in the experience of the user that interaction in the SNS does not reflect the reality of the social practice involved. In addition, available tools to integrate non-users with the interaction processes may show their limitations when the non-user cannot fully participate and/or frames the communicative context differently.

For the social interaction designer, this stage requires the consideration of how the social context of the user – both her online peers and non-users – is presented in order to keep it meaningful. It has to be considered how the social actions accommodated by the SNS relate to the social practice they are part of. In both its analysis and its presentation, the social graph might require an interpretation that is not claiming its data to reflect the absolute context, but a subset of it. Consequently, the social interaction designer should consider in what way non-users can be integrated with the SNS's features and how to ensure that their framing of the communication does not conflict with users' understanding of it.

Interface

On the interface level – the surface of the SNS that is visible to the user – the social interaction designer is considering how the behaviour of the concept is presented to an individual. “Interface design is what is done after both the purpose and behavior of the interactive product are already established”, Cooper (1999, p. 229) manifests²⁹. This approximates what has been represented in my

²⁹ In this source, many of Cooper's references to interface design have a somewhat negative undertone. This is due to the core message of the book, establishing interaction design as opposed to the pure decoration of a readily engineered system. However, he does position it in the workflow in the manner presented.

earlier chapter by Cockton's (2004) "quality in use". Even though this third level appears to be the lowest in hierarchy, it is of equal importance; Kujala and Väänänen-Vainio-Mattila (2009) adapt Cockton's argumentation that states, "the most important goal is to achieve value, but the problems in achieving lower level goals degrade and destroy value" (p. 29).

Once an artefact has been built based on a concept that provides a worthwhile form of interaction and its behaviour fits into relevant social practice, it has to deliver on the value proposition. For the interaction designer, this stage involves considerations in regard to how the user experiences the utility of the service (i.e. how is the artefact able to take a meaningful role in his daily life). As my research has shown, the properties of coverage and reachability are of particular importance in the context of an SNS: who and how many of the user's peers are taking part in the interaction and how does the service ensure a continuous and uninterrupted communication flow. This means that interface design in this context not only refers to "UI design", the design of the (visual, tangible, audible etc.) user interface, but also to the overall design of the functionalities related to how the user interacts with the SNS.

On this third level, the phenomenon of non-use is very visible. Since the user has certain expectations towards the SNS (based on the value proposition of the service and its promoted set of features for social activity), this is where non-use-related issues of coverage and reachability are going to surface. How the user experiences the absence of her non-using peers has a direct impact on the level of utility she assigns to the service as a part of social practice. This is also the level where non-users get in contact with an SNS, either as they become aware of their peers' use of it or as they receive messages through inclusive tools.

Table 4: The relevance of non-use for the interface of an SNS.

The social network mismatch	The sociability gap
<ul style="list-style-type: none"> • As users are non-users at times, a user does not have certainty over which of the addressees really are aware of his actions, especially in one-to-many communication within an SNS • Users may use an SNS's tools in a different way than they were designed; this might conflict with the logic of the service (e.g. when use-by-proxy falsifies the social graph) or cause differences in framing by the participants • Seamless integration with the communicative tools within an SNS reduce the friction of including non-users into the interaction 	<ul style="list-style-type: none"> • The reach of tools aimed at the inclusion of non-users into the social processes within an SNS is limited and most likely does not transmit the entire set of means for sociality offered within the service • Making non-users aware of social processes going on within an SNS will not necessarily motivate them to become users • The user needs to be aware when an SNS allows communication with a non-user, as the interaction may be framed in a different way compared with communication between users

On this level, the social network mismatch is most notably encountered in the context of temporary non-use, and passive use. If the concept and behaviour of a service have clearly identified contexts of use, non-use behaviour shown by the users may cause disruptions that directly affect the utility of the SNS. The integration of non-users is playing a role here as well. It is possible that tools provided for lessening the sociality gap may lead to differences in how interactions are assigned with meaning, and most importantly, it should be acknowledged that sending out invitations and guest accounts will not be able to turn every non-user into a user.

In SxD practice, the designer needs to create interface solutions that embed the identified forms of relevant non-use into the social

acts the user experiences through the artefact. In addition, the design of communication with non-users is of great importance to ensure that the value of the SNS and the conversations it facilitates are framed correctly by those not actively using the service.

6.2 Future work

This work is a piece of multidisciplinary research. It combines general theory and research methods from the social sciences with research theory and practice from the field of design in a way that I consider to be valuable for both fields. In my approach, I took a perspective based on user value. Regardless, achieving maximum user value is only one of many approaches to design. It would be interesting to discuss how the findings on the dimensions of non-use relate to a discussion from a business value perspective or in the context of technical (or social) innovation. For the latter, the short messaging service SMS is a great example, as it has almost no users at all when it was invented; lacking a clear vision for a user value proposition in the beginning, it has since grown into one of the most used messaging systems in the world (Taylor & Vincent, 2005).

Re-using elements of my theory for researching other phenomena related to social media would be an interesting endeavour. I previously pointed out how the “social network mismatch”, one of the two concepts of my theory, could be seen as a broader concept beyond the context of non-use. The same underlying issue, a misfit between real-life and the virtual social ecosystem, does not only apply to those peers that are absent due to non-use but also to those peers who are online contacts but with whom the user does not have a social relationship offline. It can be assumed that this also brings an impact on sociality. In this study, I also brought up the topic of “non-use as a subjective experience” – another field for further investigation.

In this work, I did not research how to avoid non-use or suitable counter-measures, but how to take it into account as a variable in social interaction design. My interest was a conceptualisation from the designer's point of view. Therefore, my field research concentrated on the effects of non-use, not on non-users' individual motives. These would be an interesting addition to my categorisation, as they could provide pointers towards concrete strategies for reducing the impact of the phenomenon. This has, however, been beyond the scope of this thesis. The discussion of non-use in this work has largely been based on literature that is concerned with non-use of technology or non-use of the web in general. The motives and phenomena related to non-use in the specific context of SNSs are already being researched by, for example, Eszter Hargittai (2008).

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