



HOW USERS BALANCE OPPORTUNITY AND RISK

A CONCEPTUAL EXPLORATION OF SOCIAL MEDIA LITERACY AND MEASUREMENT

HADEWIJCH
VANWYNSBERGHE

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GHEENT UNIVERSITY

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A conceptual exploration of
social media literacy and measurement

Hadewijch Vanwynsberghe

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How users balance opportunity and risk

A conceptual exploration of social media literacy and measurement

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The photo on the cover page functions as a metaphor for the subject of this dissertation. Social media literacy can be seen as a control room, as it contains the equipment used for operating social media efficiently and effectively. We can also make a second connection between the cover and the content of this dissertation, including the control room as the place to measure and record the actions of others. One of the objectives of this dissertation is to measure people's social media literacy. Just as in a control room, this measurement is not covered with one operation (or one method), but with a combination of actions (or methods). We deliberately opted for an old control room to indicate the importance of pre-existing literacy concepts to conceptualize and measure social media literacy.

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GETTING
STARTED



INTRODUCTION: GETTING STARTED

This dissertation is about being able to keep up with the increasing popularity of social media. The first chapter starts with an overview of why it is relevant to study how people deal with social media. The changing media environment, along with the increasing demands this has put on people, receives particular attention. Since social media seem to dominate the economy as well as many human activities, it becomes increasingly important that people have the ability to deal with these technologies effectively and efficiently. The primary goal of this dissertation is to provide a conceptual exploration and measurement of people's ability to deal with social media, labelled 'social media literacy'. In this introductory chapter, we discuss the context, scope, orientation, and objectives of this dissertation.

1.1. Living in a social media-saturated world

The emergence of social media have changed the way and the intensity with which people live, communicate, learn, work, and relax, if not Western society as a whole. Social media have acquired a central position in almost every aspect of human action. They interfere in how we perceive the social world, how we think about it and even our behaviour in it. Social media dug into, and got nested in, the central processes of social life (e.g. boyd, 2006b, 2008; Valkenburg, 2009), cultural life (e.g. Domingo et al., 2008; Livingstone, 2008b), professional life (e.g. Kaplan & Haenlein, 2010; Mangold & Faulds, 2009), education (e.g. Jenkins, Purushotma, Weigel, Clinton, & Robison, 2009; Voogt & Roblin, 2012) and in the central processes of public governments (e.g. Bertot, Jaeger, & Grimes, 2010; Bonsón, Torres, Royo, & Flores, 2012). Social media terms such as 'hashtag', 'like', 'sharing', 'friending', and 'selfie' have even become a part of our everyday language.

As an introduction, we will discuss what these changes mean for contemporary society and for the people who live in it. Here, we rely on Rainie and Wellman (2012), who argue that these changes are due to manifest revolutions on three levels, also called the 'triple revolution'.

The first revolution, called the 'social network revolution' by Rainie and Wellman, deals with social changes or the way people organize their social contact(s). This revolution indicates that people no longer belong to one bounded group or community (e.g. family, work unit, neighbourhood) that remains the same throughout life. Today, people increasingly switch from one network to another, both in their public and their private life. In today's world, societies must be seen as a collection of social networks rather than hierarchical, relatively homogenous, bounded groups. Rainie and Wellman emphasize that this social change is largely technologically enabled, and pushed further through technological developments in digital and mobile technologies. In traditional society, people did not need technologies to communicate with each other, as they had a lot of face-to-face communication. However, in a networked society, where people connect to diverse others in different networks over space and time, technologies, such as the Internet, and more specifically social media, are needed to communicate with each other.

This idea of the social network revolution elaborates on the work of van Dijk (1991) and Castells (1998) on the 'network society'. We discuss van Dijk, as he was one of the first to use the term 'network society' after it was coined by Bråten (1981). Rainie and Wellman agree with van Dijk on the fact that to exchange information, people rely on looser and more fragmented networks, which characterize contemporary society, facilitated by developments in media technologies. Both also recognize that physical connection remains the most important means of communication and that these network connections only partially replace and/or supplement it. Nonetheless, Rainie and Wellman differ from van Dijk in who they see as the basic units of modern society. According to van Dijk, individuals, groups, and organizations remain the basic units that can be linked by digital technologies into networks; while for Rainie and Wellman, networks are the basic units of contemporary society.

Concerning the latter point, Rainie and Wellman's (2012) interpretation of the social network revolution concurs closer with Castells' (1998) concept of the 'network society'. Castells claims that the advent of new media technologies has decentralized the actions of individuals and consequently enhanced the effectiveness of networked instead of hierarchical organizations. On this point, Rainie and Wellman resonate with Castells. Both state that the network operating system gives people numerous possibilities to meet their social needs and find help dealing with problems. However, they also recognize that it requires extra time, skills, and strategies to be able to obtain these possibilities. The latter is consistent with the observation of Latour (2005) that people must continuously define and redefine group boundaries, it takes effort to be and stay connected with others. In contrast to Castells, whose work is mainly dedicated on the conceptualization of societal transformations, Rainie and Wellman especially engage with the empirical investigation of technology shifts, and how these facilitated the social network revolution.

In the Internet arena, profound changes can be noticed, which leads to the second revolution or 'Internet revolution' (Rainie & Wellman, 2012). As the Internet proliferated, it has become increasingly interactive, fragmented, and personalized. This entails shifting from being a tool to consume and transmit information, into a platform on which content can still be consumed and shared, but also created and remixed as well. We move into what Jenkins, Purushotma, et al. (2009, p. 7) call the 'participatory culture' or a culture '*with relatively low barriers to artistic expression and civic engagement, with strong support for creating and sharing one's creations with others.*' According to Castells (2007), this Internet revolution led to a shift from mass media (i.e. from one to many) and personal media communication (i.e. from one to one) to 'mass self-communication'. Communication through the Internet became more '*self-generated in content, self-directed in emission and self-selected in reception by many that communicate to many*' (Castells, 2007, p. 248). The tools for this participative and personalized online communication are frequently discussed under the heading of 'social media' (e.g. Fuchs, 2014; Kaplan & Haenlein, 2010; van Dijck, 2013a).

The third revolution, the 'mobile revolution', reflects that the availability of mobile devices and better access to mobile networks have led to a new mobile and ubiquitous communication system. Four technological developments reinforced this revolution: (1) devices became lighter and smaller, making them more mobile; (2) the rise of wireless connections to the Internet; (3) the emergence of cloud computing makes data and documents available everywhere; and (4) the emergence and popularity of apps that make mobile devices much more personal. Castells (2007, p. 246) brings up a convergence between the Internet and the mobile revolution, which suggests that new media technology, such as social media, and the information derived from it, influences all realms of social life. Digital mobile technologies, such as smartphones and tablets, make it possible to access and use social media everywhere: at home, at school, at work, and on the go. This mobile revolution has increased people's abilities to act as networked individuals.

Rainie and Wellman (2012) propose the term 'networked individualism' to refer to this new social operating system wherein people are increasingly networked as individuals instead of groups. They argue that the move to this networked individualism is the product of the triple

revolution described above. Rainie and Wellman's outline of the triple revolution provides us with valuable insights into the (ongoing) debates about the role of social media in our time. However, one critique involves their noticeably strong optimism. They argue that the triple revolution is the main driving force for changes in current society and conclude that this triple revolution will benefit numerous people's personal and professional lives.

However, the state of social media in current society is not always so 'optimistic', as presented by Rainie and Wellman. Many scholars, for example, discuss current society as being shaped by a worldwide inequality on the level of access to and use of the digital media technologies, including social media, that shape social change (e.g. Attewel, 2001; Mansell, 2002; Mossberger, Tolbert, & Stansbury, 2003; van Dijk, 2005). This somehow pessimistic perspective on the role of social media in current society is reinforced by Fuchs (2014), who maintains that social media must be considered more than facilitators of social change, whether positive or negative; they must foremost be seen as a support for the 'transnationalisation of capitalism'. Social media are then seen as companies that commercialize every action of the users, which is not (always) in the benefit of the users (e.g. loss of privacy, commodification of user data, etc.). Many scholars also fear that the move away from real face-to-face interaction — largely caused by recent developments in digital and mobile technologies — indicates a move towards a social system in which individuals become isolated. Such fears have been, inter alia, stated by Putnam (2000) in his book *Bowling Alone* and more recently by Turkle (2011) in her book *Alone Together*. These rather pessimistic perspectives on contemporary society can thus be seen as a criticism on the implicitly present optimistic perspective of Rainie and Wellman, which rather ignores the negative impact of the network, the persisting digital divide, and corporate control of networking systems.

Considering both the optimistic and the pessimistic perspectives on contemporary society, it is clear that social media are associated with placing higher demands on its members. This is not new; media technologies have frequently played a dominant role in defining the competencies considered a prerequisite for full participation in society. From the mid-twentieth century onwards, the hugely-significant competencies to read and write have been augmented by the individual ability to critically understand audiovisual content (Livingstone, 2004a). Thereafter, a major shift to the ability to deal with computers and Internet was observed. This is also true for contemporary society. Alongside the widespread diffusion of social media, a new zeitgeist emerged requiring additional competencies in comparison to those of earlier technologies (cf. television, computer, and the Internet). Providing useful, evidence based, insights on these new additional social media competencies resides thus at the core of this dissertation.

Due to the widespread diffusion of social media, it is often wrongly assumed that every social media user uses social media in a 'good' way, or will gradually learn it. Bucy and Newhagen (2004), for example, argued that access to digital media cannot be translated to simple access to the content of new media technologies. This difference between people who have access, or not, and the ones who use it, or not, refers to what has to be called the 'first level' digital divide (e.g. Attewel, 2001; Hargittai, 2002). But since social media have spread to a majority of the population, it is increasingly important to not only look at who uses social

media (or not), but also to how they use these media (DiMaggio & Hargittai, 2001; Hargittai, 2002; Livingstone, 2008b; Livingstone & Brake, 2010). Once people have accessed social media, they may simply remain at the level of using some specific basic applications and never think or reflect about their use. Scholars who have offered a refined understanding of this 'second level' digital divide include Jenkins, Purushotma, et al. (2009). They suggest that digital inequalities may exist at three levels:

1. *The participation gap*: fundamental inequalities in people's opportunities or competencies to participate in social media;
2. *The transparency problem*: inequalities in the competencies to understand how media shape perceptions on the world;
3. *The ethics challenge*: inequalities in the abilities to develop the ethical norms needed to cope with a complex and diverse social environment.

Our premise is thus that not everyone uses social media in such a way that they benefit from it in different aspects of life. Since social media as well as the information on them and the communication through them now play an important role in the social, cultural, political and economic life of many people, a lack of social media competencies in contemporary society might result in disadvantages, or in extreme cases, even exclusion from full participation in society (Jenkins, Purushotma, et al., 2009). This viewpoint can be linked to the broader research field of media literacy, which focuses on the competencies people must possess to efficiently and effectively deal with media. Therefore, given our specific focus on social media, we term our topic of investigation 'social media literacy'. Since conceptualizing the term 'social media literacy' is one of the objectives of this dissertation, we formulate a working definition of it later. Nevertheless, we wish to use the term to clarify the research objectives of this dissertation. We, therefore, describe social media literacy provisionally, as an individual's capacity to take potential opportunities and protect him/herself against potential risks of social media.

Within this dissertation, we commit to generate knowledge that contributes to the theoretical, methodological, and practical domains of this topic. If fully informed on whom of the population is most likely to lack this social media literacy, societal actors are able to adequately inform and raise awareness among the population. This relevance is most evident for policymakers and civil society organizations that focus on issues such as inclusion and media literacy. However, as social media increasingly facilitate information distribution and communication, it infringes human rights when people are not able to deal with social media when they need it. In this context, social media touch upon various aspects of policy, for example youth, education, media, innovation and culture. The insights of this dissertation can also be used to invite academics, as well as professionals, to adapt and update their models of media literacy, to embrace recent developments in the digital media field (i.e. social media), putting them in a more appropriate perspective.

1.2. Research context and scope

This dissertation was conducted within the context of the research project 'User Empowerment in a Social Media Culture' (EMSOC) (2010–2014), financed by the Flemish government agency for Innovation by Science and Technology (IWT). The goal of the EMSOC project is to study to what extent and how people are (dis)empowered through their everyday use of social media. To answer this question, the project distinguishes three subthemes: inclusion, media literacy, and privacy. In this dissertation, we focus on the media literacy subtheme.

In contrast to the idea from the late 1990s of media literacy as solely a protection or defence against the (potential) harms of the media, social media literacy must be seen as an instrument for empowering people (Lunt & Livingstone 2012). We use the concept of 'user empowerment' to refer to people's ability *'to control their own lives and to take advantage of opportunities'* (van der Maesen & Walker, 2002, p. 6). Because of the central position of the term 'user empowerment' in the EMSOC project and the broader social media (literacy) debate, we will formulate a definition later in this dissertation (Chapter 2). Here, it is important to know that we see the user as the central actor, but only to the extent that he/she is actually empowered to grasp the opportunities and face the challenges of social media. The central assumption is that people who are social media literate will be more empowered, which brings about significant social, cultural, political, and economic benefits (Jenkins, Purushotma, et al., 2009; Livingstone, van Couvering, & Thumim, 2005). Hence, the idea behind social media literacy is that users are not defenceless victims and that they have a certain level of control over what they do on social media. Therefore, we prefer to use the term 'user' instead of 'audiences', because social media require interactivity (rather than one-to-many), are technologically converged (rather than distinct), and are socially diversified (Livingstone, 2008a).

We limit our investigation to Flemish social media users, and more in specific adolescents and employees. Adolescents are addressed because they are the generation of the future and will consequently determine how social media are used in the future (Rheingold, 2012). They are simultaneously seen as the generation of the so-called 'digital natives', people who are growing up digitally, and thus also as the generation who is imbued with social media (Prensky, 2001). However because of their intense use of social media, they are also seen as the most vulnerable group, at greater risk. But the societal implications of social media use reaches far beyond the daily private lives of young people; adults are also affected and this is certainly true in their professional lives. In our contemporary society, characterized by a growing use of social media, employees are increasingly expected to be proficient with new and social media of all kind. At the same time, some employees serve as 'trainers' for other people.

To communicate better with these target groups, we interacted closely and cooperated with stakeholders from policy, industry, and civil society within the EMSOC project. Within the media literacy subtheme of the EMSOC project, we clearly felt the need from both the research field and the community of stakeholders of having a more clear conceptualization of social media literacy as well as more insights into possible methods how to measure this. In order to

provide insights and knowledge to the research field and the stakeholders of the project, we made this dissertation very accessible by, for example, providing a comprehensive conceptualization of social media literacy with many examples and a methodological toolkit with index cards. This dissertation has a strong demand-driven character and it is rooted firmly in the contemporary public debates of the time.

The scope of this dissertation is limited to social media. Focusing primarily on Facebook and Twitter, we direct attention only to these two social media platforms, because it is difficult, if not impossible, to map all social media platforms and the related literacy issues within one study. We selected Facebook and Twitter not only because of their size and dominance, but most importantly, because the owners and users of them have been relatively outspoken in articulating the norms and rules for online social communication. Because of their leading position in the social media landscape, these two platforms set the standard for other social media. Nonetheless, they are different when it comes to architectural features and the way they are used (van Dijck, 2013a). In addition, both social media platforms are on the stock market, which makes them business competitors, and this is an extra argument why it is interesting to investigate both Facebook and Twitter.

1.3. Research orientation

In this section, we provide an overview of the ontological and epistemological boundaries that delineate this work. The ontological position of the researcher, or how researchers approach and/or consider the social world of the research subjects, can be divided into two extreme positions (Eldred, 2008). The realistic position approaches the social world as a reality, something that is both real and objectively verifiable. According to the nominalist position, the social world is not real, there only exists names and labels that can merely be understood from the perspective of the involved individuals. One could say that we address the topic of this dissertation, 'social media literacy', from a realist ontological position as we attempt to measure it. However, we also recognize that the concept itself and its derivatives 'social media' and 'media literacy' are labels that are created by individuals (i.e. nominalist position). Thus to address 'social media literacy', we will take into account a social constructionist ontological perspective that is found in between these two extreme positions.

This social constructionist ontological position sees the social world not as *'a fact or set of facts existing prior to human activity [...]'*, but as social worlds that are created by people *'through our words and other symbols, and through our behaviors'* (Leeds-Hurwitz, 1993, p. 133). Social constructionists interpret the social world, and the technologies within it, as the result of social interactions (Miller, 2005, pp. 26–28). The social constructions that come out of these interactions are, according to social constructionists, treated by people and influence people as if they were real or objective features of the social world. From this position, we see 'social media literacy' as a derivative of 'literacy' and thus as a concept that is created through social interaction, but that (will) become so naturalized that people do not even notice its influence. When many people see the ability to deal with social media as an important

competence in society, 'social media literacy' becomes a social construction that these people treat and are influenced by it as if it was an objective feature. The competencies to deal with social media, however, do not mean the same for everyone; they may vary according to the social context and the people acting in that context. For example, social media literacy does not have the same meaning in leisure as in a work context.

Taking a broad social constructionist ontological framework into account, we are left with epistemological issues. Epistemology is the way we, as researchers, can study and/or understand the social world and the research subjects (Miller, 2005). There are both objective and subjective epistemological approaches. The objective stance focuses on causal relationships, or describing and explaining social phenomena, and thus supports quantitative methods, while the subjective research approach aims to understand social phenomena, and is thus best supported by qualitative research methods. We feel, however, it is more productive to find a middle ground and combine both epistemological approaches. For the study of social media literacy, we thus propose and implement a multi-method research design (combining both quantitative and qualitative methods), aimed at both exploring and understanding people's social media literacy and the context wherein they develop this social media literacy. In the methodological chapter, we further explain how we mix quantitative and qualitative methods to measure and understand social media literacy.

Taking into account the above-mentioned metatheoretical ontological and epistemological considerations, we rely on a combination of positivist and interpretative theoretical perspectives to approach the topic of this dissertation (Miller, 2005). Despite these two theoretical perspectives are generally considered being rivaling perspectives and urging researchers to choose side, we actively seek convergence and complementarity between these perspectives. We believe that both theoretical perspectives can complement each other in multi-method research that aims at both explaining and understanding the topic under investigation, in this case 'social media literacy'. In the literature, different positivist and interpretative theories can be found to address social media literacy. It goes beyond the scope of this dissertation to discuss all theories. In the following, I will briefly discuss the actor-network theory, the domestication theory, and the social cognitive theory, as they have made an important contribution to the way we conceptualize and measure social media literacy.

1.3.1. Actor-network theory

The actor-network theory (ANT) rejects thinking in terms of linear causality, both in the direction of technological and social determinism. In contrast to other theories discussed here, which focus solely on humans as actors, ANT stipulates that both humans and non-humans (called 'actants') can act in the social shaping of a technology, as long as they '*acts or shifts actions*' (Akrich & Latour, 1992, p. 259). According to ANT, the adoption of a technology depends on the '*interrelated nodes in constantly changing sociotechnical networks, which constitute the forms and uses of technology differently in different times and places for different groups*' (Lievrouw, 2006, p. 250). This means that a technology and its users can be 'mutually constitutive' (Wajcman, 2002). ANT does not believe in a dominance of the technology over humans or vice versa. Rather, ANT sees technologies and humans as equal

actors in a heterogeneous network [Latour, 1995]. Despite the equivalence, whether technology or human, since actors within the network come in contact with and/or interact with other actors, no thing, or body, is the same in the network. Both human and non-human actors receive a meaning by their relationship with other actors. Therefore, both human and non-human actors have 'agency' or the power to change the world around them.

While ANT makes an important theoretical contribution, according to Latour (1995), it is foremost a method to study relational ties within a network. ANT has long been used for mapping innovation in science and technology [Latour, 1987]. After 1990, it was extended as a framework to analyze networks in organizations, health studies, geography, sociology, feminist studies, economics, informatics, and anthropology. Both Bloor (1999) and Restivo (2011) formulated a critique on ANT in which they state that ANT uses a vocabulary that cannot challenge power relations; it can only describe them. Despite this criticism, the main contribution of ANT to this dissertation is the realization that technologies are not just 'empty' artefacts that are contrary to humans. Clearly, both the users as well as the design of a technology can shape the way people adopt (and use) technology. In this study, we are inspired by the ideas of ANT to study people's development of social media literacy, more specifically on how the technology of social media and people's individual networks, both at home and at work, can contribute to their social media literacy.

1.3.2. Domestication theory

For more than two decades, domestication theory has inspired the investigation of how people use and integrate media technologies in their everyday life [Berker, Hartmann, Punie, & Ward, 2006; Silverstone & Hirsch, 1992; Silverstone, Hirsch, & Morley, 1992]. Domestication Theory focuses on *'what users do to and with technologies in order to fit them into their lives, to make them acceptable'* (Haddon et al., 2005, p. 4). Domestication theory aims to describe the processes in which innovative technologies, such as social media, are tamed and cultivated, as they become an integrated part of one's everyday life [Berker et al., 2006; Silverstone & Hirsch, 1992; Silverstone et al., 1992]. Domestication theory stresses the role of human agency; in doing so, it also rejects technological determinism. From this perspective, users of a media technology are not seen as a passive 'audience', but rather as active 'consumers' [Silverstone, 1991]. The users are *'turned into an active (media) consumer as an attempt to move away from television audience studies towards a wider view on media use in general, to move from the "text" to the "context"'* [Berker et al., 2006, p. 5].

Domestication theory focuses on the natural social context wherein people use media technologies: more specifically, the household [Silverstone et al., 1992]. Seen as a 'moral economy', or a specific type of 'economic entity', the household both gives and is given meaning by its members. Family members' activities and use of media technologies are determined by the *'cognitions, evaluations and aesthetics, which are themselves defined and informed by histories, biographies and politics of the household and its members'* [Silverstone et al., 1992, p. 18].

While the theory originally focused on the domestic context, it has already been applied to other areas as well, including the work context (e.g. Pierson, 2006; Ward, 2006). The original

focus on pure qualitative research methods for investigating the domestication of media technologies has also been extended by more quantitative methods (e.g. Courtois, Mechant, Paulussen, & De Marez, 2012; Pierson, 2006). Since media technologies are now used in different contexts, to communicate to different people from different networks all over the world, it is not always possible to map people's use of one (or more) media technologies through qualitative methods alone. The quantitative method serves then as a tool to explore the macro-patterns in people's use of a certain media technology.

A criticism of the domestication theory is that little attention goes to the (design of) technology itself and the way it is used. For this latter criticism, ANT could supplement the domestication theory. Despite this critique, the main contribution of this theory is that it provides an understanding of how people deal with social media or how their development of social media literacy depends on the structures, daily routines, norms and values of people in the environment, as well as the environment itself. In this dissertation, we focus on the impact of people's home and work context as factors that can facilitate (or constrain) people's development of social media literacy.

1.3.3. Social cognitive theory

The social cognitive theory (SCT) emphasizes the importance of cognitive mechanisms for studying people's behaviour (Bandura, 1977, 1986). As the SCT is a very comprehensive theory, we only focus on the aspects that are relevant to predicting human behaviour on social media. In the SCT, two key cognitive mechanisms are important to the prediction of human behaviour: perceived self-efficacy and outcome expectations.

Perceived self-efficacy is the confidence of an individual in his or her own ability to establish certain behaviour successfully. This concept is not about the skills a person has, but about the person's evaluation of his/her own skills. According to Bandura (1977, 1986, 1997), people's self-efficacy can influence their motivation and behaviour. If an individual, for example, does not believe in his/her own abilities, he/she will not even be motivated enough to establish a certain behaviour. This strong influence of self-efficacy on behaviour is also indicated by the technology acceptance model (TAM) (Davis, 1989, 1993) and the theory of planned behaviour (TPB) (Ajzen, 1985). A number of factors influence people's individual self-efficacy. The first influencing factor is experience: a positive experience will result in a positive influence on self-efficacy and vice versa. The experience of others can also have an influence. When a person sees others in his/her social environment succeeding in performing certain behaviour, this person has a stronger belief that he/she is also able to accomplish that behaviour. Another way to obtain higher self-efficacy is through positive social persuasion, or when others convince an individual of his/her skill to perform a particular behaviour. Finally, the psychological and emotional conditions of a person also play a role, for example, stress, tension, or a negative mood can negatively influence people's individual self-efficacy.

Outcome expectations are a person's expectations that certain behaviour will have favourable results. There are three outcome expectations, which can be positive or negative: physical effects (e.g. pain, pleasure), social effects (e.g. social reactions of others), and self-evaluative reaction (e.g. imposing personal standards). These three forms of expectations will

influence whether a particular behaviour will occur or not. Self-efficacy influences outcome expectations, which means that self-efficacy has a direct and an indirect effect on people's behaviour. This relation is also reciprocal: if people's behaviour has positive consequences, this is also positive for self-efficacy (Bandura, 1977, 1997).

This SCT tradition led to a wide body of research, all with the ultimate goal of explaining (media) behaviour. This focus on explaining media behaviour through quantitative research methods was also what led to the criticism that SCT is unable to provide deeper insight into users' perception of text. Despite this critique, the contribution of SCT to this study lies in the idea that the way people use social media involves the utility that they think it will have (e.g. outcome expectations), as well as the possession of the competencies and their confidence in these competencies (e.g. self-efficacy). In media studies, SCT has been applied most frequently to media effects, for example, the influence of television on violent behaviour. However, SCT is also perfectly applicable to people's media behaviour (e.g. Eastin & LaRose, 2000; Ladbroke & Probert, 2011; LaRose, Mastro, & Eastin, 2001). In this study, we mainly use the contribution of SCT to investigate which factors influence how people deal with social media.

1.4. Research objectives and outline

In this dissertation, we aim to bring clarity in how to study media literacy in today's social media permeated society. To encompass this problem, we strive to develop a conceptual and methodological model to obtain insight into people's individual social media literacy. This led to an overarching two-fold research question:

RQ: How can we conceptualize social media literacy and how should we measure social media literacy?

In answering the question, this dissertation draws upon six chapters: the introduction, two theoretical chapters, one methodological chapter, a chapter that contains a collection of four empirical papers, and a concluding chapter. Below, we outline the objectives organized by the chapters in which they are treated.

Chapter 1, the introductory chapter, is marked by five arguments why research into how people deal with social media is important: (1) A growing impact of social media on everyday life is noticeable; (2) Social media increasingly advance the networked character of contemporary society; (3) In this network society, the traditional interpretations of media literacy are no longer sufficient for grasping full participation in a society imbued with social media; (4) Ever-larger sections of the population require this new form of media literacy in both their private and their professional life; and (5) The possibilities to fully benefit from the use of social media are unequally divided.

Since the **first objective** of this dissertation is **to raise awareness of the concept of 'social media literacy'**, we first expand our knowledge about both 'social media' and 'media literacy'. This results in two sub-objectives, which are addressed in Chapters 2 and 3.

Social media are now among the most dominant digital media forms of the current era. However, there is no universally accepted definition of social media (Fuchs, 2014; van Dijck, 2013a). A commonly accepted definition of social media is a prerequisite for the investigation of social media literacy. A **first aspect of the first objective** of this dissertation is, therefore, **to give a conceptual overview of social media**. Chapter 2 provides this conceptual exploration of social media.

A lack of common understanding also exists about the concept of 'media literacy' itself (Livingstone, 2004a; Potter, 2010). The variety of definitions and conceptualizations of media literacy causes confusion, not only among academics who have many questions for the future research agendas for measuring literacy, but also for policymakers and the users who do not know which competencies must be developed to deal with different kinds of media (Livingstone, 2008a). It is extremely difficult to conceptualize social media literacy without a common understanding of 'media literacy'. A **second aspect of the first objective** of this dissertation is, therefore, **to provide a thorough understanding of media literacy and other related concepts**. This is the focus of Chapter 3.

Based on this broader understanding of both the concepts of 'social media' and 'media literacy', Chapter 3 is devoted to the development of a conceptual framework that can be used for measuring social media literacy. The proposed conceptual framework goes beyond the traditional interpretations of [media] literacy (which of course remain important) by taking into account the characteristics of social media.

In addition to a thorough understanding of the notion of social media literacy, it is important to define the requisite techniques for measuring this literacy. Measuring social media literacy is an ambitious undertaking, as it is a complex construction, expressing numerous intrinsically different ideas and streams of thought and research. Hitherto, although several methodologies have already been introduced in the media literacy literature, they all have strengths as well as weaknesses. **The second objective is thus to propose measurement tools for assessing people's social media literacy**. In Chapter 4, we explore, combine, and evaluate different methods to develop ready-to-use measurement instruments for social media literacy.

As a **third objective**, in a final phase, the developed measurement instruments will be applied **to gather empirical data** about (a) **young people's** social media literacy and (b) **employees'** social media literacy. Since an important goal of the dissertation is to determine how people acquire social media literacy, the **fourth objective is to identify and explain the factors that can improve (or form a barrier to) people's social media literacy**. For objective three and four, four original papers are included in Chapter 5.

Based on the results of these theoretical, methodological, and empirical efforts, we **formulate a conclusion and recommendations for improving social media literacy**, which is provided in Chapter 6.



THE LABYRINTH
OF SOCIAL MEDIA:
A CONCEPTUAL
OVERVIEW FROM
THREE DIFFERENT
PERSPECTIVES

2

THE LABYRINTH OF SOCIAL MEDIA: A CONCEPTUAL OVERVIEW FROM THREE DIFFERENT PERSPECTIVES

One of the first objectives of this dissertation is to increase knowledge about the concept of 'social media literacy'. A common understanding of the notion of social media is a prerequisite for investigating social media literacy. This second chapter thus focuses on identifying what social media are. First, a conceptual overview is offered from three perspectives: a critical, a technological-structural, and a user-centric perspective. Afterwards we discuss potential impact of social media, both positive and negative, corresponding with opportunities people might benefit from or risks people must be protected from. At the end of this chapter, we provide a comprehensive description of the two most popular social media platforms of the moment: Facebook and Twitter.

Despite the increased attention for and popularity of social media, a precise meaning about what has to be understood under 'social media' is still lacking. Initially, under the 'Web 2.0' heading, social media were seen as a concept constructed to overcome the 'dot-com' crisis in 2000. Many authors subsequently pointed to the opportunities of this new Web [e.g. Jenkins, Purushotma, et al., 2009; Rheingold, 2008]. Web 2.0 was often heralded as a new web, offering new opportunities in comparison to the 'old' web (Web 1.0). However, a counter movement — much more critical towards the new developments and originating in critical theory — exists alongside these techno-optimist visions of social media.

We differentiate three major perspectives amongst the various perspectives on social media that exist in the scholarly literature. We will use a corporate and industry-oriented perspective and its criticisms (the latter emerged as a critique on the too optimistic Web 2.0 manifestos — this is why we label this perspective as 'critical'), a technical-structural perspective, and a user-centric perspective. After discussing social media from these different perspectives, we also provide a detailed review of its potential impact. To conclude this chapter, we elaborate on how the three perspectives and potential challenges and opportunities can also apply to Facebook and Twitter, specifically as social media platforms.

2.1. The emergence of the concept of 'social media'

The 'Web 2.0' concept and the term 'social media' are frequently used interchangeably. Coined by O'Reilly (2006), the Web 2.0 concept was created to overcome the 'dot-com' crisis in the early 2000s' by stimulating investment into new models of capital accumulation of interactive online communication. O'Reilly (2006) defines Web 2.0 as follows:

'... a business revolution in the computer industry caused by the move to the Internet as platform, and an attempt to understand the rules for success on that new platform. Chief among those rules is this: Build applications that harness network effects to get better the more people use them.'

Before the advent of the concept of 'Web 2.0', its predecessor, 'Web 1.0', formed the basis for online communication, or sociality, through email and weblogs. However, Web 2.0 does not employ a completely new generation of software, but is rather a new combination of existing software. Neither investors nor the broader audience really noticed these technologies until after the Internet crisis. Therefore, as a term, 'Web 2.0' symbolizes rather the renewed confidence in the economic and commercial potential of the Internet, than a real technological change.

Following on this corporate and industry-oriented concept, many Internet companies have utilized a popular discourse that trumpets the benefits of Web 2.0 (van Dijck & Nieborg, 2009). For example, the business and management books of Tapscott and Williams (2006) and Leadbeater (2009) describe Web 2.0 as an ideological shift in web-based economics and even in society as a whole. In terms of participation and creativity, they claim universal benefits for the users. In addition to the business and economic discourses that adopt a positive

perspective towards Web 2.0, several academics espouse Web 2.0 with optimism as well (e.g. Jenkins, Purushotma, et al., 2009; Rheingold, 2008).

We also find this optimism in the term ‘participatory media’, which is used by many academic scholars. Rheingold (2008), one of the first scholars who dealt with the phenomenon of social communications online, developed a definition of participatory media based on three common and interrelated characteristics (p. 100):

1. *Technical-structural characteristics*: Many-to-many media now make it possible for every person connected to the network to broadcast as well as receive text, images, audio, video, software, data, discussions, transactions, computations, tags, or links to and from every other person. The asymmetry between broadcaster and audience, previously dictated by the structure of pre-digital technologies, has changed radically;
2. *Psychological and social characteristics*: Participatory media are social media that derive value and power from the active participation of many people. Value derives not just from the size of the audience, but also from their power to link to each other to form a public as well as a market;
3. *Economic and political characteristics*: Social networks, when amplified by information and communication networks, enable broader, faster, and lower cost coordination of activities.

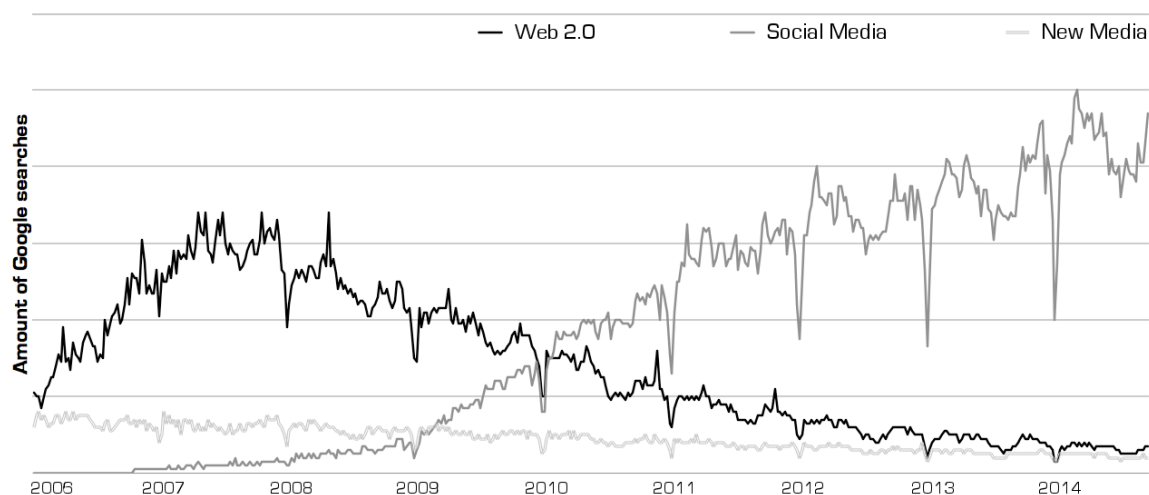
According to Rheingold, participatory media enable people to create and communicate content broader, faster, and cheaper than ever before. Jenkins, Purushotma, et al. (2009) espouse a similar optimism. They adopt the term ‘participatory culture’ to refer to the opportunities Web 2.0 has for participation and the development of the cultural and social competencies needed for full participation in society, which is further explained in Section 2.4. Jenkins, Purushotma, et al. (2009) thus introduce participatory culture as a cultural mentality that every citizen needs and from which everyone can profit.

However, the concept ‘participatory’ must be nuanced, as there also exist a lot of passive users of digital media (van Dijck & Nieborg, 2009). Indeed, several authors have already referred to the online participation divide (e.g. Bughin, 2007; Prieur, Cardon, Beuscart, Pissard, & Pons, 2008). Nielsen (2006) further highlights online participation inequality with his well-known ‘1-9-90% rule’: 90% of website users never create content on the site, 9% create content but not on a regular basis, and 1% of the users create most of the content on websites. This rule can serve as a criticism against the concept of ‘participatory’ media or culture.

The term ‘Web 2.0’ is criticized as being more of a theoretical and ideological industry construct to lure investors, rather than an entirely new technology. Indeed, the ‘2.0’ suggests that Web 2.0 is a newer and better version of Web 1.0. Nonetheless, several scholars maintain that Web 2.0 is not a radically new technology (e.g. Scholz, 2008; Weiss, 2005), but rather ‘*created new families of online applications sharing a number of common sets of objectives*’ (Constantinides & Fountain, 2008, p. 234). Downes (2005) refers to Web 2.0 as ‘*an attitude not a technology – this means there is no technological revolution, it is a social revolution.*’ Accompanied by such criticisms, ‘social media’, as an umbrella term for computer

and Internet applications based on social 'relations' or 'connections' between people, has become the dominant concept at the expense of terms such as 'Web 2.0'. This trend can also be observed in the following Google Trends graph (Figure 1). Why do we opt for the notion of social media, and not for concepts such as 'new media' or 'digital media'? New media has the advantage it refers to a new era and therefore is accompanied with optimism and new expectations. However, the development of media technologies is so fast that one can question how long new media can stay new. Another term that might be applicable here, but is not presented in the graph below, is 'digital media'. Digital media include all information or data that are encoded in a machine-readable format or numbers, and can thus be read, viewed, created, transmitted, distributed, and modified over the Internet and/or computer networks such as desktops, laptops, mobile devices, gaming devices, and servers (Lister, Dovey, Giddings, Grant, & Kelly, 2009; Siapera, 2012). Therefore, 'digital media' is an umbrella term that encompasses much more than social media alone and, consequently, is not useful to delineate the concept of 'social media'. All social media can be seen as digital media, but not all digital media are necessarily social media.

Figure 1 Google Trends graph¹ of the concepts 'Web 2.0', 'New Media', and 'Social Media'



The above-mentioned optimism also continues in the term 'social media'. Kaplan and Haenlein (2010, p. 61), for example, define social media as '*a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content.*' If we follow this line of reasoning, we have to criticize this much-quoted definition. Kaplan and Heinlein (2010) clearly recognize that Web 2.0 is not a specific technical update of Web 1.0. However, in their definition, they refer to Web 2.0 as the ideological and technical foundation or the evolution that made social media possible. Again, as with Web 2.0, they recognize that user-generated content (UGC) is not new and that a significant amount of this content was already available before Web 2.0. However, they refer to technological drivers that made UGC possible. Kaplan and Heinlein (2010) can thus be labelled

¹ Google Trends is a public facility of Google; it calculates how frequently a particular search-term is entered as compared to total search-volume throughout the world.

as optimistic and even technological deterministic, as they see social media as low-cost tools for companies to engage timely and direct with end-user consumers. Underneath the above rather idealistic and optimistic interpretations of terms such as 'Web 2.0', 'participatory media', and 'social media', resides a counter movement — and a more critical discourse.

2.2. Social media from a critical perspective

This critical perspective sees social media platforms as manifestations of power relationships between the owners of the platform and the individual users (Castells, 2009). According to Castells (2009, p. 10), power can be defined as *'the relational capacity that enables a social actor to influence asymmetrically the decisions of other social actor(s) in ways that favor the empowered actor's will, interests, and values.'* From this perspective, the owners of social media platforms are the most empowered or powerful actors for whom user behaviour is a profit value. In this section, we limit our focus to scholars who interpret social media from this critical perspective: Bechmann and Lomborg (2013), Carpentier (2007), Fuchs (2014), and van Dijck (2013a).

2.2.1. Bechmann and Lomborg's '360-degree media analysis'

Bechmann and Lomborg (2013) address social media both from a user-centric perspective, as a tool for self-presentation and creative exploration, and from a corporate perspective in terms of power, exploitation, and business revenue. We discuss this interpretation of social media from a critical perspective on social media, as it considers social media as companies that want to create value.

According to Bechmann and Lomborg (2013), theorizing social media commonly emphasizes three characteristics. First, social media communication is de-institutionalized, which means that media companies alone do not control the flow and distribution of information. However, de-institutionalization is not complete: the Internet access points stay centralized in the hands of just a few international media companies (Castells, 2009; Fuchs, 2014). Second, social media users are also information and content producers. We refer here to the collapse of production and consumption roles, labelled 'prosumer' (combination of producer and user) (Jenkins, 2006) or 'produsage' (Bruns, 2008). Third, social media communication is interactive and networked in nature. Users interact with each other (rather than via institutions) and connect in a networked manner, without an intermediary agent. Consequently, relationships on social media became more symmetrical and less hierarchical (Bruns, 2008; Lüders, 2008). However, social media companies use different techniques to structure this communication in a way that is frequently invisible for users (e.g. algorithms), which makes the power relation between users and social media companies rather asymmetric.

Hence, according to this definition of social media, although users are empowered by the possibilities of social media, they have simultaneously a profit value for social media companies. Social media companies ensure that they get valuable input from their users in terms of

personal or user data, so they can sell this input for advertising purposes or sell their company as a whole to bigger companies (Kauffman & Wang, 2008; Wirtz, Schilke, & Ullrich, 2010). In addition, users who like the platform also stimulate and invite new users, thereby creating new value for social media companies. The latter also ensures that users will stay on the platform, and because of the networked character it is difficult for alternatives to convince users to switch to their platform. Users are also valuable for social media companies in the sense that they allow the companies to discover new opportunities and technologies for their platform, which again provides extra user data and additional value for the company. This use of user data by social media platforms has implications in terms of users' privacy issues, as discussed in Section 2.5.1.

2.2.2. Carpentier's interpretation of social media as a tool for political participation

Similar to Bechmann and Lomborg, Carpentier (2007) considers both the user opportunities of social media and social media as a company. Carpentier (2007) uses the term 'participatory media', because they serve as tools for political participation, which are, according to him, intrinsically linked to the democratic role(s) of social media. According to Carpentier participatory media serve two forms of participation: (1) minimalist, or collective, mediated, ritual, and symbolic, forms of media participation that construct imagined communities; and (2) maximalist, or more intense forms of media participation, where any citizen (not only professionals) is effectively involved in the mediated production of content, or even in the management and policy-development of the organization that produces the mediated content. From this perspective, Carpentier leans strongly to a more optimistic view on social media.

Carpentier indicated that despite the novelty that accompanies these social media evolutions, we should not ignore that big capitalist media companies, which are not always in favour of the maximalist form of media participation, take the value of much of the produced social media content. In addition, from a technological-determinist model perspective, it is too often assumed that social media are, per definition, more participatory in comparison to other media. The participatory potential of media depends on the way they are used, which means that social media can be used perfectly in a non-participatory, top-down capitalist manner. Carpentier, therefore, reasons that if we want to understand fully how participatory media is used, we have to consider the companies behind the social media platforms.

Carpentier (2007, p. 119) argues that social media (and the discourses regarding these technologies) are one of many opportunities to enhance the level of (media) democracy; however, he simultaneously maintains that the threat of the incorporation of market and state is more than real.

2.2.3. Social media from the neo-Marxist perspective of Fuchs

The neo-Marxist perspective that scrutinizes the value of social media, also fits under this critical approach. This vision perceives the business model of many social media platforms as one of exploitation of the users (Allen, 2008). Fuchs (2014) is an influential scholar who applies this vision to social media.

In his book, *Social Media: A Critical Introduction*, Fuchs argues that we must rely on critical theory and ask questions about power and (in)equality in contemporary society if we want to fully understand how social media work. According to Fuchs, critical theory focuses on the production, distribution, and consumption of resources and the power relations that shape these resources.

Fuchs uses critical political economy as a critique and a complement to political economy approaches that do not go beyond the description of economic, political, and legal power structures (Fuchs, 2014). Critical political economy is concerned with capital accumulation, surplus values exploitation, and commodification (McChesney, 2008; Mosco, 2009). Summarized by Golding and Murdock (1997), the critical political economy of media is a holistic, historical, realist, and materialist epistemology, which has moral and philosophical foundations and focuses both on the analysis of cultural distribution and on the distribution between the private and public control of communications.

According to Fuchs (2014), critical political economy is complementary to the Frankfurt School, another tradition of critical thinking with a stronger focus on ideology, or the claims made about a better world that do not correspond to actual reality. Fuchs (2014, p. 21) cites Murdock and Golding (1974) to clarify the meaning of this ideology in the context of media. For them, media are organizations that *'produce and distribute commodities'* and have an *'ideological dimension'* by disseminating *'ideas about economic and political structures.'* This focus on ideology is understandable given the historical context in which the Frankfurt School arose, namely the rise of German fascism (Horkheimer & Adorno, 2002). In comparison, the Anglo-American approach of political economy originated in a more liberal and consumer culture, and focuses more on capital accumulation. Horkheimer's (1947) concept of 'instrumental reason' and Marcuse's (1964) concept of 'technological rationality' have the ability to unify both traditions of critical thinking (Fuchs, 2014). Both authors maintain that instrumental decision-making on the part of the state replaces action in capitalism.

Using different techniques to keep this message hegemonic, commodification and personalized advertisement are presented as the best possible system for the perpetuation of social media. The ultimate goal is that humans do not question, act, or revolt against this system, but instead play the role of instruments for the 'survival' of social media. Fuchs (2014, p. 14) compares the marketing of many social media sites with exploitation, which he defines as *'a specific form of domination, in which one group controls property and has the means to force others to work so that they produce goods or property that they do not own themselves, but that the owning class controls.'* In this respect, while they cannot benefit from it themselves, users are the profit and monetary value of social media as companies. However, this ideology is not always successful, and is frequently questioned and resisted, even by the users, such as when displeased users quit a site. Sometimes, the latter happens with many users quitting together as a collective sign of protest. Other users resist by tampering with the site's software or designing rebellious apps. Still others, both in groups and as individual users, stage vocal protests by writing critical blogs, organizing petitions, and posting protest videos on YouTube. These protest actions were all present at the time of, for example, the introduction of

the Timeline on Facebook (e.g. most Facebook users noticed that their profile was visible to more people than just their friends on Facebook).

Since social media are also social circumstances, Fuchs (2014) argues that this situation of 'exploitation' and capitalism can change. An alternative version of social media requires an additional societal setting. Therefore, Fuchs (2014, p. 14) refers to Marx's critical theory and the concept of 'participatory democracy', or a '*society in which all decisions are made by those who concerned by them and all organizations (workplaces, schools, cities, politics, etc.) are controlled by those who are affected by them*', as an alternative possibility for capitalism.

Although Fuchs's findings are valuable in understanding what social media companies do or can do, criticism can be voiced. An initial critique is that we have to be very careful with the term 'exploitation', which is closely related to 'slavery'. Fuchs (2014) has a rather one-sided focus on the advantages in terms of the value of the social media companies and the associated, frequently negative, consequences for the users. However, since users of Facebook can take advantage of the services to inform themselves and communicate with others in a relatively quick and easy way, it is not entirely true to say that users cannot benefit themselves. At the same time, we may not see users as defenceless victims, since Facebook does not force its users to reveal so much information; Facebook (can) only stimulates users to do this. Although Fuchs (2014) admits that because users like the services of the site, social media use does not always feel like exploitation, he argues that this does not mean that exploitation does not exist. Exploitation is essentially '*the degree of unpaid labour from which companies benefit at the expense of labour*' (Fuchs, 2014, p. 64).

2.2.4. Van Dijck's critical interpretation of social media

We discuss van Dijck's interpretation of social media as a more nuanced critical perspective on social media, in comparison to that of Fuchs (2014). In her book, *The Culture of Connectivity: A Critical History of Social Media*, van Dijck circumvents the disadvantages of a pure political economy approach by also paying attention to Latour's actor-network theory (ANT) to fully understand how social media platforms have become an ecosystem — a socially ubiquitous system of connective media. Based on both political economy and ANT, as theoretical frameworks, van Dijck continues with a historiography of different social media platforms between 2001 and 2012.

Borrowing from the ANT, van Dijck (2013a) approaches social media platforms by first questioning technology, content, and users for each of the social media platforms. This is necessary because, according to van Dijck technology and user agency are inseparable.

Van Dijck (2013a) continues by questioning the ownership, governance, and business model(s) of social media platforms to critically assess the political economy of social media. In terms of ownership, over time, many social media platforms transformed from non-profit, user-centred organizations, to for-profit, owner-centred enterprises. Hitherto, a large and active user base has been the platform's most precious asset. The largest social media platforms buy patents owned by other companies to annex expertise, including valuable algorithms, and other services to earn more control over the user experience, hence over user data, and

consequently to earn more money. In addition, partnerships with other sites are a means of implementing the other site's services and obtaining access to this data.

Based on the harmony between the users' trust and the owners' monetizing intentions, business models were found to make user data sellable. Users will quit a site if they feel they are being exploited and manipulated for money. Therefore, social media platforms must provide enough appealing services to the users to ensure that the business models are underexposed. Although the advertising model is applied, users neither pay attention to/nor do they tolerate commercial activities on a friend's populated environment, such as social media. Social media attempt to make these advertisements invisible and personal, by making them appear as the personal recommendations of friends.

A criticism of this approach is that political economy ignores the technological and social drivers of change. Van Dijck uses the ANT in an attempt to counter this comment. However, van Dijck gives a rather free interpretation of the ANT, and thereby ignores the network in which both the technology and the users are embarked. Another criticism of van Dijck's interpretation of social media is that it is more a description of how the situation is now, and does not address how to tackle the negative implications of this situation, or as Horkheimer (1982, p. 244) states: *'to liberate human beings from the circumstances that enslave them.'* The latter is where Fuchs's (2014) critical approach adds value.

2.2.5. Conclusion: The value of a critical perspective for media literacy in a social media environment

First, we reflected on the term 'Web 2.0', coined by O'Reilly (2006), as a corporate concept to stimulate economic optimism after the dot-com bubble crisis in the mid-nineties. Several scholars follow this vision of Web 2.0 by focusing on the various benefits that Web 2.0 can have on a social, cultural, political, and economic level. Some even use the term 'participatory' media or culture to refer to the participation benefits of Web 2.0. However, the terms 'Web 2.0' and 'participatory media' are nothing more than catchphrases with the intention of introducing a new form of making money. Moreover, the terms 'Web 2.0' and 'participatory media' were not well chosen, as the '2.0' suggests a technological change and 'participatory' suggests the active involvement of every user. Since Web 2.0 is more a social revolution than a technical change or participatory revolution, the term 'social media' seems more appropriate to us.

There is also a critical counter movement to these optimistic and idealistic interpretations of social media. This counter movement addresses social media as companies that want to earn money. The statement that these critical perspectives pay no attention to the benefits for/or the online experience of the users is not true; however, the added value gained from user data is more central to this perspective.

We elaborated on the more nuanced critical visions of Carpentier (2007) and Bechmann and Lomborg (2013), who paid attention to both the possibilities of social media for the users and the power of social media companies. Nonetheless, little attention is devoted to how users

can protect themselves against the possible consequences of how social media companies are organized.

As a solution to this latter critique, Fuchs (2014) argues that users may not silently accept the dominant market ideology, which focuses on the exploitation of free digital labour, but should strive towards a participatory democracy where those who are or can be affected make the important decisions. However, we want to nuance this position, as we are equipped and empowered through social media to reduce or avoid many previously existing exploitative practices. Now, whether it is us or others who are affected, we are able, for example, to let it be known when wrongs are committed. This option forces many of those practices to change.

Finally, we addressed van Dijck's (2013) vision on how a political economy approach and ANT can be combined to study social media. By doing this, van Dijck circumvents the disadvantages of one perspective. Although a worthy description of how social media companies work, it does not address how users can take action or resist the way that social media work.

The important message of this section is that we, as scholars, have to realize that an important part of media literacy must involve critical thinking about the companies and organizations behind social media platforms, and consequently not assuming that the way social media platforms are structured and organized is an analytic given. However, from a more critical political economy perspective (see Fuchs), media literacy can be seen as both an 'easy' solution and an acceptance of the capitalist system. It is not that there is no existing alternative to how social media are organized. However, social media are, to date, so deeply ingrained in all of us, that no alternative seems viable. In the case of Facebook, for example, most of the users are afraid to lose contact with so many friends and so much content, such as photos; therefore, they also accept the possible disadvantages. Until now, no site has been available without complex privacy policies and targeted advertisements to import all of an individual's Facebook contacts and content. In the meantime, it is important that individuals inform themselves adequately, are aware of the possibilities and risks, and thus guard themselves against the implications of the results of the capitalist system, in this case, social media.

2.3. Social media from a technical-structural perspective

Many scholars describe social media as a set of technologies and applications. Bruns (2008), for example, describes Web 2.0 as *'the technological framework for a notable shift from static to dynamic content, from hierarchically managed to collaboratively and continuously developed material, and from user-as-consumer to user-as-contributor.'* To describe this technological dimension of social media, Osimo (2008) lists different web technologies, such as Ajax, XML, and Flash/Flex, as well as various applications, including blog, wiki, podcast, RSS feeds, tagging, social networks, and search engines. Social media platforms use these technologies and applications to provide web users a good user experience.

Nonetheless, several scholars, such as Constantinides and Fountain (2008) and Scholz (2008), state that the technologies of social media are not new and combine several existing and further developed programming languages and techniques that have already proven their robustness and scalability in the past. Although this idea is also found with Schauer (2005), he simultaneously points out that social media have some new features, the so-called 'experience attributes', which make some new user experiences possible that were not possible before. According to Schauer, the features that already existed in Web 1.0 include user-contributed value, long tail, or reaching a broad public, and a network effect. The new experience attributes include decentralization, or the feeling that there is no centralized authority, such as a company; co-creation, or the fact that users can participate in the creation and publication of UGC; remix ability, or the combination of various options of web sites, and the emergence or a combination of the actions of Internet users can determine the form and value of the whole. Schauer's idea can be criticized by the argument that these characteristics of social media already existed, although they have only now gained in importance due to the combination of existing technological developments that made the scalability of these characteristics or principles possible.

Based on this literature review, we consider social media as a technology that builds on Web 1.0 technologies and applications, but leads to another user experience because of the combination and further development of already existing digital technologies. In the first part of this section, we elaborate on how the architectural features of a site link to user behaviour. In the second part, the focus is on how the technological features of a social media platform tie users to the platform. Finally, we discuss how their architectural features can provide the basis for the classification of social media platforms.

2.3.1. Architectural features that make every social media platform unique

Different social media contain different technological features, which suggest that it is '*easier to use them for some purposes than for others*' (Buckingham, 2008, p. 12). The culture and architecture of online spaces, much like the culture and architecture of offline spaces, stimulate or form a barrier to particular modes of behaviour. In this respect, Papacharissi (2009) refers to Goffman's wanderer of looser streets and neighbourhoods deciding which corner to turn, which way to walk, whether to interact, and when to stop. Van Dijck (2013a) further emphasizes that social media platforms do not merely facilitate social interactions, but that even the technologies on these platforms shape the interactions on them.

The technologies or applications of a social media site are frequently framed as architectural features (Papacharissi, 2009), the ways in which these features are observed and used by users is indicated by the concept of 'affordances' (Papacharissi & Easton, 2013), further discussed in Section 2.4.3. Since it is difficult for users to anticipate the invisible or difficult to find technologies and applications of a site, it is important to keep this distinction in mind. Consecutively, we provide some examples of significant (both visible and invisible) technologies and applications on social media platforms that can affect user behaviour both consciously and unconsciously.

The features of social media platforms provide a boost to the creation and distribution of 'amateur' produced cultural content, frequently referred to as UGC (van Dijck, 2013a; Vickery & Wunsch-Vincent, 2007). However, some social media platforms claim the copyright of the UGC, which provides legal clashes concerning intellectual ownership if a person wants to publish his or her own work. Furthermore, the content that users post, share, or like, provides precious information regarding consumer preferences and even social trends for the social media platform. In addition, most social media platforms give users limited freedom in creating content on them, for example, they only allow tweets of 140 characters or less, and on Facebook, users may only upload videos of a certain length. Because algorithms work better this way, social media platforms prefer standardization and uniform deliverance of content.

These algorithms, or the computational data analysis for calculating the links between the data, can combine all of this (meta)data in interpretable and relevant output, for example, to calculate the relationship between the kind of content that a user likes and his or her buyer's preference (Gillespie, 2012; van Dijck, 2013a). The sites also cumulate metadata, via cookies, frequently planted without the consent and consequently the knowledge of the user, for example, about the time a picture is uploaded, and search histories, or browse strategies. The fact that users unconsciously deliver most of the data derived from cookies and algorithms is frequently the cause of heated debates over privacy and user rights. In addition to cookies and algorithms, social media also use protocols, or a set of instructions that users have to obey if they want to fulfil their action. For example, YouTube asks a user to enter their real name several times. Facebook asks users for their hometown and their workplace several times and even makes suggestions based on the answers of their friends (see algorithms). Generally, there is a way to subvert or resist this inscribed logic, but it is generally difficult to find.

The interface construction can additionally ensure that users behave in a certain way. If there is a bar that indicates how much of the information about your workplace is completed, users can be encouraged to fill in the rest of the information. In addition, the use of buttons, such as the 'like' button in Facebook, which facilitates the provision of a reaction, encourages users to give this reaction. Default settings further characterize the interfaces. The sites make changing the default settings an effort for the users, therefore, a significant amount of information is visible for numerous users, which in itself can provide new interactions and information.

The architecture features of social media platforms, including the interfaces, default settings, the storage and use of (meta)data, underlying algorithms, and formatted protocols, all determine the way in which social interactions take place. It is, therefore, not surprising that how these technologies are combined and work strongly depends on the socio-economic structure of that platform (van Dijck, 2013a). As described above, the design of a platform's architectural features and services reflect the owner or developer's strategic choices, governance, and business models.

2.3.2. Technological features of social media that connect users to the platform

The idea that users have the potential to interact with others and share content through the technologies and applications of social media platforms, but are simultaneously limited in these

possibilities by the owner's strategic choices, governance, and business models of social media, is framed by Bauwens (2008) as unbalanced 'social contracts'. The contract allows that the efforts of users are converted to a certain financial benefit, as long as this does not exceed the limits of acceptability. Because social media platforms use different technological features to keep this social contract in balance or to keep their users as long as possible, we discuss this idea under the technological perspective section.

Most social media platforms require users to login before they can use the capabilities of the platform. Some platforms require their users to login on a regular basis; if they do not, their account is deactivated. Described as 'stickiness', these strategies stick the user to a certain platform to generate more information about the users and consequently higher advertisement values.

A related strategy of social media platforms is 'portalisation', or attempting to build in as many functionalities as possible (e.g. email, chat, photo upload tools, and games), so users rarely need to leave the platform. Another example of this portalisation is the 'like' button, which is now available on many external websites as well.

Technological strategies are also supported by a 'lock-in effect' (Constantinides & Fountain, 2008). Users have invested so much effort, time, and energy in their profile that they will not leave the platform. These lock-in effects can occur because of the valuable information and content on the platform, as well as because of the contacts. The first refers to the fact that users do not want to lose the information about them and others that is available on the site. The latter refers to the network effect: people are attracted to the platform, because other people use the social network as well (Doyle, 2013, pp. 69–73). This reminds us of the fact that technology and affordances of social media still play an important role in how users behave on these sites.

2.3.3. Classifications of social media

The ways in which these technological features are combined result in different types of social media platforms that are difficult to compare to each other. Therefore, numerous scholars have made social media classifications.

The classification of Kaplan and Haenlein (2010) is frequently cited. They developed a social media classification that relied on the social presence, media richness, and social processes theories. The social presence theory focuses on the degree of intimacy (e.g. interpersonal vs. mediated) and immediacy (e.g. asynchronous vs. synchronous) that exists between communication partners through media (Short, Williams, & Christie, 1976). The idea of media richness, which emphasizes the amount of information that is transmitted through media and, consequently, the extent to which media reduce uncertainty is closely related to the social presence theory (Daft, 1986). Kaplan and Haenlein (2010) use the social presence and media richness theories as the first distinction that can be made, as applied to social media. Social processes are the second distinction and they can be made based on the degree of self-disclosure and self-presentation. This classification of social media by social presence/media richness and self-presentation/self-disclosure is visualized in Figure 2. Blogs and collaborative

projects belong to low social presence/media richness, as they only allow relatively simple online communication. In contrast, social networking sites and content communities allow the exchange of text, photos, movies, and other forms of media. Virtual social and game worlds have the highest score on social presence, as they attempt to imitate face-to-face interactions. On blogs, social networking sites, and virtual social worlds, individuals are more stimulated to reveal significant amounts of personal information and to represent themselves. This is in contrast to collaborative projects, content communities, and virtual worlds, where only a minimum of personal information is required.

Figure 2 Kaplan and Haenlein's (2010) classification of social media

		Social presence - Media richness		
		<i>Low</i>	<i>Medium</i>	<i>High</i>
Self-presentation Self-disclosure	<i>High</i>	Blogs	Social networking sites (e.g. Facebook)	Virtual social worlds (e.g. Second Life)
	<i>Low</i>	Collaborative projects (e.g. Wikipedia)	Content communities (e.g. YouTube)	Virtual game worlds (e.g. World of Warcraft)

Other scholars, such as Van Dijck and Fuchs, make a less detailed classification of social media. Van Dijck (2013a), for example, makes a distinction between four kinds of social media:

1. Social network sites (SNSs) for interpersonal communication (e.g. Facebook, Google+, LinkedIn),
2. User generated content (UGC) sites for the creation and exchange of both amateur and professional content (e.g. YouTube, Instagram, Pinterest),
3. Trading and marketing sites (TMS) for exchanging and selling products (e.g. Amazon, eBay), and
4. Play and game sites (e.g. World of Warcraft, Second Life).

Fuchs (2014) also makes a distinction between four kinds of social media, but in contrast to van Dijck he does not take into account the sites for selling products and playing games. He makes a distinction between blogs (e.g. WordPress, BlogSpot, Tumblr), social networking sites (e.g. Facebook, LinkedIn, Diaspora), wikis (e.g. Wikipedia), and content sharing sites (e.g. Flickr, YouTube, Instagram).

Since the focus in this dissertation is on Facebook and Twitter, it seems appropriate to dig deeper into the various definitions and architectural features of SNSs and microblogs. As with social media, in general, it is not surprising that SNSs, as a rapidly shifting and new phenomenon, are difficult to define. Boyd and Ellison (2008, p. 2) provided the most commonly used definition of an SNS:

'Web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a

connection, and (3) view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site.'

In order to clarify this definition further, they make a distinction between 'social network sites' and 'social networking sites'. They prefer the term 'social network sites', since 'networking', or the (initiation of a) relationship between people who do not/or hardly know each other, is not the primary practice of a social network site. A critique on this definition is that it does not clarify what an SNS is (Beer, 2008). According to this definition, only Facebook is a social network site. Other sites frequently framed as SNSs, such as Myspace and Netlog, have social networking features because they allow looking for people with similar interests, not maintaining their offline network, as their main activity. To define SNS, we build on Fuchs's (2009, pp. 153–154) definition, which states:

'Web-based platforms that integrate different media, information and communication technologies that allow at least the generation of profiles that display information describing users, the display of connections (connection list), the establishment of connections between users displayed on their connection lists, and communication between users.'

While the microblogging label might suggest that Twitter is a kind of blog, according to this definition of Fuchs, it can be considered an SNS. Based on the different definitions of popular press, academics, and practitioners, boyd (2006a, p. 10) defines blogging as '*producing digital content with the interaction of sharing it asynchronously with a conceptualized audience. It a n-to-? Practice where some discrete number of bloggers share with an unknown number of readers.*' In this respect, there are indeed many similarities between blogging and microblogging. The biggest difference is that the content on a microblogging platform is typically smaller than that of blogs (i.e. only 140 characters on Twitter). Another difference is that in Twitter, as a microblog, possibilities exist to build up a list of connections, to be informed of their contributions to the platform, and to have the ability to respond to these contributions. Hence, Twitter is something between social networking, blogging, and even text messaging (given the short messages) (Miller, 2008).

A critique on these classifications is that these divisions are comparatively artificial and that there are no clear boundaries between the various platforms (Beer, 2008; van Dijck, 2013a). Words such as 'profile', 'friends', and 'like' illustrate the significant overlap between the categories in the way the platforms are organized and the content they contain. It is, therefore, extremely difficult to actually pinpoint the similarities and differences between the different types of social media. Moreover, some platforms gradually combine different characteristics. For example, although Facebook is primarily a social network site, it also provides opportunities to create and exchange content and to play games. Another example is Twitter, which, according to boyd and Ellison (2008), has all the features of a social network site except one: Twitter is not used primarily to stay in contact with the offline social network. Although this seldom happens (cf. Facebook), the latter creates confusion, since other social network sites can also be used to communicate with unknown people. While designed to bring more clarity, these classifications bring less clarity instead.

The result is that these narrow classifications are frequently limited to only one or two platforms per social media category. The question is whether the division into categories is useful, considering that social media are constantly changing and converging, and although they frequently arise from existing platforms, they are somewhat different. Our argument here is that we should use one umbrella term, such as 'social media', which captures a broad sense of what is happening in online cultures, and then describes the social media platforms being examined by comparing them to others in a structured manner, thereby scrutinizing the similarities and differences.

2.3.4. Conclusion: The value of a technical-structural perspective for media literacy in a social media environment

According to various definitions based on a technological perspective, social media are a combination of several existing and possibly further developed programming languages and techniques that have proven their robustness and scalability in the past. These are combined to provide different services and a 'rich' experience to the users. However, the platform owners can also (mis)use the architectural features of a social media platform to stimulate a particular kind of user behaviour.

In the first part of this section, we provided some examples of significant (visible and invisible) technologies and applications that can affect a user's behaviour (both consciously and unconsciously) on social media platforms. In the second part, we discussed how social media attempt to use user data commercially through technical features. Users are kept on the website (i.e. stickiness) as long as possible through offers of a varied and wide range of functions (i.e. portalisation). These strategies of social media websites are enhanced by the lock-in effect, which locks users to the site; because they have invested so much effort, time, and energy in their profile, users are afraid of losing valuable content and contacts and consequently will not leave the site.

This leads to reflection on the fact that technology has a tremendous impact on how users behave. Therefore, concerning media literacy, as focused on the use of social media, it is important to be able to use the different techniques and functions, as well as to consider how these architectural features play a role in how we behave as a user on social media platforms.

In the last part, we focused on how the differences in technology between social media platforms led to different classifications of those platforms. However, since there is such tremendous overlap between the categories concerning the way the platforms are organized and the content they contain, these classifications are not actually useful. Our argument here is that we should use one umbrella term, such as 'social media', which captures a broad sense of what is happening in online cultures, then describe the social media platforms under investigation by comparing them structurally to others, and thereby determining the similarities and differences.

2.4. Social media from a user-centric perspective

Because of the combination of different techniques and applications, social media are excellent tools for finding information as well as for online communication and content creation (Bruns, 2008). In this realm, the user is the central actor.

Different scholars indeed treat the user as the central actor in their definition of social media. For example, Jenkins, Purushotma, Weigel, Clinton, and Robison (2009, p. 5) describe how social media can serve, for the users, as an expression of 'participatory culture', which they define as a culture with:

1. *Relatively low barriers to artistic expression and civic engagement;*
2. *Strong support for creating and sharing creations with others;*
3. *Some type of informal mentorship whereby what is known by the most experienced is passed along to novices;*
4. *Members who believe that their contributions matter; and*
5. *Members who feel some degree of social connection with one another (at least, they care what other people think about what they have created).*

Beer (2009) also described social media as a major shift to a more participatory and collaborative version of the web, where the users themselves get the ability to create content. Here, the term 'participatory' has a strong association with political participation, in the sense that social media will automatically serve democracy. Jenkins et al., who have a more culturalistic perception of participation, do not discuss to what extent the latter is possible.

Constantinides and Fountain (2008) focus more on the enhancement of experiences, knowledge, and the market power of the users through social media. A somewhat similar approach can be found with Barsky (2006), who sees social media as a tool to spread information to everyone, which they can loop up, process, and edit according to their own needs. The same technologies and applications that make using social media very easy, personalized, and user-centric enhance these possibilities. In most social media, for example, every user gets other information and, for the most part, the home page is personalized.

Social media has thus many advantages for its users. In this section, we concentrate on the connection of social media to 'user empowerment' and to Bourdieu's concept of habitus.

2.4.1. Social media and/for empowerment

As we focus in this dissertation on the user of social media, we also pay attention to 'user empowerment' in a social media environment. The concept of 'empowerment' originally appeared in the context of strengthening minority groups (Berton, 1994; Rappaport, 1987). Since then, it has been used over several disciplines in a number of different ways, inter alia, in psychology, organization studies, politics, communication studies, health, and education. This has led to confusion, misinterpretation, and misunderstanding of the concept of empowerment (Woodall, Warwick-Booth, & Cross, 2012). Despite the ambiguity that surrounds the concept of 'empowerment', most definitions and theories agree that capabilities are one of the most important factors for empowerment (Dolnicar & Fortunati, 2014).

A much-quoted definition of ‘user empowerment’ is the one of van der Maesen and Walker (2002, p. 6), as *‘enabling people to control their own lives and to take advantage of opportunities’*; specifically, *‘a process, a mechanism by which people, organisations, and communities gain mastery over their affairs’* (Rappaport, 1987). McWhirter (1991, p. 223) further highlights this process in the following definition of user empowerment.

‘The process by which people, organisations, or groups who are powerless (a) become aware of the power dynamics at work in their life context; (b) develop the skills and capacity for gaining some reasonable control over their lives; (c) exercise the control without infringing upon the rights of others; and (d) support empowerment of others in the community.’

We discuss this definition, as it describes empowerment as a process consisting of different stages, which are also relevant in a social media culture. Social media are associated with empowerment, as they can offer the tools to support processes of awareness, development, and learning certain actions that are focused on other community members. Users of social media gain the power *‘to initiate and influence change on various social, cultural, political and economic issues in the non-virtual world’* (Carlisle & Scerri, 2007, p. 2).

Social media as a new and revolutionary space free of power relations, inequalities, marketization, risks, and social structures is an utopia. Jurgenson (2012), for example, argues that everything that happens online is inextricably linked with the offline world, which he described as ‘augmented reality’. According to Jurgenson, the separation between online digital and offline physical spheres, or digital dualism, is false. How people behave on social media depends on many offline factors, such as socio-economic status (SES), gender, norms, and values — and vice versa. What happens on social media, such as Facebook, also influences what people do offline, for example, gossiping about the shameful picture of someone who appeared yesterday on Facebook, or thinking about a potential tweet or profile photo on Facebook. Social media augments, rather than replaces, offline life. Hence, the notion of social media as an open and free space that, for example, enhances participatory democracy must be nuanced by also considering the politics, structures, and inequalities of the physical world.

Users of social media are only empowered to the extent that he/she uses his/her abilities to grasp the opportunities and face the challenges of social media to fulfil their needs and interests and to influence decisions that affect one’s (quality of) life, so to overcome their disadvantaged position in society. From this perspective, media literacy, especially focused on social media, can be seen as a central factor of user empowerment in a social media environment, and in the networked society as a whole.

2.4.2. Social media facilitating a participatory habitus

Song (2010) provides another interpretation of social media from a user-centric perspective; she theorizes that these media are based on the field and habitus concepts of Bourdieu (1990). From a user perspective, social media include the technical abilities to obtain new benefits as well as resonate with cultural ideas that already have traction in society. Culture

functions as a set of *'institutionalized rules that infuse people and their actions with meaning and value'* (Thomas, 1989, p. 14).

From this perspective, culture can be linked to Bourdieu's (1977) concept of habitus of individuals or the source of meaning making and social action. Habitus can be thought of as habits, cultural rules, and ideological conditions that influence how people think and act. Bourdieu (1977, p. 72) defines the habitus as a *'system of durable and transposable dispositions, which functions as a matrix of perceptions, appreciations, and actions.'* Habitus is a product of socialization, by the family, school, job, friends, and professional contacts; it contains both unconscious and conscious tendencies and dispositions that determine thought, perception, and action. According to Bourdieu, habitus even forms the basis on which social classes can be distinguished from each other.

Habitus is inextricably linked to the environment, or fields, that function as a structure where certain rules, customs, and forms of authority exert pressure and consequently make certain actions possible or impossible. The social world is not constituted by one field, but with a network of fields, and frequently with fields within fields. At the most fundamental level, fields are most often based on two competing extremes: the battle for cultural and symbolic legitimation and for economic legitimation (Song, 2010). Every field is vulnerable to market demands; therefore, the economic field frequently functions as a meta-field or a convergence of fields along the economic pole.

Based on Bourdieu, Song (2010) re-conceives websites as structured spaces that interact with given dispositions, or modes of engagement, that make the users' practice on these sites meaningful. Based on a qualitative content analysis, Song noticed two important shifts between Web 1.0 and Web 2.0. First, she maintained that a synergy exists of online and offline interactions among the users in Web 2.0. This is in accordance with what Wellman and Haythornthwaite (2002) as well as Jurgenson (2012) point out: the online is increasingly integrated within existing offline practices and social relationships. Second, Song also noticed that the online individual identity supersedes the group identity. In Web 2.0, there is a stronger focus on membership within a personally generated network and not so much on online communities. This is an evolution that Wellman et al. (2003) describe as 'networked individualism' or the shift from bounded groups to loose shifting networks.

Hence, there is a change in how people position themselves in relation to a group. Song (2010) frames these shifts as a difference in 'participatory habitus', rather than a shift from information consumption to participation. Song uses Lichterman's (1996) notion of 'personalism' to describe this change in habitus. Lichterman (1996, p. 6) defines personalism as:

'...ways of speaking or acting which highlight the unique, personal self. Personalism supposes that one's own individuality has inherent value, apart from one's material or social achievements, no matter what connections to specific communities or institutions the individual maintains. [...] personalism does not necessarily deny the existence of communities surrounding and shaping the self, but it accentuates an individualized relationship to any such communities.'

Applying this framework, social media can be theorized as facilitators for a participatory habitus.

2.4.3. Social media affordances as habitus of the new

Papacharissi and Easton (2013) also recognize the value of Bourdieu's concept of habitus in understanding how social media interrupt and sustain the sociality of everyday life. While Song (2010) focuses more on how social media can serve as field for a participatory habitus, Papacharissi and Easton concentrate on how the structures of social media are both reproduced by human agency and are simultaneously the reproductive of these structures. Song's habitus-based analysis focuses on meta-level practices, while Papacharissi and Easton examine how habitus connects to micro-level practices. They use the term 'habitus of the new' as an umbrella term for every newly defined field that acts and reacts to modify its collective habitus. Although they sometimes mention a social media habitus, they clearly recognize that every social media platform has its own habitus (e.g. Facebook habitus, Twitter habitus).

According to Papacharissi and Easton, habitus is the set of dispositions that emerge out of the architecture of social media that frame but simultaneously invite the actions of the users on social media platforms. A habitus forms through the affordances of social media platforms, or the architectural features of a social media platform that shape what is possible and what users value and prefer (Bonderup-Dohn, 2009). Therefore, a habitus is not merely a collection of mechanical features, as it also presents how the users observe and use these features.

From this perspective, a [social media] habitus is *'not only a structuring structure, which organizes practices and the perception of practices, but also a structured structure'* (Bourdieu, 1984, p. 170). As with Gibson's ecological psychology, Papacharissi and Easton indicate that social media, as a field, shapes and is shaped by agents, users, and producers. The latter is the case when users create new meanings from familiar architectural features, for example, the use of the group function on Facebook as another way to control the visibility of information. Section 2.3.1 discusses how the architectural features of a site can shape users' behaviour on a social media platform. The concept of habitus can explain how an individual reacts on a shifting structure while being an agent of that change. The social media habitus thus presents a structured and structuring structure that affords avenues for its users.

2.4.4. Conclusion:

The value of a user-centric perspective for media literacy in a social media environment

In this section, we explored social media from a user-centric perspective, in which the user is treated as the central actor or the first level object. In the first section of Chapter 2, we described how social media provide opportunities for their users to fulfil their needs and interests and to influence decisions that affect one's (quality of) life, thus to overcome their disadvantaged position in society. Applied to media literacy, this means that people must realize that there are many opportunities related to the use of social media.

We associated this to the concept of 'empowerment', which refers to processes of awareness, development, learning, and action. Media literacy specifically focused on social

media can then be seen as a central factor of user empowerment, as it consists of competencies that can be applied by the user to fully benefit from social media in life.

The work of Song (2010) as well as Papacharissi and Easton's (2013) on the interpretation of social media also indicates the latter. While Song focuses on how social media can create a set of possibilities for a participatory habitus, Papacharissi and Easton concentrate on how the structures of social media are both reproduced by human agency and are at the same time the reproductive of these structures. In both interpretations, the users' habitus play an important role in their usage of social media. Therefore, Section 2.4 indicates that we have to consider people's norms, values, attitudes and habits, in order to fully understand how they behave on social media and, consequently, how this is an important part of media literacy in a social media environment.

2.5. Potential and pitfalls of social media

In literature two opposing visions on the potential impact of social media can be distinguished: the techno-pessimist vision and the techno-optimist vision (Quan-Haase, 2012). According to representatives of the techno-pessimist vision, technologies *'threaten established ways of life'* and can thus be seen as having a negative outcome (Street, 1992, p. 20). This pessimistic vision overlooks the fact that social media can also serve as tools for empowerment that create positive outcomes, such as identity formation, creativity, political participation, and communication, for their users. The techno-optimist vision, in contrast, overlooks the frequently problematic, negative impact of social media, such as the loss of privacy and the facilitation of bullying. Supporters of this vision believe that *'technology changes serve to improve the quality of life'* (Street, 1992, p. 20) and make many aspects of life easier. These differences between the techno-optimist and pessimist vision are clearly traceable in the above-described perspectives on social media. In this section, we will use these three perspectives to describe the potential positive and negative implications of social media. However, this list is not exhaustive, as the impact of social media is very personal. Specifically, what for one person is a positive outcome of social media (e.g. a gathering place for photos) is for others negative (e.g. loss of privacy). We will only discuss the impacts of social media most frequently addressed in the scholarly literature. Also, some subjects of outcome will receive more discussion than others.

2.5.1. Potential impact of social media from a critical perspective

Although the majority of social media started as non-market driven peer-production platforms, to 'survive' in a capitalist world, many sites must transform into for-profit based business models (Fuchs, 2014). However, these sites can only sell user data containing personal information, behavioural data, and UGC. Those who benefit from this user data are companies and advertisers. They, inter alia, want to discover what people think, what people do, and how they can reach them.

One of the implications of the change to for-profit business models can be linked to what Dallas Smythe (1981/2006) referred to as 'audience commodification'. The foundation of most business models of social media involves selling the personal information of users, as a commodity, to advertising clients. Users' loss of privacy is closely associated with this commodification. The concern about the loss of privacy through social media is based on the potential of social media platforms to monitor, track, and store every aspect of users' online behaviour (Fuchs, 2014).

Loss of privacy

However, before we address the potential negative impact related to the loss of privacy on social media, we must understand precisely what privacy means within a social media culture. Currently, especially from a legal perspective, privacy is recognized as a basic human right – the right to be left alone – as defined by Brandeis and Warren (1980). However, this interpretation of privacy is far too broad, since it is not clear what it means, 'to be left alone'. Westin's (1967) narrower and commonly used definition involves the contextual characteristic of privacy. He defines privacy as the '*claim of individuals, groups or institutions to determine for themselves when, how, and to what extent information about them is communicated to others*' (Westin, 1967, p. 7). This definition emphasizes the right of individuals to control their own personal information and the information about his or her environment. Therefore, the definition of privacy is linked to the context in which privacy is formulated (Sheehan & Hoy, 1999).

Papacharissi (2010a) states that privacy has resurfaced in a digital context: users of social media follow a path to increased sociality at the expense of privacy. Some even indicate that privacy is death in the digital age (e.g. Froomkin, 2000; Garfinkel, 2000). However, the idea that sociality requires some loss of privacy is not new. People must always share some personal information so that others will trust him/her to give some information back (Metzger, 2004; Roloff, 1981).

Solove, in contrast, argues that privacy is not dead and that a plurality of privacy problems exists. Solove (2007) focuses on privacy related problems that can arise from the different Internet properties. He does this by using a taxonomy that includes four general categories of privacy problems with sixteen different subcategories (see Table 1).

Table 1 Solove's (2007) taxonomy of privacy problems

Information collection	Surveillance
	Interrogation
Information processing	Aggregation
	Identification
	Insecurity
	Secondary use
	Exclusion
Information dissemination	Breach of confidentiality
	Disclosure
	Exposure
	Increased accessibility
	Blackmail
	Appropriation
	Distortion
Invasion	Intrusion
	Decisional interference

The first category primarily involves problematic methods of gathering information. The second contains the problems concerning information processing, including the storage, analysis, and manipulation of data. The third category, information dissemination, comprises the way information is either transferred or threatened to be transferred. The last category involves invasions or direct interferences with the individual. As a rationale for the disclosure of personal information and, consequently, the exposure to privacy risks, people frequently rely on the argument, 'I've got nothing to hide.' Moreover, risks to privacy invasion were ascribed more to others than to the self (i.e. third person effect) (Debatin, Lovejoy, Horn, & Hughes, 2009). However, these arguments do not address all of the privacy concerns discussed above (Solove, 2007). The lack of a general awareness about what can happen with their own information is at the core of countless privacy problems.

Privacy paradox

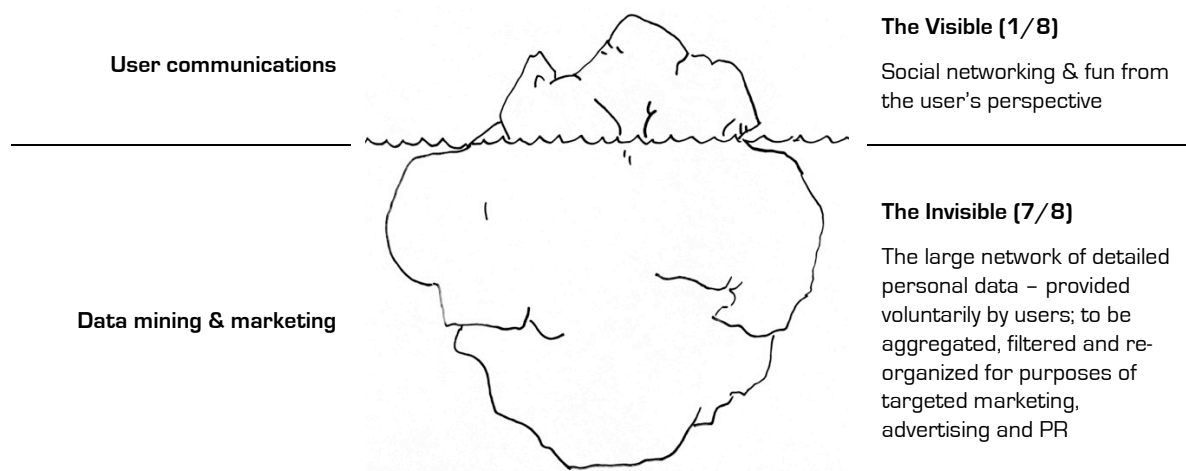
Despite adolescents and adults alike being aware that their privacy can be jeopardized on and by social media, research has demonstrated that users, especially young people, generously share personal information on these media (Acquisti & Gross, 2006; Taraszow, Aristodemou, Shitta, Laouris, & Arsoy, 2010; Young & Quan Haase, 2009). This phenomenon is termed the 'privacy paradox' (e.g. Barnes, 2006; Utz & Krämer, 2009). Social media's architectural features for controlling personal information make users believe that their privacy can be/or is protected, which frequently results in a higher disclosure rate of personal information (Dwyer, Hiltz, & Passerini, 2007).

In this context, Raynes-Goldie (2010) pleads for a more nuanced understanding of the privacy paradox. She maintains that users are more concerned about their social privacy, than

institutional privacy. Specifically, they are more worried about who of their friends on Facebook can see what kind of information or how to manage an inappropriate friend request, than how the company Facebook or its advertisers might use their personal information. Tufekci (2008, p. 33) adds that users *'restrict the visibility of their profile to desired audiences but are less aware of, concerned about, or willing to act on possible "temporal" boundary intrusions posed by future audiences because of persistence of data.'*

We discuss this social privacy under the 'potential impact of social media from a critical perspective' heading, as people must be cognizant that what information they share with their 'friends' on social media, is also shared with the company behind the social media platforms. Institutional privacy can only be controlled by not disclosing certain kinds of personal information, while, for social privacy, social media offer policies and data protection mechanisms. Ellison, Steinfield, and Lampe (2007) found that many Facebook users employ these data protection mechanisms and restrict their profile to friends only. Still, they reveal a lot of information to the benefit of the company Facebook. Debatin et al. (2009) compare social interaction on Facebook with an iceberg [see Figure 3]. The visible part represents up only a small amount of the iceberg. The invisible part is the largest part of the iceberg and it represents the privacy risks discussed in this section.

Figure 3 The Facebook iceberg model of Debatin et al. (2009, p. 88)



Although media literacy can be put forward as a means of minimizing privacy risks, many scholars have already argued that it will be extremely difficult if not impossible to reduce all of the privacy risks (boyd, 2012; Christofides, Muise, & Desmarais, 2009; Papacharissi, 2010a). For example, boyd (2012) maintains that the control of information is nearly impossible in a networked age. Control assumes that people have the power to assert control within a particular situation, in which individuals have the knowledge and skills to control that information, and understand the situation well enough to make informed decisions about what could be shared with whom, when, and where. Nevertheless, in the networked era, where people's data – and with it their privacy – is networked, individuals cannot obtain full control. This is because the information (e.g. photos, status updates) that people share contains information about other people. Consider, for example, the large number of pictures on

Facebook that were taken without the permission of the subjects. Full control in a networked age is hardly impossible, since if one small piece of information slips through the control, it can be easily linked to other pieces of data through machine algorithms. In a networked age, the data about us are no longer the product of our own actions and taste.

Papacharissi (2010a) argues that privacy has become a luxury commodity in the sense that obtaining privacy implies an extremely high level of media literacy. She states that if privacy is only obtainable through some form of media literacy, it is a luxury commodity, as high levels of literacy are associated with higher income, education levels, and certain ethnic groups. Nonetheless, since the path to privacy, as a normal good that everyone can afford, is very long, we suggest that it remains important that every user and non-user as well, is aware of the ways in which their privacy is jeopardized on social media and that he/she can act accordingly. If users are able to control their personal information online, they are less vulnerable to privacy risks than when all of their information is easily obtained.

2.5.2. Potential impact of social media from a technological-structural perspective

The technical features of social media provide a boost for social interaction and the creation of UGC. Therefore, the technical features of social media indeed stimulate the sharing of information. However, when privacy is concerned, many Internet features make sharing that information through social media more risky than face-to-face communication. Nissenbaum (2009) refers to the following Internet properties that can exacerbate these privacy risks: properties that make monitoring and tracking possible by means of cookies or logfiles, properties that support the spread and publication of online information, and properties that make the aggregation and analysis of online information possible by, for example, algorithms. These technical features also stimulate surveillance.

Surveillance

Although surveillance is not new, the digitalization of media and certainly the advent of social media have changed it: individuals, as well as entire groups of people, are both easily traced, since central organizations have easy access to databases across widening geographical distances. Moreover, individuals are continuously monitored for a number of different reasons. Lyon (1998) distinguishes three forms of surveillance: security and policing, employment, and marketing. The last form, marketing surveillance, is about collecting data about their members in order to sell it to companies and advertisers, was discussed in Section 2.5.1.

Both in and outside the workplace, employees now produce, receive, and process a tremendous amount of data through social media; this allows reconstruction and documentation of their activities during their work time and even in their free time. A frequent concern of users is that (future) employers could spy on them with the help of Google or social media and, consequently, could access personal information that could cause employment disadvantages, such as pictures taken when the employees are drunk (Abril, Levin, & Del Riego, 2012). With this consideration, Germany has a law that makes looking up prospective employees illegal. Social media can also be an integral part of a job search (e.g. LinkedIn) or career building, such as when other people discover your talents through social media or you

give your career a boost by being responsible for the social media pages of the company where you work.

Surveillance through social media can also be used for political regulation, state power, and civil society. This type of surveillance is frequently framed as serving security goals (Solove, 2011). Social media, for example, allow the rapid detection of producers and consumers of child pornography and/or terrorist content. The latter form of surveillance became normal and easily accepted after 9/11. Since that time, all forms of surveillance became commonplace in the effort to make the world a safer place. In the post 9/11 era, the idea is well spread that citizens have to trade privacy rights for being more secure; the consensus was that it was only if people did something wrong that they had to worry and hide particular information. Yet, there have been numerous instances of protest actions and social activism against the omnipresence of surveillance in the form of security through social media (Fuchs, Boersma, Albrechtslund, & Sandoval, 2011). While Solove (2011) maintains that everyone has something to hide, the reverse is similarly true; social media can also serve as a surveillance tool that allows citizens to watch the state and corporations and consequently allow counter-surveillance power (Lyon, 2007). Still, large corporations and states have the financial power to hide details and consequences of their operations. Therefore, surveillance as an outcome of social media affects civil society, social movements, citizens, employment, workplaces, government, and policies. The fact that social media data can be copied and manipulated endlessly, easily, and free of cost additionally reinforces this reality.

What is frequently forgotten, is that friends, especially on platforms such as Facebook, can also track and monitor the data of other members (Lyon, 1998). In this case, we do not use the term 'surveillance', as this term is generally associated with a set of political assumptions that monitoring is performed 'from above', as subjects are monitored by those in authority (Nissenbaum, 2009). However, in the tracking and monitoring by other members of social media platforms, which is called 'lateral surveillance', the latter is not the case (Andrejevic, 2006).

Cyber bullying

Cyber bullying is another implication of negative consequences that social media can produce. The technological features of social media allow everyone the ability to quickly and without permission post humiliating or insulting text messages, photos, or videos of others. Previous research has already indicated that approximately one-fifth of respondents have experienced some form of cyber bullying (Li, 2006; Patchin & Hinduja, 2008; Walrave & Heirman, 2011). Clearly, social media characteristics, such as anonymity, asynchronicity, and accessibility, stimulate online bullying (Valkenburg, 2009). Furthermore, it is extremely difficult to report content or behaviour on social media. Although abuse reporting buttons do exist on social media sites, in most cases, there is no further communication and the content is not immediately removed, if it is removed at all, unless a direct request is made to the person who posted the content (Donoso, 2011). Cyber bullying, as well as softer offending behaviour, can have negative consequences on the self-esteem of a person and consequently on his/her self-presentation as well (Patchin & Hinduja, 2010).

Visibility

The technical features of social media platforms also stimulate civic and political participation, as they provide spaces to openly debate an opinion (e.g. Rheingold, 2008). Section 2.5.3 of this chapter provides further discussion of these possibilities of social media. However, social media as a tool for democratic self-governance is overrated. Habermas (1989) already expressed fear of the corruption of the public sphere in a mass media era where discourse can be paid for by the public relations industry to advertisers. Because of the business model of social media, this phenomenon also occurs in social media. Social media platforms are owned by companies that control the attention and visibility of users' content (Fuchs, 2014). Since visibility is the key to marketing and public relations, advertising companies that associate with Facebook hire people from the company or people enrolled informally through social media to like and/or share their products or services (Trottier, 2012). The start page of Facebook, for example, is a selection of others' messages where some kind of 'advertisement' gets priority; on Twitter, people and businesses with more status get more visibility. Furthermore, users who are very active — both in terms of frequency or the received attention — gain more visibility; these are mostly politicians and other well-known figures. We discuss this impact of social media under the heading of technical features, as algorithms are the reason for the differences in visibility. Carpentier (2007) also referred to the fact that not all social media platforms stimulate participation; this depends on the organizational logic behind them and the technical features of the platform. Therefore, the extent to which the Internet can retain its reputation as the great social equalizer is debatable.

This section demonstrates that the technical features of a social media platform relate closely to the business models of the companies behind the platforms. Therefore, the primary focus is on the benefits on behalf of those firms.

2.5.3. Potential impact of social media from a user-centric perspective

Social media also serve as tools for self-presentation, communication, and creative expression. To elaborate on these possibilities of social media, we focus on their capital enhancing properties. First, we aptly discuss Bourdieu's (1986, 1990) forms of capital: specifically, economic, social, symbolic, and cultural capital. These capitals are acquired in different ways and in different social contexts structured across various spheres of life, including art, science, religion, economy, law, and politics. Economic capital refers to income or things that are immediately and directly exchangeable into money. Social capital is the total of actual and potential social networks or relationships that people can rely on in case of questions or problems. The amount of social capital depends on the size of the network an individual can mobilize and the abilities of the connections: specifically, the number of people that you know and what they can do for you. Symbolic capital consists of the amount of honour, prestige, or recognition that an individual can earn within a certain sphere of life. Finally, cultural capital refers to the non-financial advantages that can promote social mobility, for example, skills, knowledge, and education. Bourdieu discerned three different kinds of cultural capital: (1) objectified cultural capital or the [tangible] cultural goods and products that someone owns/has, (2) institutionalized cultural capital refers to formalized competencies, such as

diplomas and training, and (3) embodied cultural capital is the (non-tangible) knowledge and opinions of others experienced in everyday circumstances. These different forms of capital are related to each other. Frequently, the acquisition of social capital is based on the amount of symbolic capital an individual has acquired, while an individual's economic capital is often associated with the amount of cultural capital they have. In this section, we will discuss the acquisition of various capitals through social media, as related to other implications of these media.

Social capital

Since the advent of social media, many people have feared the loss of social capital (e.g. Putnam, 1995; Turkle, 2011). Multiple studies have, however, indicated that social media can maintain and even extend people's social capital (e.g. Ellison et al., 2007; Ellison, Steinfield, & Lampe, 2011; Valenzuela, Park, & Kee, 2009; Wellman, Quan Haase, Witte, & Hampton, 2001). Based on the work of Putnam (2000), it can be stated that social media can provide various possibilities for bridging and bonding social capital. The former of these concepts refers to the establishment of new relations between socially heterogeneous groups, which allow the exchange of wide ideas, information, motivation, and innovation, since they represent the diverse interests of diverse social groups. The 'bonding' concept encompasses the reinforcement of solid friends and relationships.

Christofides et al. (2009) maintain that, to build relationships, people have to disclose information about themselves. Previous research has similarly demonstrated that a relationship exists between the disclosure of personal information and trust in online communication (Dwyer et al., 2007; Henderson & Gilding, 2004). Trust can be defined as:

'The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party' (Mayer, Davis, & Schoorman, 1995, p. 712).

Trusting someone or something involves putting yourself in a vulnerable position, because trust is only necessary when obsolete knowledge about the other is missing (Talboom & Pierson, 2013). This is also put forward by McEvily, Weber, Bicchieri, and Ho (2002), who distinguish three elements of trust:

1. *Interdependence*: a kind of interdependence exists between two parties;
2. *Expectation*: people in a trust-relationship expect that the other person(s) is (are) honest and reliable;
3. *Risk*: in either trust-relationship, both parties take a certain risk.

Consequently, trust can be seen as a condition for social interaction. In face-to-face interactions, trust is a central component for sharing (personal) information, because it reduces perceived risks (Metzger, 2004; Roloff, 1981). Hence, it is possible that on social media, the information disclosure of others increases the impression of trustworthiness and that results in reciprocal personal disclosure on the part of the conversation partner.

Quandt (2012) indicates that trust on social media goes further than trust in people with whom you directly interact, framed with the concept of 'personalized trust'. Quandt (2012)

argues that it is better to refer to trust on social media as 'networked trust', since personalized trust and 'institutionalized trust' in the social media companies are inextricably linked together in social media. Since the summation of the voices on social media calculates network trust, mistrust in a single person does not destroy trust in the network. Nonetheless, people frequently forget the institutions behind social media, which leads to the contradictory situation in which individuals disclose significant amounts of personal information on social media because they trust the people with whom they interact on it (Christofides et al., 2009). This disclosure of personal information is positive for the acquirement of social capital, but not for their privacy (Henderson & Gilding, 2004).

While one strand of the literature focuses on how people use this social capital, or the resources available in their social network to achieve personal goals (e.g. Erickson, 1996), another thread of research focuses more on the utility of these social resources for collective endeavours, including civic and political participation (e.g. Rheingold, 2008). As Habermas (1989) noted, democracy can occur when people have the power to freely, openly, rationally, and critically debate their opinion with others, and consequently influence policy. In this respect, social media can be a useful tool for democratic self-governance (Carpentier, 2007; Rheingold, 2008). Gil de Zúñiga, Jung, and Valenzuela (2012), for example, indicate that while seeking information through social media is a significant predictor of people's personal social capital, it is also a predictor of their civic and political participatory behaviours, both online and offline. Since the Arab Spring, numerous scholars have focused on the positive effects of social media on political protest actions (e.g. Eltantawy & Wiest, 2011; Harb, 2011; Howard et al., 2011). In addition, several studies investigated the use of social media in elections, especially during Obama's 2008 election campaign. Cogburn and Espinoza-Vasquez (2011), for example, found that campaigning through social media indeed motivated the citizens to contribute and even volunteer for the campaign. Kushin and Yamamoto (2010), however, found no significant relationship between the social media use of students and situational political involvement during the American elections in 2008. Therefore, conflicting opinions exist regarding social media as instruments for democracy.

Cultural capital

Research indicates that social media can facilitate the acquisition of cultural capital, embodied cultural capital, in particular. Social media hold a tremendous amount of easily accessible and comprehensible information that is communicated and shared by the users of a platform (Nahapiet & Ghoshal, 1998). These platforms have the characteristic features to create information, visualize certain information, to share this information across the platforms. Therefore, social media allow the dissemination of information about personal matters as well as more public affairs.

Symbolic capital

The information people reveal on social media is strongly related to popularity and self-esteem (Christofides et al., 2009) and thus to symbolic capital. This is similarly recognized by Good (2013, p. 566), who maintains, '*social media are arenas in which users engage in impression management, identity performance, and/or expression of taste, often with the implicit or explicit aims of boosting their social status.*' Previous research on MySpace also demonstrates

that to earn prestige or social status among their friends, users try to make their contributions on the site as significant and expressive as possible (Liu, 2007). Previous research has also indicated that people who disclose more information on social media are more trustworthy, while having too many friends leads to doubts regarding the authenticity of an individual's popularity (Tong, van der Heide, & Langwell, 2008).

Through social media, users can unquestionably accumulate social capital or develop and maintain social relations. People can also derive cultural capital, or knowledge, and symbolic capital, or reputation, through social media. Nonetheless, to any advantage, there is always a downside, as is true with social media as well.

2.5.4. Conclusion: A new form of media literacy - a vital asset for dealing with potential and pitfalls of social media

In this section, we focused on the potential and pitfalls of social media. One position, framed as a techno-pessimist vision, focused on the risks related to social media. In comparison, a techno-optimist vision focused on the opportunities offered by social media. These insights regarding the potential impact of social media form an important basis for the conceptualization of a new form of media literacy applicable to social media. As we gained better insights into the potential opportunities and risks of social media, we developed an understanding of why people need media literacy. However, social media platforms are fundamentally different from each other — depending on their business models, their technical characteristics, and the way users behave on them; therefore, the potential impact differ between the different social media platforms.

2.6. Facebook and Twitter as the social media platforms under investigation

Given the various existing social media platforms, we argue that each of the above-described perspectives and potential implications receive a slightly different interpretation depending on the specific social media platforms under investigation. Since it is impossible, and not desirable, to cover the social media territory in its entirety, we elaborate specifically on Facebook and Twitter.

Since Facebook and Twitter are the most mainstream and widespread social media platforms, we want to determine what makes these technologies social. We rely on Fuchs's (2014) theorization of 'sociality' for a comprehensive understanding of the social nature of Facebook and Twitter. Based on sociological theory, he distinguishes four different positions of 'social'.

The first position, based on Durkheim, argues that every media technology, thus also every social media technology, is always social, since they are the products of social processes, and are reproduced by humans in social relations. Therefore, because the things that we write about refer to other people and society, Durkheim (1982) also perceives the writing of this dissertation as a social activity. Moreover, humans, in society, with certain purposes and under

certain working conditions, designed the word processor that was used as a tool to write this text.

The second position relates to Weber's interpretation of 'social'. Weber (1978), argues that only the media activities that allow communication, or the exchange of symbols, between people are social. Communication between two people is social, as it takes the behaviour of the other(s) into consideration. From this perspective, simply consulting a web page is not social. Examples of online social activities include such things as writing an email and posting a text message on Facebook, since these behaviours allow for the behaviours of the receiver. In this respect, almost all actions on social media are clearly social. This interpretation is also found in the definition of social media of both boyd (2006b) and Shirky (2008).

Finally, Fuchs (2014) also notes a third position, used by scholars such as O'Reilly (2006) as well as Tapscott and Williams (2006), in the literature about social media. This position treats the social nature of social media as a collection of tools that support the formation and maintenance of communities and collaboration. The first interpretation is based on Tönnies (1988) idea of sociality, which includes the feelings of belonging and communication that take place on a regular basis. In this respect, all online communities are social. Sociality, as a form of collaboration and co-operative work, is associated with the ideas of Marx and Engels (1846). From this perspective, only social media such as Google Docs, Wikipedia, and wiki platforms are social.

Fuchs's theorization of sociality is a useful conceptual distinction of the available perspectives on 'sociality' in the literature and thus also for understanding how 'social' Facebook and Twitter are. We address Facebook and Twitter as tools for communication, community, and collaboration. However, we do not entirely take Fuchs's (2014) interpretation of sociality into account, as Facebook and Twitter, and all of the content on them, are human products.

The aim of this section is to discuss the characteristics of Facebook and Twitter (in consideration of the three perspectives on the potential impact of social media discussed above). These insights are needed to operationalize a new form of media literacy for Facebook and Twitter in specific.

2.6.1. Facebook as a conversation tool, or a threat to privacy?

Mark Zuckerberg launched Facebook in 2004 (originally called 'TheFacebook'). Although the website's membership was initially limited to Harvard students, it gradually spread to most universities in the United States and Canada. By 2006, the website was accessible all over the world, for people aged 13 and older, with a valid email address.

In 2012, Facebook became a public company on the stock market, which went along with the release of how Facebook, as a company, earns money (Fuchs, 2014). Facebook argues that advertisements generate a substantial amount of its profit. In 2012, while Facebook generated a tremendous amount of revenues, because of the high investments and salary costs, its overall profits decreased. Despite a lot of claims in the popular press that Facebook is

losing popularity, with 1.28 billion monthly active users in March 2014², it remains the largest social network site in the United States and Europe. Below, we look at how Facebook can function as a communication, community, and collaboration tool – from a critical, technological-structural, and user-centric perspective.

Communicating on Facebook

Since Facebook has an extensive network of users and sharing information about one's self and others is possible, it offers an excellent tool for what Castells (2009) calls 'mass self-communication'. In contrast to other media, Facebook offers its users a place for self-presentation and communication beyond close friends and family. Therefore, Facebook has the potential to reshape people's social network and lower the cost to communicate with people from this social network (Ellison, Steinfield, et al., 2011). Ellison, Steinfield, et al. (2011) distinguish three specific communication-based relational activities on Facebook, starting with the activities people do most: (1) The most common communication activity is 'maintaining' or interacting with close friends through Facebook; (2) Another communication behaviour is 'social information-seeking', which includes using Facebook to find more information about a particular person from the offline social network; (3) The last common communication behaviour is 'initiating', which represents meeting new people through Facebook. Consequently, people use Facebook the most to '*crystallize relationships that might otherwise remain ephemeral*' (Ellison et al., 2007, p. 1162).

Since the disclosure of information about yourself stimulates the building of relationships (i.e. trust), Facebook stimulates its users to share a significant amount of personal information, in the form of profile information, status updates, likes, photo uploads, and other kinds of content creation. This sharing of information can subsequently guide people's interactions on Facebook to socially relevant topics and better enable the users to find a common ground (Buchanan, Paine, Joinson, & Reips, 2007; Dwyer et al., 2007; Ellison, Vitak, Steinfield, Gray, & Lampe, 2011; Phelps, Nowak, & Ferrell, 2000). Although this sharing of information stimulates communication with other Facebook users, it is also in unambiguous contrast to the legal term 'privacy' (van Dijck, 2013a).

In the context of social media, sharing is an ambiguous term that refers to both 'connectedness', or community-oriented behaviour of users, and 'connectivity', which refers to the commodification of this social behaviour of the users by the companies behind social media (van Dijck, 2013a). We previously referred to this distinction with the terms social and institutional privacy, respectively. For social privacy, in particular, Facebook provides ways for users to share personal information in more intimate circles: using privacy settings, groups, friend lists, and chat, or private messages. However, the restrictive strategies of Facebook do not provide a solution for institutional privacy. Users may not forget that Facebook is a company that gets its financial profit by targeted personalized advertising. Indeed, since Facebook needs the users' permanent input and activity to gain financial profits, it uses various techniques to stimulate the users to release information about themselves (Fuchs, 2014).

² <https://newsroom.fb.com/company-info/>

One of these techniques for stimulating users to release information about him/herself is the 'like' button, a feature that allows users to express feelings, approvals, and attitudes towards certain content, such as status updates, photos/movies/music, comments, links shared by friends, pages, and advertisements. Users can even like content on external websites, which, supported by social plug-ins, automatically appears on the news feeds of his/her Facebook friends. For users, the interface of the 'like' button appears to stimulate social interaction with friends, consequently suggesting that information about the like serves connectedness. However, invisible algorithms and protocols make the like and additional information (e.g. gender, age, other preferences, and interests) visible for anyone with access to the user's likes (e.g. owners of applications and websites of companies and/or products connecting with user profiles, government institutions, and even one's own Facebook friends). Research has already demonstrated that independent raters who do not have 'official' access to user likes were able to accurately predict Facebook users' personality traits based on their personal information and actions such as likes (Back et al., 2010). One can imagine situations in which such predictions, even if incorrect, could pose a threat to an individual's identity, freedom, and privacy.

The shift to a more narrative structure, or timeline, can likewise be framed as a strategy of Facebook to make users share more information that is personal. Facebook now structures content uniformly — for everybody in the same way — in a timeline, or a retroactive chronological ordering of life events. Since it facilitates the application of algorithms, this uniformity makes it easier for Facebook and third parties to control user data. Furthermore, it additionally stimulates users to post text and pictures about past activities, even since before the Facebook days, such as baby photos, school classes, or old family photos.

The way people's news feeds are filtered can also serve as a stimulant for users to reveal information that is more personal. Algorithms, for example, will show more content in the news feeds of friends with whom the user interacts on a frequent basis or on a more 'intimate' level (e.g. through private messages or the chat function). Users will react more on these messages than those of people with whom they do not frequently interact. This, of course, can also be seen as a feature to increase the ease of use, as the users cannot review all of the messages from all of their friends in a short time period. However, this is also a way to retrieve more user data and thus more profit.

Facebook's ideology of a 'truly open and connected space' is similarly crafted in the terms of service (ToS)⁹. As a contractual agreement between the user and Facebook, the terms of service contains the do's and don'ts, and rights and responsibilities, for Facebook and its users. This means that, as a user, you agree with these terms of service and the changes therein when you login to Facebook. However, because they are too long and too complexly written, the majority of users have never read these terms (Stutzman & Kramer-Duffield, 2010). The latter can also be thought of as a strategy of Facebook to keep its users 'stupid' concerning Facebook's privacy settings, surveillance, and data mining — and, consequently, attempting not to harm the so-called trust relationship between Facebook and its users. Facebook only updates users of these changes via the 'Facebook site governance' page. Consequently, users

⁹ <https://www.facebook.com/legal/terms>

only know this if they have read the terms of service or heard it from others. Hence, Facebook's claim for more transparency is clearly one-sided. Users are stimulated, sometimes even 'pushed' (e.g. correct name, gender, age) to share as much information as possible, while Facebook tries to hide its commercial strategies from its users.

The Facebook community

The principal benefits of Facebook for users are to develop and maintain relationships (boyd & Ellison, 2008). Facebook did not replace offline human contact, on the contrary, they complement each other (Courtois, All, & Vanwynsberghe, 2012; Raynes-Goldie, 2010). Or as van Dijck (2013a) puts it: 'getting in touch' and 'staying in touch' are now activities completely centred on social media. At first, subscribers see Facebook as a utility to bridge time and space and stay updated on the lives of their friends. However, once an individual is a Facebook user, there is immense social pressure and a certain kind of dependence to stay on Facebook, since not being on Facebook means not being updated on events, not being invited to parties, and missing relevant information about friends (e.g. pregnancy, marriage, etc.), in short, being disconnected from public life. This is certainly the case for members of the younger generation who fixate on social contacts and relationships and who, consequently, experience increasing pressure to be on Facebook (Arnett, 2001; Collins & Steinberg, 2006; Kroger, 2007; Raynes-Goldie, 2010). Hence, Facebook not only strengthens the feelings of community or belonging, but it also stimulates individuals to stay in touch with old communities, such as with college classmates.

Friendship on Facebook is not based exclusively on a relationship of spontaneous and mutual affection between two or more people, it is also the result of the social pressure to have (a lot of) friends (which with time frequently turns into having intimate friends), and the fear of losing connections or not having contact with some of the people you know (van Dijck, 2013a). In their features, which are based on algorithmically calculated relationships, Facebook anticipates helping you find friends, such as with 'the people you may know' feature. Facebook then searches for possible relationships between users based on the revealed personal information, such as the same school and age, but also by the actions of users, such as being tagged in the same photo.

The open graph search, launched in 2013, additionally supports Facebook users in finding people with similar interests. The open graph search is a semantic search engine based on algorithms that combine words and phrases, such as people who like cycling and living in my neighbourhood. To provide these results, the graph search combines the large volume of data acquired from its over one billion users and external data (e.g. external websites that people have visited and actions that people performed on external websites), shaped by the individual users' privacy settings. Therefore, users may be able to view relevant content made public by people who are not listed as friends. Although framed as a feature to promote the users' ability to find friends more quickly, Facebook and third parties can also (mis)use the open graph search feature to collect user data.

Facebook helps its users to form a community, primarily by providing opportunities to build their social network and, on a certain level, make users dependent on Facebook to

communicate with certain people in that network (cf. portalisation, stickiness, and lock-in effects).

Collaboration between Facebook users

Relatively few studies are available about how Facebook users work together to achieve a higher purpose, such as civic engagement. Heller, Price, Reinharz, Riger, and Wandersman (1984, p. 339) define civic engagement as 'a process in which individuals take part in decision making in the institutions, programs and environments that affect them.' They identified two major forms of civic engagement: behaviours and attitudes with respect to political and quasi-political processes and institutions (e.g. Putnam, 2000). Therefore, things such as political efficacy, interest in public affairs, joining community groups, volunteering to help others, or leading grassroots efforts, all relate to the broader construct of civic engagement.

The few studies investigating the role of Facebook in users' civic engagement do not lead to unequivocal results. De Zúñiga, Jung, and Valenzuela (2012), for example, found that seeking information through social media, in general, is a significant predictor of people's civic and political participation. These scholars also found a statistical relationship between using social media for seeking news and reporting a higher level of social capital, which means that social media also facilitate community life beyond civic participation. For Facebook, in particular, Park, Fee, and Valenzuela (2009) found that more informational use of Facebook was more correlated to civic and political participation than to recreational use. They concluded that Facebook groups are used primarily for entertainment and, consequently, might not encourage the users' participation in political events. However, the use of Facebook (groups) for recreational purposes is associated with more civic engagement in general, for example, through hobby clubs or environmental groups. A more critical note comes from Gustafsson (2012), who indicates that using Facebook alone does not drive previously inactive citizens to political participation.

2.6.2. Twitter as an information network supporting a new democracy?

With almost 271 million monthly active users in September, Twitter, which first emerged in 2006 as a microblogging site, is now the world's leading microblogging service⁴. Twitter presents itself as a neutral platform upon which users can randomly chat and give opinions, an infrastructure transports these messages or 'tweets' regardless of who the other or what the content is. While establishing 'Twitter' as a brand, Twitter's governance strategies and business models were modified several times to turn 'tweeting' into a source of sustainable income. Similar to Facebook's advertisement story, Twitter used promoted tweets, trends, and accounts. These promoted tweets, or advertising tweets, appear at the top of the search results from a specific target group (see algorithms). Twitter also set a public stock debut in 2013, with the goal to make profit. Since Twitter presents itself as a social platform upon which users can randomly chat and give opinions, we question which forms of sociality are fulfilled on Twitter and how.

⁴ <https://about.twitter.com/company>

Communicating on Twitter

Similar to Facebook, Twitter can also be used as a tool to communicate with others. The initial idea of Twitter was to function as a short message service (SMS) of the Internet. Twitter technology allows the creation of text-messages of 140 characters, the so-called 'tweets'. In contrast to Facebook, not all communication behaviour strategies of Ellison, Steinfield et al. (2011) are appropriate for Twitter, as it has a more public character than Facebook: unless they use a private message or a closed profile, every tweet posted on Twitter is visible to everyone (Murthy, 2013). Thus, people communicate with others by posting short information messages to the whole world. Twitter serves as a platform for mainly public or community debates, exchanging individual opinions and suggestions. The Twitter company thus defines itself as a big 'information network'. On Twitter, users communicate with numerous people, beyond families and friends. However, the question remains as to whether tweets are of more significance as conversational small talk or as informational news signalling. According to van Dijck (2013a), both types of content emerge side-by-side in Twitter. What characterizes the most influential tweets is that they are very personal and spontaneous, which serve as a personalized public message. Here, the concept of 'networked individualism' of Wellman et al. (2003) is even more applicable than on Facebook.

Nonetheless, the user must be aware that the purpose of Twitter's owners is similar to that of Facebook, and that is to gather as much information as possible about its users. To earn money, Twitter introduced sponsored tweets and promoted hashtags — a tweet or trending topic, indicated by a hashtag, paid for by a sponsor. Twitter also introduced new features to make the content on Twitter more uniform and accessible to advertisers: the 'home' button, a 'connect' button, a 'discover' function, and the 'me' button. The home button displays the tweets of the people the user is following. The connect button displays the people and tweets that the user is following and retweeting. The 'discover' function is the hashtag (#) and the 'me' button displays the user's personal profile, tweets, and favourites.

In contrast to Facebook, Twitter's terms of service (ToS)⁵ is more clear in what Twitter does with user data and what the rights and restrictions are of the users. Twitter users know from the very beginning that their tweets are shared with the world at large.

The Twitter community

Similar to Facebook and other social media, Twitter has a directed friendship model, which means that followers are participants who are chosen by other users to 'follow' their stream of tweets and each user has his/her own group of followers or subscribers (Greenhow & Gleason, 2012; Marwick & boyd, 2011). However, unlike most other social media, such as Facebook or MySpace, Twitter has a more public character and requires no reciprocation. It is possible to read tweets from any public account. Since the vast majority of the users make their tweets public (Madden, 2012), Twitter is used primarily for inter alia news stories, conferences, job postings, celebrity updates, and questions.

This asymmetric and public character of Twitter (i.e. if you follow me, I do not have to follow you) makes it difficult to form a community or an imagined set of people who consider themselves as equals on a certain topic (Gruzd, Wellman, & Takhteyev, 2011). Connections on

⁵ <https://twitter.com/tos>

Twitter depend less on in-person contact than they do on Facebook, for example, as many Twitter users have followers that they do not know on a personal basis. A study of Gruzd et al. (2011) indicates that even if Twitter was not designed to support community development, a person's network on Twitter can be the basis for a real community. In their study (Gruzd et al., 2011), social network and content analysis revealed that the members of a person's personal network on Twitter regularly meet, talk, provide support, and help each other on Twitter, which is only possible if the members have a feeling of belonging or of interpersonal commitment. This latter is also an indication that Twitter can additionally strengthen a person's social capital.

Collaboration between Twitter users

Twitter emerged as a public stage to voice individual and group opinions and emotions. Twitter can function as a powerful tool in, for example, protest, political campaigning, campaigning in general, legal proceedings, emergency states, and reporting dissent. Hitherto, many scholars have already investigated the potential (or limitations) of Twitter for political communication (e.g. Ausserhofer & Maireder, 2013; Larsson & Moe, 2012; Shirky, 2008), which is frequently related to the concept of 'public sphere' of Habermas (1989). Papacharissi (2010b, p. 164) complements this by stating that social media, such as Twitter, would make *'a sphere of connection and not isolation, as it serves primarily to connect the personal to the political, and the self to the polity and society.'* Papacharissi assumes that social media, such as Twitter, are a breakdown between the private sphere and the political (public) sphere.

Nonetheless, we must nuance the democratic potential of Twitter: the platform asserts a hierarchical structure of Twitter users, one gets more visibility than the other (Murthy, 2013). In contrast to Facebook, Twitter users focus more on the acquisition of symbolic and cultural capital. Here, cultural capital is the information people can obtain through the platform. Symbolic capital is about the status or influence of the users. This influence is not determined exclusively by the number of retweets that users receive, or the number of followers they have, but also by the focus of their tweets on a specific topic. Some have a significant amount of symbolic capital, while others do not. The architecture of the platform reinforces this inequality between the users. Twitter continuously filters tweets, through algorithms, so specialists on a specific topic, stars, politicians, celebrities, etc., gain more weight than just anyone who offers an opinion. Hence, since not all opinions are addressed equally, critics of Twitter as a democratic tool argue that Twitter cannot be seen as a neutral platform. For companies and advertisers, these powerful Twitter users – including both celebrities and ordinary users – are useful and consequently paid to distribute the brand name. In addition, only a small number of users are heavy tweeters. Furthermore, only a small percentage of users, 10% in 2009, accounts for the majority of tweets; more than half of Twitter's users are not followed by any of their own followings (van Dijck, 2013a).

2.6.3. Conclusion: Facebook and Twitter

In the above section, we described how Facebook and Twitter could contribute to three different forms of sociality: sociality as communication, as community formation, and as collaboration. Several studies described in this section have shown that both Facebook and Twitter have these possibilities, sometimes with some critical reflections.

These and other studies thus indicate that users must have the requisite technical knowhow and critical insight to benefit successfully from these opportunities. At first, connectedness and connectivity in Facebook and Twitter appear to be a win-win situation: owners are interested in the completeness of the information about the user. The more they know about their users, the more information they can sell to third parties. From their perspective, users are interested in making connections and consequently accumulating social and sometimes even symbolic and cultural capital (Ellison et al., 2007). However, users can also encounter drawbacks from this openness: users lose control over the information they voluntarily and involuntarily entrust to the platform and members of the platform or their messages are not getting enough visibility from other users. These drawbacks can be limited by technical expertise, such as the use of privacy settings, but primarily by critical thinking regarding how social media platforms work. This section made it clear that different social media platforms require different social media literacy practices. The latter should thus be taken into account when translating the conceptualization of social media literacy into concrete measurement instruments.

2.7. Concluding remarks: Social media from three perspectives

The aim of this dissertation is directed towards conceptualizing and measuring a new form of media literacy that is applicable to social media. However, before we are able to do this, we must understand the concept of 'social media'. Therefore, in this chapter, we elaborated on the emergence of social media. After a brief history of the concept of 'social media', we explored social media from three perspectives. To discuss the literature on social media, we successively used a critical, a technological-structural, and a user-oriented approach. The ability to understand what social media are and how they function requires these insights. This awareness is an important part of media literacy, as particularly focused on social media. People must know in what way they need this new form of media literacy; moreover, they need to know what impact social media can have. Hence, in this chapter, we also elaborated on the potential positive and negative impact of social media.

Given the various existing social media platforms, we argue that each of the perspectives and potential implications get a slightly different interpretation depending on the social media platform. Therefore, we ended this chapter by elaborating on Facebook and Twitter as social media. Based on Fuchs (2014), we discussed why both sites can be seen as 'social', and thus as tools for communication, community formation, and collaboration. Within this structure, we deliberated on the similarities and differences, between Facebook and Twitter, concerning both possibilities and challenges.

This chapter makes it clear that the ability to maximize the potential positive impact and minimize the potential impact of social media platforms, such as Facebook and Twitter, requires competencies for each platform in particular, which will be discussed in the next chapter.



3

SETTING
THE SCENE:
A CONCEPTUAL
FRAMEWORK ON
SOCIAL MEDIA
LITERACY

3

SETTING THE SCENE: A CONCEPTUAL FRAMEWORK OF SOCIAL MEDIA LITERACY

Now that we have better insights into the concept of 'social media', we must also comprehend what 'media literacy' is before we can conceptualize 'social media literacy'. However, a lack of common understanding traditionally exists about the concept of media literacy itself. After an overview of different conceptualizations of media literacy and related terms (e.g. computer literacy, Internet literacy, network literacy, and digital literacy), we also discuss different theoretical foundations of media literacy. Based on this theoretical basis, we develop a conceptual framework of social media literacy.

Since social media have increasingly permeated the world, it is clear that their use has many opportunities. However, as presented in Chapter 2, the use of social media is also associated with a number of risks. Since users only have limited power to do anything about the technology, including to change the political economic regulation of social media, to make them less risky, the only thing that users can do anything about is what they know and how they behave on these platforms (Rheingold, 2012). It is from this perspective that we must localize media literacy.

Nonetheless, we additionally notice that the more traditional interpretations of media literacy may no longer be applicable in a society permeated by social media. From the mid-twentieth century onwards, the skills of being able to read and write have been augmented by the individual ability to critically understand audiovisual content (Livingstone, 2004a). Thereafter, a major shift to the ability to deal with digital media, known as 'digital literacy', was observed. Today, however, we witness an additional major shift in the use of digital and social media: the large interactivity of the user. The traditional interpretations of media literacy are no longer sufficient and focused enough to understand how people deal with social media. Hence, it is necessary to redefine the concept of media literacy, as adapted to the characteristics of a social media environment.

Before we can start to redefine media literacy, we need a thorough understanding of the meaning of traditional interpretations of media literacy and the related concepts. Therefore, in this chapter, we elaborate on different interpretations of media literacy. Despite the fact that media literacy is a relatively young tradition in communication studies, it is clear that the theoretical basis has evolved tremendously in the past decades. Scholars continue to add new conceptualizations and synonyms, frequently in response to the shortcomings of more established conceptualizations. Although media literacy and related concepts are often seen as stand-alone theoretical frameworks (e.g. Mendoza, 2009; Potter, 2004), this literature review of media literacy alone is not sufficient to provide insights into how media literacy can be developed by people nor understand its importance in society. For the latter, we rely on four theoretical foundations of media literacy: the cultural capital concept of Bourdieu (1986, 1997), the structuration theory of Giddens (1984), the capabilities approach of Sen (2003), and the knowledge gap hypothesis (Bonfadelli, 2002; Rogers, 2001). However, we first discuss the concept of literacy, as it is the basis for media literacy and related concepts.

This review of the existing body of scholarship on/and the involving theoretical foundations of media literacy aims to contribute to the theoretical foundation needed to conceptualize a new form of media literacy applicable to social media. In Section 3.4 of this chapter, we elaborate on this conceptualization. First, we discuss the terminology used to define a new form of media literacy. Then we provide an overview of the different components of the existing media literacy frameworks and the theoretical foundations that we consider in the conceptualization of a new form of media literacy. Finally, we develop a conceptual framework of media literacy that is valid in a society permeated by social media.

3.1. 'Literacy', everybody's darling?

What is 'being literate'? 'In one context, this may mean having read and appreciated Charles Dickens. In another, it may mean having the sufficient scribal skills to escape a Dickensian nightmare. In other contexts, it could be a means to empowerment and critical consciousness for individuals or communities. And in yet another, it may be a child's first day of reading' (Hoechsmann & Poyntz, 2012, p. 137).

Despite the fact that 'literacy' is heavily debated, the term is used very frequently (Hobbs, 1997). In this section, we elaborate on the different visions on literacy and the challenges for its use in describing people's abilities to deal with media.

The word 'literacy', which appeared in the seventeenth century, originates from the word 'literature', which simultaneously contains being discerning and knowledgeable according to *'the standards of polite learning'* as well as any written *'nationally acknowledged aesthetic merit'* (Livingstone, van Couvering, & Thumin, 2008; Williams, 1983). Although there are many people who are able to read, following this definition of literacy, countless individuals are not familiar with the literary canon and are therefore not literate.

The adjective 'literacy' evolved from being well-read to being able to read and write well. According to this interpretation, literacy is seen as the simple skills of decoding or encoding texts that can be evaluated against normative standards and criteria. Based on something that is tangible, this interpretation of literacy was, and is to this day, used highly by the government and educators, otherwise they would not be able to justify the curriculums (Kelder, 1996). This interpretation of literacy is now labelled as basic, print, textual, or traditional literacy (Bawden, 2008; Jenkins, Purushotma, et al., 2009).

Since the nineteenth century, the meaning of literacy changed once again: literacy as *'a new word invented to express the achievement and possession of what were increasingly seen as general and necessary skills'* (Williams, 1983, p. 188). This interpretation of literacy contributes to an understanding of 'multiple literacies' that *'exist in the intersection of the contexts of language culture, society politics and ideology context and developing ways to include them in curriculum and instruction'* (Kelder, 1996, p. 4). Other scholars (e.g. Graff, 1995; Langer, 1992; Street, 1995) also point to this plurality of literacy; they see this new form of literacy as the practices that people need in the home, community, and profession. This change in the interpretation of literacy represents the basis for 'non-schooled' literacy concepts associated with different media (Street, 1995).

Nevertheless, a few things must be considered before we connect the term 'literacy' to media. Despite the place for pluralities of literacies, literacy clearly remains a loaded term associated with the social, cultural, political, economic and historical context from which it arose (Graff, 1995). Or as Hartley (2002, p. 136) states:

'Literacy is not and never has been a personal attribute or ideologically inert 'skill' simply to be 'acquired' by individual persons... It is ideologically and politically charged – it can be used as a means of social control or regulation, but also as a progressive weapon in the struggle for emancipation.'

Belshaw (2011) reminds us that instead of a dual nature, literacy has a multiplicity of natures, which means that literacy cannot be thought of a skill people have or do not have (see literate versus illiterate). Moreover, Unesco additionally points to this problem:

'Literacy is a characteristic acquired by individuals in varying degrees from just above none to an indeterminate upper level. Some individuals are more or less literate than others but it is really not possible to speak of illiterate and literate persons as two distinct categories' (UNESCO, 1957, quoted in Holme, 2004, p. 7).'

Therefore, this literature review maintains that scholars must be circumspect in using terms such as 'media literacy', as they can perpetuate traditional inequalities by contributing to the discourse that excludes certain segments of society as 'illiterate'. Consequently, some scholars argue that it is better to link the contested term of 'literacy' not to media, but only to its origins in literature (Williams, 1983). Instead, they suggest relying on audience reception and interpretation studies. Nevertheless, we revert to the term 'literacy' for understanding how people engage with media, as:

'It is pan-media in that it covers the interpretation of all complex, mediated symbolic texts broadcast or published on electronic communications networks; at the same time, because historically it has been tied to particular media forms and technologies, literacy foregrounds the technological, cultural and historical specificity of particular media as used in particular times and places' (Livingstone, 2004, p. 5).

In addition, we feel that it is not advisable to rely on audience reception and interpretation studies as the term 'audience' does not entirely fit the convergent and interactive nature of many digital media, including social media. Moreover, since there is already a relatively long tradition of media literacy research, a terminology change would lead to more confusion than clarity. Consecutively, we thus elaborate on different forms of media literacy and how they can contribute to the new form of media literacy, as applicable to a social media context.

3.2. Media literacy in a social media environment: A convergence between media and information literacy

Since dealing with social media integrates the skills related to text and visuals from print, audiovisual, broadcast media, and interactivity in computing and information systems, we advocate that a new form of literacy related to social media can only be understood if we take into account both the concept of media literacy and the concept of information literacy (Livingstone et al., 2008). Therefore, in this section, we take the opportunity to discuss the conceptual preferences faced by both the media literacy and information literacy traditions.

Although both literacies draw on the older tradition of research to traditional print literacy, they are still very different in their original meaning (Livingstone et al., 2008). The information literacy traditions, which originated from library science and education, focused on people's skills to find and evaluate information. Media literacy research (coined in the arts, humanities, and social sciences) originated from people's ability to deal with traditional broadcast media

[e.g. television and radio]. However, since the advent of digital media, or the possibilities of transferring large amounts of information to many people in a very short period of time, the boundary between the two traditions has been blurring. Both now have an almost identical topic of inquiry: *'the public's understanding of and effective engagement with media, information and communication technologies of all kinds'* (Livingstone et al., 2008). However, some differences remain that must be connected together in a new generation of media literacy focused on social media.

This section aims to gather and analyze the information and knowledge about different concepts and approaches of media literacy and information literacy in literature. However, it is not my intention to cover all of the possible literature about both forms of literacy. We made a selection based on their relevance and visibility in the related research and their potential for a conceptual and operational framework for media literacy in a social media environment.

3.2.1. Media literacy

Media literacy was originally defined as the critical evaluation of mass media, as it was meant to protect people from the risks or treacherous effects of broadcast media (Martin & Grudziecki, 2006). Later, people's ability to use digital media to access and create content supplemented this meaning. Until more recently, with the proliferation of digital media, accessing content in broadcast media has not been a significant problem (Livingstone et al., 2008). In fact, the widespread accessibility of broadcast media was what led to concerns over the power and manipulation of these media (Meyrowitz, 1998; Silverblatt, 1995). In the context of digital media, literacy can no longer be regarded as simply a matter of accessing and interpreting digital media messages, since it also contains interactions and consequently the ability to develop and create imaginative self-expression and relationships with others (Livingstone, 2004a).

The review of the literature relating to media literacy revealed a complex landscape of different definitions of media literacy and sequential concepts. The definitions range from skills-based definitions that focus only on people's ability to use different kinds of media to tremendously idealistic definitions that emphasize literacy as a tool for personal fulfilment, economic development, and political participation (Livingstone, 2004a; Tyner, 1998). The way media literacy is defined and which concepts are used depends partially on the discipline of the scholars who study it. Social science scholars address media literacy as a form of defence against the risks associated with media use. In comparison, scholars originating from the arts and humanities see media literacy more as the ability to add creative content to already existing cultural and audiovisual arts. In addition, media literacy has had many different objectives, from those of a public policy issue (Aufderheide, 1993), to that of a critical cultural issue (Alvarado & Boyd-Barrett, 1992), to a synonym for media education (Alvarado & Boyd-Barrett, 1992; Buckingham, 2003).

The many different interpretations and synonyms of the term 'media literacy' have been and are still making it extremely difficult to achieve a consensus on the learning objectives, to provide policy recommendations, and to assess media literacy. The main goal of this section is

to map the conceptual landscape of media literacy and the successive concepts, of which the following are relevant for this dissertation.

Media literacy

In 1992, during the *National Leadership Conference on Media Literacy* in the United States, efforts were made to synthesize the main ideas of/and find a consensus on media literacy. During this conference, scholars agreed that media literacy was the ability ‘*to access, analyze, evaluate and communicate messages in a variety of forms*’ (Aufderheide, 1993, p. 1; Christ & Potter, 1998). In a search for an in-depth understanding of media literacy, Potter (2004, 2010) cites over twenty definitions. Many of these concur with the clear and concise definition provided by the *National Leadership Conference on Media Literacy*. However, some small differences exist over the emphasis that should be placed on analyzing and evaluating the media content, how that media literacy must be achieved, and whether it is an individual or a social accomplishment (Buckingham, 2005; Livingstone, 2004a). The definition by the US’s 1992 *National Leadership Conference on Media literacy* is thus widely accepted. Although many alternative and competing conceptions and definitions exist, in 2014 there is still no consensus between scholars as to what media literacy actually is.

Another widely cited definition of media literacy comes from Livingstone (2004a). We discuss her interpretation of media literacy, as she was searching for transparency in the definitions and further elaborates on the widely accepted definition of the National Leadership Conference. This results in the following definition of media literacy: ‘*the ability to access, analyse, evaluate and create messages across a variety of contexts*’ (Livingstone, 2004b, p. 18). Livingstone (2008a) expands to clarify each component of the definition as follows:

1. *Access*: Access goes further than the ownership of tools and the amount of time spent with media, it also rests on dynamic and social processes. Livingstone et al. (2005, p. 13) distinguish three media access competencies:
 - *Basic navigational competencies*: The ability to deal with the core features of media technology. These competencies might include, for example, the theoretical and practical knowledge of how to open a site, scroll through the home page, or search for information. It is not so much a skill, rather a mental roadmap. These competencies have frequently been considered under the heading of ‘computer literacy’;
 - *Controlling competencies*: These competencies involve the ability to deal with more advanced media technology features than the above-described navigational competencies. They contain advanced theoretical and practical knowledge of how to access interactive services, search effectively for content, complete transactions (e.g. shopping, banking, and bill paying) online, and use the Internet to gather data, for problem-solving, and to resolve Internet related problems. These competencies require technical skills as well as cognitive abilities;
 - *Regulating protective media competencies*: These competencies contain the ability of people to protect themselves from harmful or offensive media content. This, for example, includes awareness of trusted sites, knowledge of how to judge whether

sites are safe, understanding privacy policies and the awareness of potential issues involved in giving out personal information, knowing how to get help when necessary, and filtering inappropriate conduct. This competence is foremost a cognitive ability that provides access to resources (e.g. knowledge and social capital) that help you to protect yourself against possible negative consequences of media use. Since this process consists primarily of knowledge acquisition, we argue that the boundary between regulating-protective media competencies and analysing (cf. *infra*) is undoubtedly vague.

2. *Understanding*: In contrast to access, understanding focuses more on the media content and not so much on the technology. According to Livingstone, understanding consists of both analyzing and evaluating media content.
 - *Analyzing or comprehending media*: Based on Eco (1979), Livingstone (2004a) maintains that to sustain and satisfactorily engage with symbolic texts, users must analyze or question the broader social, cultural, political, economic, and historical context in which media content is produced. Drawing from Bazalgette's (1999) work on movies, Buckingham (1998) identifies six questions that students have to address when they come in contact with texts: media agency, media categories, media technologies, media languages, media audiences, and media representations. Livingstone indicates that these questions could be easily translated to digital media, were it not that the terminology – genre, narrative, authorial voice, modality, and literary merit – is historically linked to print media. Unfortunately, Livingstone does not make any further suggestions as to how to translate Buckingham's questions to digital media;
 - *Evaluating or critiquing media*: Being able to evaluate media [content] is not a simple ability, as it requires knowledge of the broader social, cultural, political, economic, and historical context to decide whether a media technology and/or text is dated, biased, realistic, relevant, or true (Livingstone, 2004a). This ability is even more important in a digital media environment characterized by an information abundance or even overload. Alternatively, as Livingstone (2004a, p. 7) states: '*now that almost anyone can produce and disseminate Internet contents, with fewer – and different kinds of – filter, the basis of critical literacy must alter.*'
3. *Creation*: Livingstone (2004a) offers three reasons why content creation is an important separate component of media literacy: (1) people learn best how something works by doing it themselves (i.e. pedagogic argument); (2) people with content creation skills are more valuable on the job market (i.e. employment argument); and (3) individuals have the right to self-presentation and cultural participation (i.e. cultural politics argument). In addition, many digital technologies are available that make content creation easier than ever. Although we found the reasons to include creation as a separate component of media literacy quite acceptable, the line between what is and what is not a creation remains extremely vague for us. Is writing a text or creating a profile on a social media platform a creation? If these latter actions are indeed a creation, according to Livingstone, we see a tremendous overlap between access and

creation, which raises the question as to whether they must be seen as separate components of media literacy.

The level of detail of Livingstone's conceptualization of media literacy is valuable for operationalization purposes. Nonetheless, the distinction between the different components remains too vague for translation into concrete measurement indicators. In addition, this universal skills-based approach to media literacy neglects the interaction between technology and/or text and the user. Livingstone (2004a, p. 9) recognizes the latter criticism and suggests considering plural literacies, *'defined through their relation with different media rather than defined independently of them.'* Still, she prefers to use one umbrella term, in this case 'media literacy', which emphasizes the continuities between old and new media technologies.

Computer literacy

With the advent of the computer, scholars felt that the original interpretation of media literacy, as the critical evaluation of media content alone, was no longer adequate for the use of computers. In 1981, soon after the widespread adoption of the personal computer, the concept of computer literacy was coined by and published in the *Washington Post* (Warschauer, 2003). The term 'computer literacy' arose, with variations such as 'ICT literacy', 'IT literacy', and 'technology literacy' (Ala-Mutka, 2011). As reflected by the terms themselves, these concepts typically emphasize the aspects of accessing and having the technical skills to handle computers and related software. Alternatively, as Bawden (2001, p. 232) indicates: *'In practice, this translates to an introduction to the skills required to operate a variety of computer applications packages – word processing, databases, spreadsheets, etc. – together with some general IT skill, such as copying disks and generating hard-copy printout.'*

While these conceptualizations of literacy were very concrete and measurable, they quickly became obsolete because of the rapid changes in media technologies (van Deursen, 2010). In the late 1990s, the awareness of the needs for reflective skills when using computers and the Internet began to increase (Martin & Grudziecki, 2006). The latter occurred mainly under the term 'digital literacy', but also in more advanced interpretations of the term 'computer literacy':

'Computer literacy has to do with increasing our understanding of what the machine can and cannot do' (Horton, 1983, p. 63).

Whatever a person needs to be able to do with computers and know about computers in order to function in an information-based society' (Hunter, 1983).

Scholars criticized the concept of computer literacy with its skills-based approach as being far too modest and, consequently, they started to consider more information-related skills when discussing computer literacy. Since then, numerous scholars have discussed the relationship between computer literacy and information literacy as distinct but also interrelated.

Internet literacy and network literacy

Being able to deal with the networked character of the Internet is frequently described using the terms 'Internet literacy' and 'network literacy' (Ala-Mutka, 2011). However, these terms are frequently confused with the broader notion of 'digital literacy' and therefore these

concepts are often used interchangeably. Nonetheless, Internet and network literacy essentially refers to the specific aspect of being able to manage networked resources on the Internet, media, and communications. Two important contributions to this form of literacy come from McClure (1997) and van Deursen (2010), as they conceptualize this form of literacy as more than just the technical or operational skills (cf. computer literacy) to deal with the Internet. McClure (1997, pp. 423-424), for example, maintains that network literacy consists of:

1. *Knowledge:*

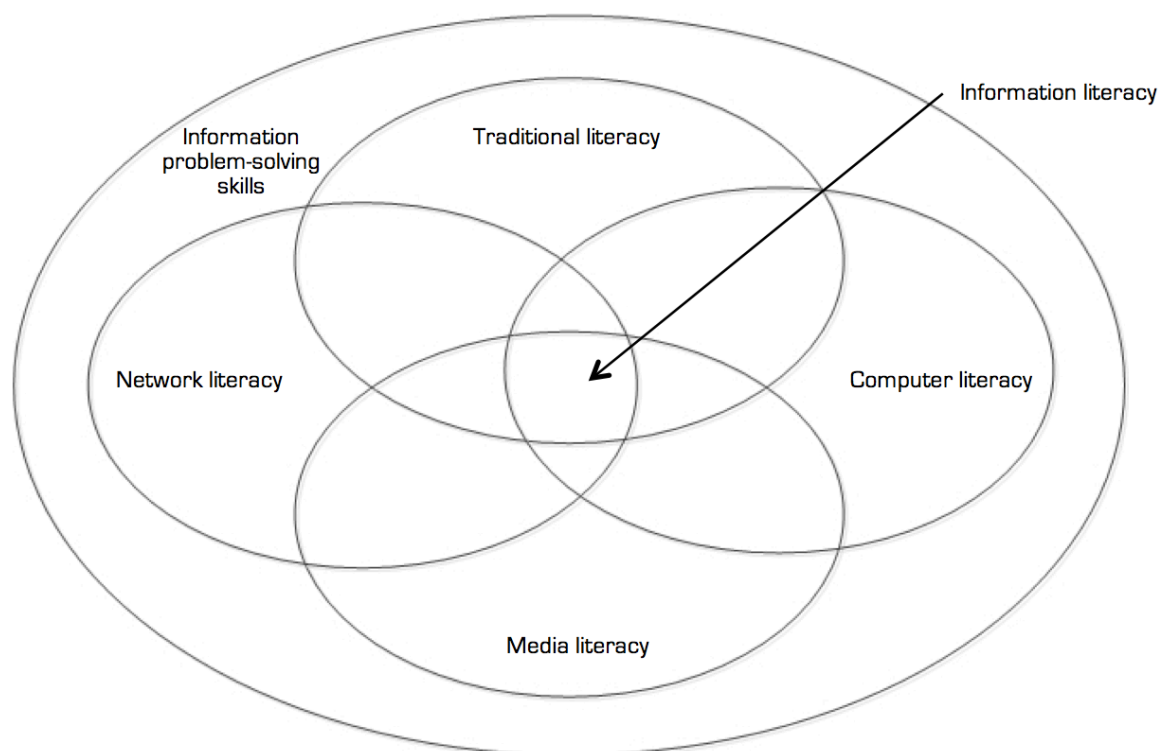
- of the range and uses of networked resources;
- of the role and uses of networked information in problem solving and ‘basic life activities’;
- of the system by which networked information is generated, managed and made available;

2. *Skills:*

- to retrieve specific types of information from networks;
- to manipulate, combine, and enhance networked information, and give added value;
- to use networked information to help make work-related and personal decisions.

The added value of McClure’s (1997) conceptualization is that he recognizes the importance of other literacies to function in a computerized society (see Figure 4). He proposes a framework for thinking about literacy in a networked society. At one level, an individual must be able to read and write (i.e. traditional literacy). At another level, people must be able to operate the computer and related technologies from a technological perspective (i.e. computer literacy). At yet another level, they also need media literacy, or a critical understanding of the technology and/or content being used. At a fourth level, people also need network literacy. Solving information problems in a network society requires all of these literacies. Therefore, McClure (1997) has a very broad and complete vision on network literacy. However, he remains vague about the indicators used to operationalize or teach these different forms of literacy. This only happens in the case of network literacy, but even there he is not always clear what he means with certain concepts, for example, in the case of ‘networked information or resources’.

Figure 4 McClure's (1997, p. 422) thinking about literacy concepts



We also discuss the work of van Deursen (2010) in this section, as he considers 'Internet skills' more demanding than being able to deal with computers or other more traditional media. According to van Deursen, Internet skills contain four skill categories, representing two main types: medium-related and content-related skills. The Internet, as a medium, requires specific operational skills for operating the Internet browser, search engines, and Internet-based forms. It also requires some formal skills for navigating the networked nature of the Internet. To deal with the content on the Internet, people must have information skills for locating, selecting, and evaluating information online and strategic skills for using Internet content for successful goal-oriented activities. Since van Deursen subdivides the various components of Internet skills into multiple measurable indicators (see Table 2), this conceptualization is not only theoretically valuable, but valuable for operational purposes as well.

Table 2 *The four types of Internet skills of van Deursen (2010, p. 71)*

Medium-related Internet skills	
Operational Internet skills	<p><i>Operating an Internet browser:</i></p> <ul style="list-style-type: none"> Opening websites by entering the URL in the browser's location bar Navigating forward and backward between pages using the browser buttons Saving files on the hard disk Opening various common file formats (e.g. PDFs) Bookmarking websites <p><i>Operating Internet-based search engines:</i></p> <ul style="list-style-type: none"> Entering keywords in the proper field Executing the search operation Opening search results in the search result lists <p><i>Operating Internet-based forms:</i></p> <ul style="list-style-type: none"> Using the different types of fields and buttons Submitting a form
Formal Internet skills	<p><i>Navigating on the Internet, by:</i></p> <ul style="list-style-type: none"> Using hyperlinks embedded in different formats such as texts, images, or menus <p><i>Maintaining a sense of location while navigating on the Internet, meaning:</i></p> <ul style="list-style-type: none"> Not becoming disoriented when navigating within a website Not becoming disoriented when navigating between websites Not becoming disoriented when opening and browsing through search results
Content-related Internet skills	
Information Internet skills	<p><i>Locating required information by:</i></p> <ul style="list-style-type: none"> Choosing a website or a search system to seek information Defining search options or queries Selecting information (on websites or in search results) Evaluating information sources
Strategic Internet skills	<p><i>Taking advantage of the Internet by:</i></p> <ul style="list-style-type: none"> Developing an orientation toward a particular goal Taking the right action to reach this goal Making the right decision to reach this goal Gaining the benefits resulting from this goal

A criticism here is that only a small boundary exists between operational and formal skills: knowing which button to push to go further intrinsically connects to knowing which way you want to go. The latter raises the question as to whether it is useful to see formal skill as a separate component of Internet skills. Another criticism to this conceptualization of Internet skills is that strategic skills are rather a consequence of the application of Internet skills, which, from our perspective, are incongruous to place on the same level as the other components.

Internet and network literacy relate to the abilities to manage and benefit from the overwhelming amount of networked information and resources available online. Therefore, they are closely related to the concept of information literacy, discussed in Section 3.2.2. However,

in network literacy, the communicative aspects of the Internet receive little attention and the term 'digital literacy' (cf. infra) captures this criticism.

Digital literacy

For the concept of digital literacy, we focus on the work of Martin and Grudziecki (2006) and Ferrari (2013). Going beyond operational skill-based approaches and taking the interactive characteristics of digital media into consideration, their conceptualizations provide the greatest benefit to the topic of this dissertation. The difference between this and other literacy concepts is that digital literacy specifically focuses on the unique characteristics and possibilities (or risks) of digital media, which are very close to those of social media in particular.

Digital literacy frequently includes many of the competencies discussed in the concepts reviewed above. Martin and Grudziecki (2006) indicate that this could be due to various reasons: (1) clarity on the interpretation, similarities, and differences between other literacy terms, (2) the emergence of new digital tools, and/or (3) the general evolution of all literacies towards umbrella terms that include generic cognitive abilities, processes skills, and critical attitudes.

Martin and Grudziecki (2006) recognize that Gilster (1997) was one of the first to use the concept of digital literacy. Gilster (1997, pp. 1-2) defines digital literacy as:

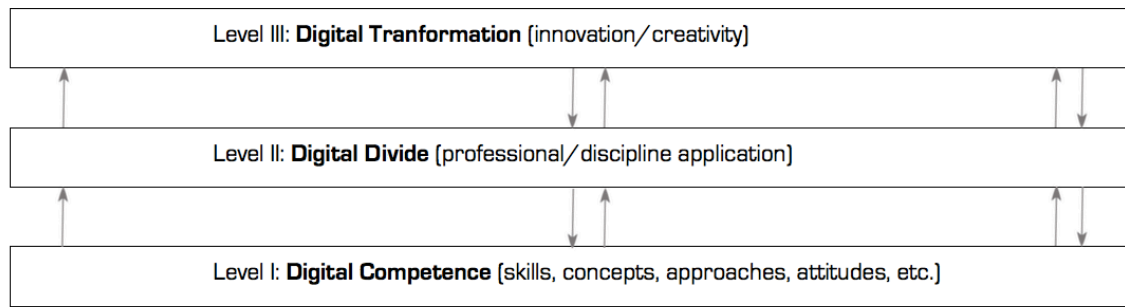
'The ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers. The concept of literacy goes beyond simply being able to read; it has always meant the ability to read with meaning, and to understand.'

By additionally emphasizing the importance of critical thinking: *'the ability to make informed judgments about what you find on-line'*, this broad approach to digital literacy goes beyond technical skills. Although this definition is already 17 years old, it remains relevant, as it allows the interpretation and operationalization of the concept.

Martin and Grudziecki (2006) use Gilster's definition as the basis for an agreed understanding of digital literacy. Considering this and other definitions of digital literacy, Martin and Grudziecki (2006, p. 255) themselves, define digital literacy as:

'The awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyze and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others, in the context of specific life situations, in order to enable constrictive social action; and to reflect upon this process.'

To develop this digital literacy, individuals must go through three stages or 'levels' (see Figure 5).

Figure 5 Three levels of digital literacy development of Martin and Grudziecki (2006, p. 255)

Digital competence, or the skills, awareness, and attitudes of people, is at the foundation of the development of digital literacy. Martin and Grudziecki organized digital competencies around thirteen processes:

1. Statement of the problem to be solved, task to be achieved, and the actions to be done;
2. Identification of the digital resources to achieve the task or solve the problem;
3. Accession of the required digital resources;
4. Evaluation of the digital resources to assess their objectivity, accuracy, reliability, and relevance to the problem or task;
5. Interpretation of the meaning conveyed by the digital resource;
6. Organization of the digital resources in such a way that they enable the solution of a problem or successful completion of a task;
7. Integration of the different digital recourses so they are relevant for the problem or task;
8. Analyze digital resources by using concepts and models that enable solution of the problem or successful achievement of the task;
9. Synthesis by recombining the digital resources in new ways that enable solution of the problem or successful achievement of the task;
10. Creation of new knowledge objects, units of info, media products, or other digital output that contribute to task achievement or problem solution;
11. Communication with relevant others whilst dealing with the problem or task;
12. Dissemination of the solution to relevant others;
13. Reflection on the success of the problem-solving or task-achievement process.

According to Figure 5, digital media usage differs by the situation wherein it is used. Digital usage then involves the successful usage of digital competence within a specific professional or domain context. Hence, the last step, digital transformation, is achieved when the usage of digital tools enables innovation and creation as well as facilitates change with professional or other benefits.

This conceptual framework of Martin and Grudziecki (2006) is a comprehensive conceptualization of digital literacy. However, people do not always have to solve a problem, do a task or action, sometimes information automatically comes to them on digital media. Martin (2008, p. 166) addresses this critique by elaborating on the above conceptualization of digital literacy. He concludes that:

1. Digital literacy involves being able to carry out successful digital actions embedded within life situations, which may include work, learning, leisure, and other aspects of everyday life;
2. Digital literacy, for the individual, will therefore vary according to his/her particular life situation, and also be an ongoing lifelong process developing as the individual's life situation evolves;
3. Digital literacy is broader than ICT literacy and will include elements drawn from several related 'literacies';
4. Digital literacy involves acquiring and using knowledge, techniques, attitudes and personal qualities, and will include the ability to plan, execute, and evaluate digital actions in the solution of life tasks;
5. Digital literacy also includes the ability to be aware of oneself as a digitally literate person and to reflect on one's own digital literacy development.

Martin breaks down digital literacy into different sub-elements and reiterates that digital literacy is more than a set of skills. However, he does not discuss what digital literacy consists of, which makes it difficult to delineate the boundaries of the study of digital literacy. The latter makes it difficult, if not impossible, to directly translate this definition into measurable items of digital literacy.

The DIGCOMP project includes a conceptualization of digital literacy that incorporates the above-mentioned key elements of digital literacy and addresses the criticism about a lack of measurable indicators of digital literacy. In this project, Ferrari (2013) proposes a detailed framework with an in-depth description of the different aspects of digital competencies. This framework provided the European Commission with a better understanding of digital competencies as one of the eight key competencies both for participation and for lifelong learning in a digitalized society in the twenty-first century. In the DIGCOMP project, Ala-Mutka (2011) made a comprehensive conceptual mapping of digital competence, which consists of instrumental skills and knowledge, advanced skills and knowledge, and attitudes. Based on this mapping of Ala-Mutka (2011), Ferrari identifies five areas of digital competence: information, communication, content creation, safety, and problem solving (see Table 3). Ferrari (2013, pp. 5-6) completes the conceptual framework, which also serves as a self-assessment grid, by listing 21 sub-competencies in the five areas of digital competence:

Table 3 List of competence areas and the competencies (Ferrari, 2013, pp. 5-6)

Information	Browsing, searching, and filtering information Evaluating information Storing and retrieving information
Communication	Interacting through technologies Sharing information and content Engaging in online citizenship Collaborating through digital channels Netiquette Managing digital identity
Content creation	Developing content Integrating and re-elaborating Copyright and licences Programming Protecting devices Protecting personal data Protecting health Protecting the environment
Safety	Protecting devices Protecting personal data Protecting health Protecting the environment
Problem solving	Solving technical problems Identifying needs and technological responses Innovating and creatively using technology Identifying digital competence gaps

An important contribution of this typology is the possibility of translating the different competencies into measurable indicators.

It is noteworthy that all of the above-described definitions of digital literacy involve more than the mere ability to operate digital devices; they also include cognitive (i.e. critical understanding) and emotional competencies. They also include most of the elements of the above-mentioned conceptualizations of media literacy and take into account the interactivity of digital media and social media, which indicates that they could serve as a conceptualization for social media. However, since they take the entire spectrum of digital media into consideration, they are too broad to conceptualize media literacy as applicable to social media alone and certainly to develop measurable indicators, as not all digital media are social media.

3.2.2. Information literacy

Zurkowski (1974, p. 6) coined the term 'information literacy' and described it as the abilities people need to utilize *'the wide range of information tools as well as primary sources in molding information solutions to their problems.'* He advocates for a universal approach of information literacy across all trades, occupations, and professions. Yet, many of the following applications of the term 'information literacy' come from library and information science, which is quite logical, as the library was, and still is, the place to search for information.

One of the first definitions of 'information literacy' within the library context came from the American Library Association (1989)⁶, which defines it as follows:

'The ability to recognize when information is needed and the ability to locate, evaluate, and use the needed information effectively. Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they can always find the information needed for any task or decision at hand.'

Because of the ability to apply it to many carriers of information, not exclusively books, this definition has contributed to the academic field about information literacy for many years. Alongside the increasing adoption of digital media and, consequently, the increased availability of information, the usage of the concept of 'information literacy' has increased considerably in the academic literature. Consequently, most of the definitions that follow are also focused on digital media (e.g. Bawden, 2001; Correia & Teixeira, 2003).

In contrast to numerous conceptualizations of media literacy, information literacy is frequently broken down into sub-components that help to assess people's level of information literacy. For example, the Association of College and Research Libraries (ACRL) in the USA developed a conceptual model wherein they distinguish five subcomponents of information literacy in higher education (Information Literacy Standards for Higher Education, 2000)⁷. Information literate students should be able to:

1. Determine the nature and extent of the information need;
2. Access needed information effectively and efficiently;
3. Evaluate information and its sources critically and incorporate selected information into his or her knowledge base and value system;
4. Use information effectively, individually, or as a member of a group, to accomplish a specific purpose;
5. Understand many of the economic, legal, and social issues surrounding the use of information and access and use the information ethically and legally.

When standards exist for measuring information literacy, as with ACRL, people can be divided into different levels. Those who belong to level 1 are able to determine the nature and extent of the information needed. If they are able to access the needed information effectively and

⁶ Final report of the ALA conference available at:

<http://www.ala.org/ala/mgrps/divs/acrl/publications/whitepapers/presidential.cfm>

⁷ Report of ACRL available at: <http://www.ala.org/acrl/sites/ala.org/acrl/files/content/standards/standards.pdf>

efficiently, they are level 2. The critical evaluation of the information and sources is level 3. Level 4 is the ability to use the found information effectively to accomplish a specific goal. Level 5 is about understanding the economic, legal, and social issues surrounding the access and use of information. However, here we must ask whether these standards for measuring are too abstract to subdivide people into the different levels effectively. For example, how can you measure whether people are actually accessing the information effectively and/or efficiently? Although not frequently addressed in the measurement of information literacy, much depends on the context in which people look for information. A general critique on the conceptualizations of 'information literacy' is that they often ignore the importance of contextualism (Agre, 2004). Many of the above conceptualizations are too ambitious in scope, too wide-ranging, and not precise enough to be measurable. Furthermore, dividing people into different levels enhances the inequalities between them (cf. Section 3.1). Despite this criticism, information literacy stays very valuable as a framework to understand how people interact with information online.

3.2.3. A successful marriage between media and information literacy?

A clear overlap exists between the literacy concepts described above; indeed, sometimes the definitions are almost indistinguishable. In point of fact, Martin and Grudziecki (2006) actually talk about a 'convergence' of literacies. Given the complementary nature of media and information literacy, it is possible to identify four themes with which both literacy traditions agree (Potter, 2010). (1) Both literacy traditions agree that all types of media can have potentially negative effects on the users. However, recent perspectives of both traditions also highlight the positive effects: (2) Media and information literacy traditions agree that the purpose of literacy development is to improve people's lives, and more specifically, to teach them to protect themselves from potentially negative effects; (3) There is agreement that no one is born with literacy; it must be developed taught, and trained; (4) This latter process never ends because media and the content on it are constantly changing. Media and information literacy are multi-dimensional, meaning that both traditions focus on different dimensions or elements of literacy (e.g. technical, cognitive, and affective dimensions). Since these dimensions are independent from one another, people can develop and be good at one but not all dimensions. However, all dimensions remain important in the effective and efficient use of media [content].

Nonetheless, some important differences remain between media and information literacy. As Bawden (2008, p. 30) states: "*Information literacy*" implies competences in actively finding and using information in "pull" mode, while "*media literacy*" implies an ability to deal with information formats "pushed" at the user.' Livingstone et al. (2005, p. 107) use a metaphor to describe this difference between the media and the information:

'Media literacy sees media as a lens through which to view the world and express oneself, while information literacy sees information as a tool with which to act upon the world. Media literacy, then, aims at correcting the flaws in the glass. Information literacy, instead aims at increasing the accuracy of the hand wielding the tool.'

Nevertheless, both perspectives are problematic. Media literacy supposes that it is possible to 'distance' oneself as an individual from the media's view on reality. The latter is even more

difficult in a convergent media world (Livingstone et al., 2008). Information literacy, in turn, receives criticism for its limited focus on questions of whether people have access to information and how well they understand this information, while reducing the focus on how people gain information (Livingstone et al., 2008). Our conceptualization of media literacy in a social media environment attempts to provide a combination of both media and information literacy, as social media are not only the lenses through which people view the world, but they are also the tools with which people act upon the world.

3.2.4. Critique on existing media and information literacy concepts

According to Potter (2010), scholars who address the issue of media literacy must answer three questions: (1) what are the media; (2) what do you mean by literacy; and (3) what should be the purpose of media literacy? However, many of the conceptualizations described above do not answer these questions.

Scholars must indicate what they mean by media, as some focus on media literacy by addressing one medium (e.g. television, tablets), others concentrate on a type of media (e.g. print, digital, or social media), while still others include all forms of information sharing and communication. Based on the convergence between different media technologies, many scholars attempt to elaborate on one single definition for media and information literacy and competencies. However, a critique on this holistic idea is that media and information literacy as well as the related competencies are all described so abstractly that it is impossible to translate this conceptualization into measurable items. To be able to assess an individual's capacity, we must recognize specific knowledge, skills, and competence demonstration elements needed for a specific media technology. By nature, this latter approach is highly dependent on the current development of technologies and consequently needs regular revision.

Furthermore, in terms of literacy, scholars need to be more clear about what they mean. Again, a wide range of interpretations exists in the literature. Some scholars see literacy primarily as the acquisition of skills (Messaris, 1998; Silverblatt, Ferry, & Finan, 1999; van Deursen, 2010). A variety of positions exist with skills alone. The most mentioned skill is critical thinking, but operational skills are also frequently mentioned (Potter, 2010). Others interpret it principally as knowledge building (Meyrowitz, 1998; Zettl, 1998). Still other scholars take an extremely broad perspective on literacy, specifically, as developing both skills and knowledge (Ferrari, 2013; Hobbs, 1997; Potter, 2004). Some even regard literacy as a political, social, and/or cultural practice (Sholle & Denski, 1995). This latter idea fits within the overall movement stressing twenty-first century skills. These skills, such as communication, ICT literacy, collaboration, and social competencies, are identified as competencies that individuals must possess to actively and effectively participate in the knowledge society (Voogt & Roblin, 2012). Although they all agree that being able to deal with digital media is one of them, there are different perspectives on what these skills should be.

Scholars must also be more clear about the goal of media literacy. While most scholars argue that media literacy will improve people's lives and protect them against potentially negative effects, they are not clear about the way this would happen. Furthermore, although

most definitions are primarily skills-based (e.g. technical skills to use media), others are tremendously idealistic (e.g. personal fulfilment and individual moral fortitude).

This multiplicity of conceptualizations of media literacy causes ambiguity, and leads to misconceptions, misunderstandings, and poor communication between academics, policy workers, and teachers (Eshet-Alkalai, 2004; Livingstone, 2004a; Norton & Wiburg, 1998). Since we already addressed what we understand under the concepts of 'social media' and 'media literacy', we must now elaborate on a conceptualization of media literacy in a society permeated by social media. However, to help us form a more complete perspective on this new form of media literacy, we must first address some of the theoretical foundations of media literacy.

3.3. Theoretical foundations of media literacy in a social media environment

After having directed attention to what media literacy and related topics mean, in this section, we assemble further insights into how people acquire literacy and the role of literacy in society. We rely on four theoretical foundations that can be applied to media literacy, including Bourdieu's (1986) concept of cultural capital, the structuration theory of Giddens (1984), the capabilities approach of Sen (2003), and the knowledge gap hypothesis (Tichenor, Donohue, & Olien, 1970).

The list of theoretical frameworks applicable to media literacy is undoubtedly more extensive than those four. However, we chose these frameworks, because they each highlight another aspect that we will consider in the further conceptualization of the new generation of media literacy, in relation to its impact on society. Our intention is not to extensively elaborate on one of these four theories, but to place them next to each other and focus on possible overlaps and differences. In doing so, we indicate that we do not situate our research within one theoretical approach, but that we consider the different values of the cross-fertilization of different theoretical foundations.

3.3.1. Cultural capital

We use Bourdieu's social theory (also discussed in Section 2.5.3) for a better understanding of the role of media literacy in society. His conception of 'cultural capital' is especially helpful on this matter. With cultural capital, Bourdieu (1986, pp. 243-245) refers to *'possession of certain cultural competencies, bodies of cultural knowledge that provide for distinguished modes of cultural consumption.'* Cultural capital includes familiarity with the dominant culture in society. The traditional interpretation of Bourdieu's term cultural capital corresponds with cultural tastes and styles as participation in activities such as literature, the art fair, the concert, theatre, and opera (Sullivan, 2001). Bourdieu argues that participating in these activities leads to the development of certain knowledge, skills and attitudes which should enable people to succeed at school, at work, and even in society at large (Bourdieu, 1966; Bourdieu & Passeron, 1970).

Nonetheless, the traditional conceptualization of cultural capital no longer corresponds to the dominant culture of current society. Moreover, the skills and competencies required in contemporary society are no longer connected exclusively to participation in 'highbrow' culture, such as museums, art fairs, and theatre. In the current information society, people must be able to deal with various forms of information and communication in different contexts. As social media are now paramount as information and communication sources, the knowledge and skills to deal with these media have also become more important.

This is additionally recognized by Song (2010) and Papacharissi and Easton (2013), who theorize social media as a field, which either facilitates a specific habitus (e.g. Song), or is characterized by a specific habitus (e.g. Papacharissi and Easton), that require specific knowledge, skills, or cultural capital. Therefore, the ability to deal with social media produces a new form of cultural capital. Following Bourdieu (1986), cultural capital can be broke down into three types:

1. *Embodied cultural capital*: Embodied cultural capital refers to the (non-tangible) knowledge and opinions of others experienced in everyday circumstances.
2. *Objectified cultural capital*: This form of cultural capital is supported by material goods such as books, technologies, dictionaries, etc.;
3. *Institutionalized cultural capital*: Institutionalized cultural capital, as the term suggests, is the knowledge and skills people obtain through formal courses at school or at work.

Taking the different forms of cultural capital into consideration, it is clear that, in addition to the new form of media literacy being a new form of cultural capital, it is also a product of previously existing cultural capital. Once people know how to deal effectively and efficiently with social media, they can also strengthen their knowledge and skills by using them. This new form of media literacy can subsequently be seen as a new form of contemporary supplier of relevant competencies. Likewise, as or as Hobbs (1998) and Livingstone (2004a) maintain, people learn best by doing and experiencing it themselves.

As is true with traditional cultural capital, this new generation of media literacy can be strengthened (or weakened) by the presence (or absence) of other forms of capital, such as social, economic, and symbolic capital. Social capital consists of an individual's social network, on which they can rely in case of problems and questions. Economic capital refers straightforwardly to income or things that are immediately and directly exchangeable into money. This, for example, also includes the quality and number of technologies that a person can purchase or the social media trainings for which one can pay. As cultural capital, the new form of media literacy is also indirectly linked to people's symbolic capital, which consists of the amount of honour, prestige, or recognition an individual can earn. According to Bourdieu (1997, p. 50), people need a combination of the various capitals for the appropriate use of technologies: '*To possess the machines, he/she only needs economic capital; to appropriate them and use them in accordance with their specific purpose he/she must have access to embodied cultural capital; either in person or in proxy.*'

All of these forms of capital can be regarded as key factors in the production of class, and hence social inequalities. Countless individuals attach their hopes on education for teaching this

new form of media literacy. However, if we follow Bourdieu (1986), the influence of education on acquiring cultural capital is limited. Concerning learning to work with digital media, and thus also with social media, De Haan, Huysmans, and Steyaert (2002) found that students learned most from their own experimenting. The differences they found in digital skills were primarily attributable to the home setting, such as the level of digital skills of the parents, the technologies present in the household, and Internet access in the bedroom. Nonetheless, the importance of education must not be completely underestimated (Jenkins, Purushotma, et al., 2009).

Many scholars rely on Bourdieu's concept of cultural capital to better understand (inequalities in) people's acquisition of knowledge and skills concerning a certain topic. However, the latter is also a criticism of Bourdieu (1986) work, as he did not specify the concept of cultural capital. Hence, to use it in other contexts or for other purposes, scholars continue to add or subtract various elements of other concepts to Bourdieu's interpretation of cultural capital, which makes it extremely difficult for scholars to restore the original intended meaning of the term.

3.3.2. Structuration theory

Structure can be thought of as the technological characteristics of social media, supporting some actions and not others. The concept of agency captures the way people deal with these technological characteristics of social media. We use Giddens' (1984) structuration theory to better understand the relationship between the two terms. According to Giddens (1984), people's behaviour is partially fixed or determined in accordance with social structures that are controlled by specific norms, values, and laws. However, agency can also create or change social structures, based on a process of reflective feedback. Therefore, social structure is both the medium for/and the result of agency. This is also the case for social media: the technological characteristics can support (or constrain) agency and vice versa.

Affordances are the mediators in the relationship between the structure and the agency. The term 'affordance' indicates that people do not handle the structure itself, but its observed properties. According to Hutchby (2001, p. 44):

'Affordances are functional and relational aspects which frame, while not determining, the possibilities for agentic action in relation to an object. In this way, technologies can be understood as artifacts which may be both shaped by and shaping of the practices human use in interaction with, around and through them.'

Concerning social media, affordances are the characteristics that can be observed by the users.

If we apply Giddens' (1984) structuration theory to the new generation of media literacy, we take both a hermeneutic and a constructivist approach into consideration. The structuration theory is hermeneutic, as it emphasizes the importance of individuality and reflectivity of people, while it simultaneously focuses on the context (cf. structure). The structuration theory is also constructivist, as it regards structure as a construction or a human product. Hence, media literacy in a social media environment is not reducible to a

feature or a skill of the user; instead, it is the co-production between the technology and the user.

Here, we can express the same criticism as that of Bourdieu's (1986) cultural capital concept, specifically, that the structuration theory is exceptionally holistic and interdisciplinary (Falkheimer, 2009). Although the advantage is that the theory is widely adoptable, this is a simultaneous disadvantage, as the theory has already been used extensively a number of times for various applications. Despite this criticism, the structuration theory is valuable as a theoretical framework for understanding human actions on technologies.

3.3.3. Capabilities approach

Sen's (2003) capabilities approach functions as a theoretical foundation for conceptualizing and evaluating inequalities in a welfare state. Sen (2003, p. 5) defines capabilities as *'a derived notion, and reflects the various combinations of functionings he or she can achieve, i.e. the person's freedom to choose between different ways of living.'* Another important term in the capabilities approach is 'functionings', which is defined as, *'an achievement of a person, i.e. what he or she manages to do or to be: an individual's activities and states of being.'* Therefore, capabilities can be seen as opportunities for individuals to achieve a certain goal. These capabilities ensure that individuals maintain a certain degree of freedom of choice and reach the lifestyle that they want for themselves (Sen, 1999).

This approach has already been applied to communication media by Garnham (1999), who states that communication media *'enables of a range of functionings.'* Freedom of choice is made available by media, and consequently, not having or being able to access and use these media can be seen as a shortcoming in life. Also applying Sen's capabilities approach to the information society, Mansell (2002) argues that the government should adopt a capabilities approach, otherwise a significant amount of human potential will be lost because some people are not able to use the networks of new media. Mansell (2002, pp. 419-420) states: *'These capabilities are the foundations of the freedom which allows individuals' needs to be met.'* Concerning social media, the latter argument means that people have to acquire certain competencies so they can use social media in such a way that they can reach their goals.

When plotting the framework for a more equitable society, Sen (2003) also considers the diversity of people and what they want. Although a society has a certain responsibility to provide capabilities, the individual has the choice whether he/she will convert these capabilities into functionings. Hence, in a conceptualization of the literacy practices in social media, we must consider what people's goal or purpose is. Concerning literacy, state intervention may not only limit itself to the provision of infrastructure to make the Internet widely available, but also in promoting courses and adjusting the curriculum so these capabilities can be acquired.

Although the positive characteristic of this theory is that it is widely applicable, the simultaneous major point of criticism is that it is so widely applicable that it implies a certain vagueness. Sen and many interpretations of his work are, for example, not clear as to what the most important human capabilities are. He attempts to cover this criticism by stating that

these capabilities must always be approached contextually and that they must be seen within the specific democratic and social society.

3.3.4. Knowledge gap hypothesis

Since it explains that knowledge is differentially distributed in society, the knowledge gap hypothesis has many similarities with Bourdieu's (1986) cultural capital concept. This hypothesis states:

'As the infusion of mass media information into a social system increases, higher socioeconomic status segments tend to acquire this information faster than lower socioeconomic-status population segments so that the gap in knowledge between the two tends to increase rather than decrease' (Tichenor et al., 1970, pp. 159-160).

This idea was based on the large history of mass communication effects research that indicate the *'apparent failure of mass publicity to inform the public at large'* (Tichenor et al., 1970, p. 161). Specifically, media training and campaigns provide benefits for the segments in the population who already have a high level of knowledge to deal with media effectively and efficiently to derive knowledge (Rogers, 2001).

We are particularly interested in the factors that can enable (or prevent) people from using media effectively and efficiently as an information source. Bonfadelli (2002, pp. 68-69) distinguishes five factors:

1. *Communication skills*: Better educated people are more able than those who are less educated to manage communication in general and to use and interpret specific media information;
2. *Stored information*: Better educated people possess more general knowledge on a broader range of public affairs topics;
3. *Relevant social contacts*: Better educated people are integrated in broader social and/or local networks that function as additional interpersonal information resources;
4. *Selective use, acceptance, and storage of information*: Education correlates strongly with a general pattern concerning the civil duty of active information seeking;
5. *Structure of the media system*: Modern media systems are differentiated insofar as print media distribute most public information. Better-educated media users utilize these information-rich media significantly more, whereas, the less educated segment of the population is more dependent on television as its main information source.

The original interpretation of the knowledge gap hypothesis assumes that education connects strongly to the above-mentioned factors. However, other scholars, such as Ettema and Kline (1977) and Dervin (1980), indicate the importance of emotional factors instead of education. Nonetheless, a significant amount of confusion exists as to whether emotions and education are independent or related factors (Bonfadelli, 2002).

Despite the fact that the original knowledge gap hypothesis refers to political content as knowledge, some scholars focus on knowledge acquisition in general (Rogers, 2001). However, this is also a critique on the knowledge gap hypothesis: *'to extend the knowledge gap hypothesis*

to all information available from the traditional media or the new Internet, or the total knowledge of the recipients — whatever that might mean — is misplaced or at least premature' (Bonfadelli, 2002, p. 67). Therefore, it is difficult to apply this theory to social media, as equating social media with traditional mass media denies the uniqueness and the interactive character of social media. Nevertheless, we learned from this hypothesis that people not only need knowledge and skills, but they also need emotional factors to appropriately use media as an information source.

3.3.5. Conclusion: Theoretical foundations for media literacy

Many of the classical theoretical foundations of media literacy focus primarily on the knowledge and skills people need to deal appropriately with media. The theoretical frameworks bring additional insights into the media literacy debate. These frameworks assist us in forming a more comprehensive perspective on media literacy and, consequently, we include these ideas in our own conceptualization of media literacy, as related to the use of social media.

Bourdieu's cultural capital concept is a welcome addition to the classic interpretation of media literacy, as it recognizes the interrelation between cultural capital, as a synonym for media literacy, and the other forms of capital (e.g. social capital, economic capital, and symbolic capital). Bourdieu also highlights the importance of the socialization process in the home context for people's development of cultural capital.

Giddens' structuration theory points to the importance of the structure of a media technology. In contrast to Bourdieu's cultural capital concept, according to the structuration theory, media literacy is not merely a characteristic of the user, but the co-production between the technology and the user.

Amartya Sen draws particular attention to the importance of capabilities. This concept relates to the free choice of individuals to give meaning to their lives. Concerning media literacy, this means that people must have sufficient capabilities (i.e. knowledge and skills) to use media in such a way that they can achieve their own purposes. According to Sen, the government must provide the opportunity to make users aware (e.g. awareness campaigns) of these capabilities and to learn them (e.g. formal and informal education). Therefore, Sen attaches more importance to education than Bourdieu and Giddens.

The knowledge gap hypothesis focuses primarily on the knowledge and skills that people have to use media effectively and efficiently as an information source. These knowledge and skills can be stimulated (or counteracted) by people's social contacts (e.g. the social capital of Bourdieu), education (e.g. the capabilities approach of Sen), and the structure of the media systems (e.g. structuration theory). The difference between this and the other frameworks is the attention for emotional factors in the appropriate use of media to derive information.

These theoretical frameworks indicate that additional aspects should be included in the conceptualization of the new generation of media literacy to achieve a more thorough understanding of how individuals deal with social media in society.

3.4. Social media literacy, what's in a name?⁸

Literacy research has focused primarily on print media, broadcast media, and computer and the Internet in general; nonetheless, the latest developments in the digital media landscape, specifically the existence of social media, have received relatively little attention. Social media, however, pose specific challenges to their users, taking into account the characteristics, the different potential opportunities and risks of social media discussed in Chapter 2.

The term 'media literacy', or any of the above-described related concepts of media literacy, such as digital literacy and information literacy, usually frame this set of competencies for dealing with media technologies (Section 3.2). However, considering the characteristics of social media (cf. Chapter 2), the traditional interpretations of media literacy and related concepts are no longer sufficient or focused enough to understand and measure how people deal with social media. The competency to deal with social media must entail the ability to understand and fully benefit from the opportunities of social media, as well as the ability to understand and protect yourself against the power of the companies behind social media, their manipulation of the technical features to achieve their goals (e.g. looking for profit by commodifying social interaction), and the other risks related to the networked nature of social media. It, for example, contains understanding the technological infrastructure behind social media, to create content, to interpret content on social media, to search for information, to be critical about the content on social media, and to sufficiently be able to communicate with others using a variety of social media tools and applications. All of these abilities belong to different literacy concepts (cf. supra). However, if we specifically look to social media, other aspects have also emerged as new requisites for being functional in a social media environment. We need a conceptualization that spans all of the competencies that people need to deal with social media. The concept of 'social media literacy' appears to fulfil this need, as it consists of the term 'social media', which refers to the new characteristics of the new technology and the term '[media] literacy', which indicates that traditional interpretations of [media] literacy remain important.

By reviewing the existing scholarship on media literacy and its theoretical foundations, we could identify a list of core competencies needed to be able to participate within the social media landscape. To employ the framework readily for measuring, in this section, we elaborate on these competency components, according to the different areas of application of social media literacy. However, before going into the conceptualization of social media literacy, we first review the basic terminology used in the remainder of this section.

3.4.1. Terminology of social media literacy components

One problem that may exist in this context is the diverse meanings of the terms 'competence', 'literacy', and 'skills'. Although the term 'skills' is most frequently used as the technical operation of media (i.e. button knowledge), sometimes it also includes critical thinking (van Deursen,

⁸ This section about the development of a conceptual framework of social media literacy is an extended version of the following published paper: Vanwynsberghe, H., & Verdegem, P. (2013). Integrating social media in education. *Clweb-Comparative Literature and Culture*, 15(3). <http://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=2247&context=clweb>

2010). Literacy has always had (at least) a dual meaning of being well-read and well-educated (Bawden, 2001).

To understand the term 'competence', we rely on Martin and Grudziecki (2006, p. 256), who argue that the meaning of competencies is broader than that of skills and less broad than that of literacy:

'The terms 'competence' and 'key competence' are preferred to 'basic skills', which was considered too restrictive as it was generally taken to refer to basic literacy and numeracy and to what are known variously as 'survival' or 'life' skills. 'Competence' is considered to refer to a combination of skills, knowledge, aptitudes and attitude, and include the disposition to learn in addition to know-how.'

Hence, in this dissertation, we regard competence as a foundational element in literacy. In moving from competence to literacy, we include the importance of situational embedding. Literacy involves the successful usage of different competencies within life situations.

Based on Anttiroiko, Lintilä, and Savolainen (2001), we use the term 'competencies' in this dissertation to refer to skills and knowledge. Knowledge is seen as the assimilation of information through learning. Based on the work of Potter (2011) and Rogers' (2003), the division most relevant for knowledge comprises 'what-knowledge', 'how-(to-)knowledge', and 'why-knowledge'. What-knowledge is the descriptive and practical knowledge with a low degree of self-conscious awareness, while the other components are more advanced knowledge about how something works and why it works that way. Skills refer to the ability of people to apply knowledge to complete tasks and solve problems.

3.4.2. The three competence blocks of social media literacy

Considering the key elements of media literacy and the related concepts distinguished in Section 3.2, building blocks also recognized from the theoretical foundations of media literacy were grouped under similar topic headings in Table 4. The building blocks were grouped under the headings of technical, cognitive, and emotional competencies. Based on the literature review of media literacy and the related concepts, we also highlighted some additional aspects, primarily factors, and outcome of media literacy.

This conceptual mapping does not attempt to represent the ultimate truth. Instead, it is meant to help the reader gain a better understanding of how we arrived at the conceptual model of social media literacy (cf. *infra*). In this mapping, knowledge and skills were not considered separate items within the competencies, since competence level knowledge and skills are related.

Table 4 Conceptual mapping of media literacy literature and theoretical foundations

	Factors	Technical competencies	Cognitive competencies	Emotional competencies	Outcome
Livingstone		Access Create	Analyse Evaluate		
McClure	Traditional literacy	Computer literacy Network literacy	Media literacy		
van Deursen		Operational skills Formal skills	Information skills		Strategic skills
Martin and Grudziecki		Accession Creation	Evaluation of the digital resources Interpretation of the digital resource Organization of the digital resources Integration of the different digital recourses Analyze digital resources Synthesis of the digital resources Reflection	Statement of the problem to be solved, tasks to be achieved and the actions to be done	Digital usage Transformation
Ala-Mutka		Instrumental skills and knowledge	Advanced skills and knowledge	Attitudes	
Cultural capital	Economic capital Social capital Symbolic capital	Cultural capital	Cultural capital	Cultural capital	
Structuration theory	Structure Affordances	Agency	Agency	Agency	
Capabilities approach	Government	Capabilities	Capabilities	Capabilities	Functionings
Knowledge gap hypothesis	Relevant social contacts Structure of the media system Education		Communication skills Selective use, acceptance, and storage of information		Stored information

With a specific focus on social media literacy, we discuss the various components of the conceptual mapping below. In this conceptualization, we also take into account the theoretical foundations of media literacy.

3.4.3. What should be understood under 'social media literacy'?

Prerequisites of social media literacy: traditional literacy

Before being able to use social media, an individual must be able to read and write. This prerequisite of media literacy is indicated by McClure (1997) under the heading of 'traditional literacy'. Jenkins, Purushotma, et al. (2009, p. 19) additionally state, '*textual literacy remains a central skill in the twenty-first century. ...Youth must expand their required competencies, not push aside old skills to make room for new.*'

Although we recognize the importance of people's ability to read and write, since it is a prerequisite for social media literacy and thus not a part of social media literacy itself, we do not consider it a part of our conceptual framework. Moreover, if we include traditional literacy in the framework, this would mean that we also have to operationalize and measure it, which does not belong to the core topic of this dissertation.

Competence components of social media literacy

Technical competencies

Table 4 makes it clear that most of the scholars recognize the importance of technical competencies. Martin and Grudziecki (2006), for example, refer to these technical competencies under the heading of 'accession the required resources'. Ala-Mutka (2011) uses the term 'instrumental skills and knowledge'. McClure (1997) and other scholars consider these competencies as computer literacy. In the information literacy literature, scholars refer to these technical competencies with concepts such as 'access' or 'locate' information.

To clarify these 'technical competencies', we primarily follow the interpretation of Livingstone et al. (2005) regarding the 'access' component, and the 'basic navigational competencies' in particular. Technical competencies thus include both theoretical and practical knowledge and the conversion of this knowledge into the skills needed to handle social media tools and applications. They, for example, include the competencies to open a social media site, scroll through the home page, or to modify a profile. These technical competencies are an essential condition to the use of social media.

Technical competencies also contain what van Deursen (2010) discussed under the heading of 'formal Internet skills'. Van Deursen (2010) distinguishes two medium-related skills or abilities to deal with the technology behind the Internet: operational and formal skills. The operational skills overlap with our primarily discussed interpretation of technical competencies. Formal Internet skills refer to being able to deal with the formal characteristics or structures on which the medium is built. Social media are an obvious example of hypermedia that requires certain knowledge and skills to navigate. However, this formal knowledge and associated skills can scarcely be seen as being separated from operational knowledge and associated skills. Knowing which button to push to proceed is intrinsically linked to knowing which way to go. Consequently, we do not make a distinction between operational and formal competencies and

call them technical competencies. Technical competencies, also often called 'button knowledge' (van Deursen and van Dijk 2009), can thus be seen as a kind of mental roadmap. Therefore, people's technical social media competencies not just contain the knowledge and skills to operate the technical features of social media, but also contain an understanding of/and decoding of the interfaces.

Technical competencies also include the more advanced 'controlling competencies' introduced by Livingstone et al. (2005), which include people's ability to operate interactive services on social media. So far, technical competencies include people's knowledge and associated skills to deal with the basic and complex technical functions of social media platforms and the tools and applications on them. To this aspect of technical competencies, we add the aspect of 'creation', which is also expressed by Livingstone (2004a, 2004b, 2008a) and Ferrari (2013). These scholars see the aspect of 'creation' as a separate concept of technical competencies. However, we feel that the creation of content mainly requires technical competencies. Thus we consider 'creation' as being part of technical competencies. According to us, creation is not only linked to artistic or technically advanced content, but also the simple writing a status message or creating a profile on a social media platform can be thought of a creation.

Technical competencies guarantee the necessary knowledge and skills to operate social media platforms and the tools and applications on them. A user with these competencies is autonomous and able to use social media in a technical way. However, it is common for individuals to have only a few of these technical competencies. The degree to which such competencies are developed may be measured and identified according to the type of operation that the user is able to carry out and the other competencies that the user has at his/her disposal.

Cognitive competencies

From the matrix in Table 4, it appears that many scholars also emphasize the importance of the critical understanding of media content. Ala-Mutka (2011) puts this critical understanding under the 'advanced skills and knowledge' heading. Since it relates to the original meaning of the term, McClure (1997) uses the term 'media literacy' to refer to these cognitive competencies to critically deal with media content. Since these processes are cognitive insofar as they rely on or correspond with knowledge-related operations, we use the term 'cognitive competencies'.

Based on Livingstone (2004a, 2004b, 2008a), we interpret cognitive competencies as the analysis and evaluation of content on social media. Analyzing is the questioning of, interpreting of, reflecting on, and the understanding of the social, cultural, political, economic, and historical context wherein social media content is created and communicated. Knowledge about this context can thus be used to evaluate or decide whether the content is relevant important, biased, realistic, trustworthy, or true.

To gain deeper insight into the analysis element of cognitive competencies, we elaborate on Buckingham's (1998) framework. He outlines a six-fold scheme of questions that students

must address when analyzing a written text message: media agency, media categories, media technologies, media audiences, and media representations. After answering these questions, students should be able to make an evaluation of a written text in terms of its usability and accuracy. However, when confronted with social media, we must recognize that this framework is too restricted to traditional media, since the analytic repertoire (e.g. genre, narrative, literary merit) is heavily dependent on print media. To deal with this shortcoming, Share, Jolls, and Thoman (2004) developed a framework that is adapted to the critical use of digital media. They introduced the following questions: Who created the message? What creative techniques are used to attract attention? How many different people understand this message differently? What lifestyles, values, and points of view are represented in this message? Why is the message being sent? Asking these questions has numerous values, as they consider the context in which media are operating; they recognize that what the receiver takes from a message is not always what the author intended; they focus on interpretation and context as well as motivation; and the focus is not primarily on the negative consequences of media [content]. However, these questions are not yet adapted to social media in which people can actively select, create, remake, critique, and circulate content. Additionally, users of social media must ask some of these questions to themselves about the content they have put or created on social media to reflect on their behaviour. Examples of these questions are: Who will see my content? What is my purpose? Why is this relevant for others? Is the content understandable? Can the content hurt or offend others? When asking the last questions people do not only take into account the impact of the content on him/herself, but also on others (i.e. netiquette).

The knowledge that people derive from the questions about their own content or others' content on social media must be used to evaluate this content. We rely on the concept of 'trust' for an in-depth understanding of the evaluation element of cognitive competencies. Trust is *'the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party'* (Mayer et al., 1995, p. 712). Because trust is only necessary when obsolete knowledge about the other is missing, trusting someone or something is putting yourself in a vulnerable position (Talboom & Pierson, 2013). Online, especially in social media, it is up to the users to navigate through the landscape of content; they need to make sense of it, interpret it, and decide whether to place trust in it or not. The problem online is that a lot of physical, verbal, and behavioural cues are missing, which makes it extremely difficult to trust other parties online (Talboom & Pierson, 2013). Moreover, online there are more parties involved than in face-to-face interactions. Since social media incorporates numerous elements of the early, small communication structures, by enabling two-way reactive, dynamic communication between two people, supported by architectural features that enable information exchange, people frequently forget the institutions behind social media. This leads to the contradictory situation in which trust is given to mostly unknown anonymous voices on the web (Quandt, 2012). Quandt (2012) argues that it is better to refer to trust on social media as 'networked trust'. This refers to trust in the institutions behind social media; trust in the users of the social media platforms and trust in the network (combination institution and user) are inextricably linked in social media. Moreover, since

network trust is calculated on the summation of voices on social media, mistrust in a single person does not destroy the trust in the network.

Hence, it is important that social media users are aware of the differences between personal, institutionalized, and network trust. If this goal can be reached, at least partially, then informed people might become critical social media users, since they might realize that communication on social media is a 'construction' determined by both the users and the institutions behind social media (Quandt, 2012). In addition, we must realize that trust is inseparably linked with people's emotional competencies; since trust is needed when absolute knowledge is missing, it is largely determined by emotions and feelings. Consequently, trust is extremely individual: not everybody trusts the same things for the same reasons (Pavlickova, 2013). Based on a mix of knowledge derived from the analysis of (their own and others') social media content and emotions, people decide to place trust (or not) in others' content (this is not always content of other users, this can also be content of the social media platform itself and/or advertisements) and thus evaluate it, for example, as trustworthy, up-to-date or relevant. In the case of reflecting on their own behaviour, people must decide (based on knowledge and emotions) if the social platform is and the users on the platform are trustworthy (enough) to put their own content on social media or not. The problem with the latter is that people often forgot that social media are also companies, and thus mostly focus on the other users to evaluate if they would put (or remove) content on social media or not. Since trust is a form of evaluation, in the following, we use the terms 'evaluation' and 'trust' interchangeably.

Cognitive competencies are the users' ability to deal with and make sense of the overwhelming influx of content transmitted and created on social media. Cognitive competencies are a matter of risk management, as they contain people's analysis of (their own and others') content on social media by its intention, information, and representation, and therefore the evaluation of what they will do (or not do) with this content.

Emotional competencies

Most scholars (see the matrix in Table 4) agree that technical and cognitive competencies are an important part of media literacy. However, the knowledge gap hypothesis and media literacy scholars, such as Ala-Mutka (2011) as well as Martin and Grudziecki (2006), also point to the importance of emotional aspects in the ability to use media appropriately.

We will rely on the emotional competencies that are most likely (or have been determined) to influence media use. Based on psychological models such as the social cognitive theory (SCT) (Bandura, 1986; Compeau & Higgins, 1995) and frameworks that focus on the adoption and acceptance of new communication technologies, such as the theory of reasoned action (TRA) and the theory of planned behaviour (TPB) (Ajzen, 1985; Ajzen & Fishbein, 1980; Taylor & Todd, 1995; Thompson, Higgins, & Howell, 1991), we will discuss attitudes as emotional aspects that can determine people's behaviour on social media.

Attitudes towards using a technology are defined as '*an individual's overall affective reaction to using a system*' or as '*the degree to which using a technology is positively or negatively valued by an individual*' (Schierz, Schilke, & Wirtz, 2010; Venkatesh, Morris, Davis, &

Davis, 2003). We distinguish between attitudes towards structure, process, and the users of social media. This distinction is based on the division that McMillan and Downes (2000) use to conceptualize people's perception of interactivity on social media. The attitudes towards the structure of social media are the personal opinion on the typical characteristics of social media, such as creativity, interactivity, and community development. For example, if a person evaluates group communication on a chat page as something good or bad, this can make a big difference in how he/she deals with social media. Secondly, attitudes towards the process of exchanging information can also play an important role in people's social media literacy. If an individual, for example, evaluates exchanging personal information as something potentially risky, then a possible reaction of this person could be to guard him/herself against this risk by, for example, adjusting his/her privacy settings. Drawing on Picone's (2011) findings, we argue that the practices of interactivity, especially in the case of social media, are also interpreted in relation to the potential receiver of a person's content creation online. This leads us to the last attitude, specifically, the attitudes towards the users of social media. While the difficulty of writing a reaction or comment on a blog clearly prevents some users from doing so, it may also be due to the anxiety or fear of the (reaction of) potential users. This distinction between attitudes towards the structure, process, and users of social media can be linked to Quandt's concept of 'networked trust' and thus the evaluation part of cognitive competencies: evaluation of the institution, the network, and the users. Attitudes are an important part of people's cognitive social media competencies. Furthermore, attitudes are also significant for people's technical social media competencies, as they shape which technologies people use and how they operate these technologies: if people are not positive about a certain (feature of a) technology, they will feel more inhibited when using it (Ajzen & Fishbein, 1980; Ala-Mutka, 2011).

We discuss attitudes under emotional competencies, because they are foremost based on emotions and feelings (Eagly & Chaiken, 1993; Perloff, 2003). We recognize, however, that attitudes float somewhere in between (foremost) emotional and cognitive competencies, hence, they are a 'state of readiness' (Eagly & Chaiken, 1998; Perloff, 2003). Someone with positive attitudes towards social media will have a higher state of readiness towards positive messages about social media, while this is the reverse for negative attitudes. People do not do this always conscious; on the contrary, it is foremost an unconscious process. For dealing with social media in an efficient and effective way, we believe people must have a critical attitude. To interpret what 'critical' is, we rely on the critical theory tradition (e.g. Fuchs, 2014; Habermas, 1989; Marx & Engels, 1846). *'Theorists in the critical theory tradition feel a responsibility not to simply represent the social world (though they would see representation as an important first step in the theoretical process) but to work as active agents of reform and radical change'* (Miller, 2005, p. 66). People with a critical attitude must feel the responsibility to work as active agents in how they feel about social media and to try to reach a balance between positive and negative messages and emotions and thus strive towards a normative value judgment. We discuss critical attitudes as a competency, as this is not a given but something that requires effort. This critical attitude (cf. evaluation/trust) is part of larger processes of critical thinking and understanding of the role of social media platforms and the content on them.

As emotional competencies are strongly interrelated with (foremost) cognitive competencies and technical competencies, it is hard to discuss and measure them separately from each other. Technical and cognitive competencies are sometimes even (indirectly) measured on the basis of emotional concepts as 'trust' (cf. Section 4.1.). If we make judgments about a person his/her emotional competencies, we must take into account both cognitive and/or technical competencies. If we only focus on emotional competencies separately, we concentrate on attitudes and, then, we do not make judgments on high or low critical attitude or emotional competencies, but only about positive or negative attitudes. We do make this distinction to make social media literacy measurable. When measured, they must be interpreted together to fully understand social media literacy. All three competencies can mutually influence each other. In the section that follows, we elaborate on these competencies by proposing some examples of technical, cognitive, and emotional competencies in each of the areas of social media literacy.

Dimensions of social media literacy

In this dissertation, we distinguish four dimensions of social media literacy: searching for information, communicating, creation of content, and problem-avoiding or problem-solving behaviour in a social media environment.

Social media literacy is contingent upon the context. One cannot judge whether an individual who put embarrassing photos of someone else on Facebook is or is not social media literate. This person might be technically competent and aware that he/she is breaking social norms. However, perhaps he/she is doing this to make the other person aware of his/her 'embarrassing' behaviour. Social media literacy is an individual process. Therefore, we do not frame the dimensions of social media literacy and underlying activities as desirable or expected behaviour of citizens, but rather as examples. For each dimension, we provide a description of the subdimensions and a list of examples of technical, cognitive, and emotional competencies that can illustrate the activity. If translated to the specific social medium, these examples can then serve as measurement indicators of social media literacy. Hence, the lists below contain example activities and are therefore not exhaustive.

Based on the comprehensive conceptualization of Internet skills of van Deursen (2010) and the digital literacy of Ferrari (2013), we discuss how the above-mentioned competencies are embedded in each dimension (see Table 5, 6, 7, and 8).

Table 5 Dimension 1 dealing with information in a social media environment

	Browsing, searching and locating information	Being confronted with information	Using and storing information
Technical competencies	<p>Conducting searches according to the specific needs</p> <p>Navigating through different hyper-linked and networked resources and information</p> <p>Searching for more detailed information through targeted information searches</p> <p>Modifying information searches according to the in-built algorithms</p> <p>Being aware of the different possibilities to find information on social media</p>	<p>Checking the information found on different sources</p> <p>Checking by whom an original message was sent</p>	<p>Organizing the found information</p> <p>Being able to use different information management software, services, and applications</p> <p>Ability to tag information</p>
Cognitive competencies	<p>Thinking of which way of searching for information would best answer the information need</p> <p>Knowing whom to follow to receive particular kinds of information</p> <p>Thinking and understanding how information is generated on social media</p> <p>Thinking and understanding how information is managed on social media</p> <p>Thinking and understanding how information is made available on social media</p>	<p>Understanding that information must be checked on different sources</p> <p>Being aware that some people, countries or firms are more represented on social media than others</p> <p>Being aware that some search engine mechanisms of social media and algorithms are not neutral for presenting information</p> <p>Evaluating and interpreting information</p> <p>Thinking about the usefulness, timelessness, accuracy, and integrity of the information</p> <p>Judging the validity of the found information</p> <p>Being aware that commercial interests shape the order of listing information on social media</p>	<p>Being aware of the consequences of storing information on social media</p> <p>Thinking about the opportunities and shortfalls of different storage services (both online and offline)</p>
Emotional competencies	<p>Finding social media useful to seek for information, taking into the possible impact that social media companies control the attention and visibility of users' content</p> <p>Believing in the own abilities to find relevant information</p> <p>Believing in the own abilities to determine how the information flow function on social media</p>	<p>Recognizing that most information must be double checked in other more traditional media resources</p>	<p>Recognizing the importance of storing information, with possible drawbacks in mind</p>

Table 6 Dimension 2 communicating in a social media environment

	Interacting through social media	Sharing content on social media	Managing a digital identity
Technical competencies	<p>Being able to find relevant social media platforms or services that correspond to his/her communicational interests and needs</p> <p>Knowing and being able to use the different functionalities of social media platforms and services</p> <p>Being able to use different social media platforms and communication services (e.g. mail, chat, status update, group discussions)</p> <p>Being able to select the most appropriate way to communicate according to the purpose (e.g. mail, chat, status update, group discussions)</p>	<p>Being able to type a message</p> <p>Being able to upload a photo or movie</p>	<p>Being able to construct a profile on social media</p> <p>Being able to track his/her own digital footprint</p>
Cognitive competencies	<p>Thinking and understanding how communication through social media is distributed, displayed, and managed</p> <p>Understanding the behavioural norms and 'rules' that prevail on different social media platforms and services (e.g. netiquette)</p> <p>Evaluating who the public of the content is</p> <p>Adapting the content to the receiver (e.g. not writing irrelevant messages)</p> <p>Realizing that not everyone has an equal voice nor do they get the same visibility in social media (cf. commercial interests)</p>	<p>Understanding the benefits and risks (for him/herself but also for others) of sharing content and information with others</p> <p>Thinking about which content or information may be publicly shared and which not</p> <p>Knowing that the structure or the characteristics of a social media platform influence your behaviour</p> <p>Wondering whether the shared content and information is relevant for others</p>	<p>Understanding the link between the offline and online world</p> <p>Being aware of the positive and negative consequences of having a truthful online identity</p> <p>Understanding how your online identity is seen by others</p>
Emotional competencies	<p>Recognizing the functionality of communication through social media, taking into account possible negative impacts concerning communicating through social media</p> <p>Willing to select the most appropriate way to communicate according to the purpose</p>	<p>Feeling comfortable in communication through social media, taking into account the possible drawbacks of communicating through social media</p>	<p>Finding it important to be yourself, both online and offline, taking into account possible drawbacks of a true online identity.</p>

Table 7 Dimension 3 creation of content in a social media environment

	Developing content	Re-using ... Re-mixing content
Technical competencies	<p>Being able to use the basic package of social media platforms to create content in different formats (e.g. text, images)</p> <p>Being able to use other devices or software to create content to upload on social media (e.g. photo camera, a drawing program)</p> <p>Being able to edit content</p>	<p>Being able to re-mix and re-use different kinds of existing content</p>
Cognitive competencies	<p>Understanding how copyright applies to information or content on social media</p> <p>Being aware that the architectural features of social media platforms stimulates you to create content</p>	<p>Realizing that existing content can be re-mixed and re-used</p> <p>Taking into account that it is more appropriate to refer to the original author/maker of content</p> <p>Being critical about the selection of content that will be re-elaborated</p>
Emotional competencies	<p>Not being afraid to create content on social media or to upload on social media, taking into account possible drawback of creating and sharing content on social media</p>	<p>Finding it inappropriate to re-use content from others and behave like you made the content yourself</p>

Table 8 Dimension 4: Problem-avoiding and problem-solving in a social media environment

Problem-avoiding and problem-solving in a social media environment	
Technical competencies	Being able to take steps to protect your profile from hacking Knowing how and having the ability to protect your personal information through privacy settings Knowing where and being able to ban/report abuse and threats Knowing where to look for information about solving a technical problem
Cognitive competencies	Reflecting on the consequences of your own behaviour on social media Being aware that social media platforms use the personal information of its users in commercial messages Understanding how data about his/her online identity can or cannot be used by third parties Critically reading the terms of service of social media platforms Understanding the risks when you sign up for a new service, download, or app
Emotional competencies	Having a realistic attitude towards the benefits and risks associated with social media Be willing to seek help when a problem on social media arises Holding a positive attitude towards learning about social media Be willing to experiment with new platforms and services, but at the same time be ready to reject inappropriate platforms and services

Dimensions 1, 2, and 3 are more linear, while 4 is more transversal. Dimensions 1, 2, and 3 can be translated into specific activities and uses, while 4 applies to any type of activity that can be done in social media. This, however, does not mean that there is no connection between dimensions 1, 2, and 3; indeed, there are several overlapping points to other dimensions. A large overlap, for example, exists between the creation of content and communication. Gauntlett (2011) indicates that the boundary between creating and communication is extremely small, as it involves engagement and association with the social context. People use their creations primarily to connect socially, not only to aspire large viewership (Courtois, Mechant, & De Marez, 2012). A large overlap also exists between dealing with information and communication, as other people spread information while they are communicating with you. Dimension 4, on the other hand, can be found in all of the other dimensions. The communication dimension, for example, contains 'understanding the benefits and risks of sharing content and information with others', which can be seen as a problem-solving act. Nonetheless, we choose to see problem-avoiding and -solving as a stand-alone dimension, since most of these activities belong to all three dimensions.

To complete the conceptual framework of social media literacy, we also have to know why it is important that people have a certain degree of social media literacy. The following section will address the latter question.

Outcome: Why do citizens need social media literacy?

In contrast to the idea from the late 1990s of media literacy being only a protection or defence against the harms of the media, social media literacy must now be seen as a means for empowerment (Lunt & Livingstone 2012). Social media literacy is thus a way to enable '*people to control their own lives and to take advantage of opportunities*' (van der Maesen & Walker, 2002, p. 6). This empowerment potential of the Internet was previously mentioned by van Deursen (2010) in the use of the term 'strategic Internet skills'. Van Deursen thus sees the strategic use of the Internet as a skill *an sich*. However, numerous Internet activities are based on habit, and not on achieving a goal (LaRose, Lin, & Eastin, 2003; Wood, Quinn, & Kashy, 2002). Since Internet activities are not a strategic goal as such, but may have a strategic outcome, we follow Martin and Grudziecki (2006) by considering user empowerment as an outcome of literacy practices.

Social media literacy can lead to user empowerment in many aspects of life. Based on Livingstone et al. (2005), we distinguish three specific ways how social media literacy can lead to empowerment. Social media literacy can contribute to:

1. *Democracy, participation, and active citizenship*: social media make it possible for people to search for and gain (informed) opinions on matters of the day and to freely and openly express their own opinions individually and collectively. However, social media differ in accuracy and selectivity compared to more traditional media for information retrieval (e.g. television, newspaper, and radio). Since anyone can publish content on social media platforms, there is an increasing pressure on people's cognitive competencies to analyze and evaluate this information. However, before one is able to analyze and evaluate information, he/she must be technically competent to

find this information. Additionally, social media companies select which content easily gets the attention of the users. When searching for information on social media platforms, people must take the latter into consideration. Furthermore, publishing content on social media also requires particular cognitive competencies. To generate content on social media, users must be technically competent, as well as have the ability to critically analyze and evaluate the best way and place to generate this content on social media. The latter refers to the consideration that social media companies control the attention and visibility of the users' content. On social media, social media literate people are thus able to find relevant information to express their ideas and concerns about particular policy issues, and report on these issues more visibly;

2. *Knowledge economy, competitiveness, and choice:* If employees with no or a very few social media competencies fail, for example, to find particular information on social media, while an increasing number of information and services relevant to particular professional activities become easiest to access on social media, these employees become increasingly disadvantaged. Thus, on a professional level, it is clear that there are many advantages when employees are technically able to handle social media in a networked society. When skilled people are sufficiently cognitively able to use these media in a rational and critical manner, and thus think and consult others before carrying out a professional activity on social media, this leads to fewer mistakes, which one cannot afford in a professional context. In addition, there are also other economic opportunities, such as when buying products, to gather opinions about certain products or services, when selling products, etc., obtained if people are technically, cognitively, and emotionally competent to deal with social media. Social media literacy will thus determine people's position in the labour market and the entire economic world;
3. *Lifelong learning, cultural expression, and personal fulfilment:* Previous research also stressed the importance of social media as ideal informal learning environments or, in the words of Gee (2004), 'affinity spaces'. Social media can serve as affinity spaces where participants receive support from other participants in acquiring new knowledge and skills. Social media literates are able and sufficiently motivated to acquire this knowledge and associated skills in a technically competent and critical manner. Social media also serve as a new stage for people to share their creations with others. Social media literate people are thus able to share their professional and/or artistic competencies effectively and efficiently through online portfolios and showcases, thereby creating a certain identity and credibility. The social benefits connected to the use of social media allow individuals to attain personal fulfilment.

Although social media use is increasingly widespread among all groups of people, this does not imply that everyone has to develop or enhance their social media literacy to benefit from it in all of the above-mentioned aspects of life. Social media literacy leads to empowerment if people can use it to achieve their goals or as Sen (2003, p. 5) says: if it leads to a '*person's freedom to choose between different ways of living.*'

Factors of social media literacy

The core of social media literacy is about empowering social media users through meaningful and critical participation in contemporary society. However, social media use *an sich* does not guarantee such participation.

The development of social media literacy thus depends on various factors: personal, context related, and technological. Personal factors are, for example, age, socio-economic status, gender, disability, and proficiency in English. Contextual factors pertain to the nurturing of social media literacy; this is where education, peers, and parents play a profound role (Hoechsmann & Poyntz, 2012). Since people have different learning styles and capabilities, some need more support or guidance than others. The latter is also a critique on the work of scholars who argue the existence of naturally technologically competent young people, frequently portrayed as 'digital natives' (Prensky, 2001) or the 'net generation' (Oblinger & Oblinger, 2005). Young people do not learn to be social media literate on their own; they do this by interacting with others in different contexts (Jenkins, Purushotma, et al., 2009). Or as highlighted by Gee (2007, p. 138): *'just giving access to technologies for young people is not enough, they need adult mentoring and rich learning systems, otherwise the full potential of these technologies is not realized for these children.'* This is also the case for adults: formally or informally organized educational approaches or the support of colleagues or friends is needed to increase technical, cognitive, and emotional competencies. Technological factors include how the design of technologies could help people to become more social media literate.

Although these factors can be an enabler of social media literacy, they simultaneously function as a key barrier of social media literacy; consequently, we will discuss them either as an enabler or as a barrier. In addition, we admit that this list is not exhaustive, as we only focus on factors that have been frequently discussed in the literature as factors of other literacy concepts and that can have a potential direct influence on people's development of social media literacy.

Personal factors

Although age stratifies the population in the way they use social media, it often works in distinct and frequently contrary ways. Numerous studies have hitherto indicated that older people have lower levels of access and use of social media (e.g. Katz & Aspden, 1997; Wagner, Hassanein, & Head, 2010). Nonetheless, their cognitive and emotional competencies to deal with social media can be significantly greater in comparison to those of young people (van Deursen, 2010).

The combination of income, education, and social class, socio-economic status (SES) is a clear barrier to access to social media, as well as the cognitive and emotional competencies to deal with it. Income matters most for basic access to devices and the Internet, while education matters more for the development of cognitive and emotional competencies (Livingstone et al., 2005; van Deursen, 2010).

The conclusions are inconsistent regarding gender. Goulding and Spacey (2002), Schumacher and Morahan-Martin (2001), and Wasserman and Richmond-Abbott (2005), for example, maintain that men have greater knowledge and more skills to use the Internet than

women. However, Hargittai and Shafer (2006) and van Deursen (2010) found no differences in their actual online skills; they only found a difference in the self-assessment of skills where women self-assess their skills lower than men. Livingstone et al. (2005) found that gender still plays a role in the more advanced technical competencies (e.g. navigating) and content creation on digital media where men outnumber women.

Disability is also a clear factor that can influence people's development of social media literacy. Other factors, such as SES, frequently accompany this factor. For example, overcoming the negative effects of a disability on the access and use of social media requires significant financial and social resources. However, disability *an sich* can be a barrier to the use of social media, for instance, in being blind or physically unable to write.

Proficiency in English is also an important factor, especially in non-English speaking regions. A significant amount of content on the Internet, as well as help sites, consumer guides, and manuals are in English. This is also the case with social media. Therefore, proficiency in English can certainly be an influential factor in the development of social media literacy. Unfortunately, research regarding proficiency in English as a barrier for the development of social media literacy is rare.

Contextual factors

Social media literacy does not develop in isolation to its context. According to Gee, Hull, and Lankshear (1996), the acquisition of social media literacy can only happen in a social practice where people can talk about the technology or content on the technology, or about the beliefs, experience, and values that others have about them. This can occur in different contexts, such as schools, work, and other social networks. Policy can also serve as a contextual factor, as it provides many of the contexts where formal and informal learning is possible (e.g. education) as well as the norms and values against the development of a certain form of literacy (cf. the attitudes of authorities).

Education is recognized by many scholars as an influential factor in people's development of digital literacy (e.g. Hobbs & Jensen, 2009; Jenkins, Purushotma, et al., 2009; Martens, 2010); therefore, we believe that education can additionally serve as a relevant factor in the development of people's social media literacy. There has always been clear generic knowledge and skills that all scholars, and by extension all educated persons, must acquire. Some of these are simply to specify — reading, writing, and arithmetic — whilst others are more abstract — analytical and critical thinking (Martin, 2005). A trend towards student-centred educational models that focus on the everyday life of their students, is stimulating schools to recognize social media literacy as an essential skill that the curriculum must address. We note, however, that a significant amount of media education mainly focuses on learning software and mastering social media services and applications (e.g. privacy settings), while ignoring a critical analysis and evaluation of the content (Apestaartjaren, 2014). We argue that social media literacy training must always involve an analysis and evaluation of the content as well as the dominant and powerful institutions behind both the social media platforms and the content. However, this is not evident for teachers, as they sometimes (believe) they have less social media knowledge and skills in comparison to their students and consequently are insecure

when teaching about how to deal with [social] media. In addition, many young people claim that they already know how to use social media. Hoechsmann and Poyntz (2012, p. 138) describe media education with the following metaphor:

'Teaching media literacy 2.0 in school is like teaching agriculture in a farming community; in other words, many of the students in the classroom are learning about the subject in their everyday lives and need new perspectives, not new basics.'

Clearly, media literacy is not learned exclusively at school. Hoechsmann and Poyntz (2012) compare the learning processes of media literacy with that of learning a language. It is learned in different contexts: in school, as well as by interacting at home, with friends, and even later in the work place.

The household is the primary social context of digital media use, and thus also for the use of social media (Rainie & Wellman, 2012; Wellman & Haythornthwaite, 2002). Who in the household gains access to particular media and how they are used, discussed, and managed in the home is determined by the domestic spaces and routines, norms and values of the family (Livingstone, 2002, 2007). The latter determines people's experiences with social media, their development of autonomy of use, and thus also their development of social media literacy. The home context is also an environment where many negotiations take place about social media between the child and the parents. The latter can be linked to parental mediation or the active role that parents play in managing and regulating their children's media use (Clark, 2011). Previous parental mediation research on adolescents' use of the Internet in general indicated an association between those who experience a high(er) level of restrictions on the one hand and use the Internet in a less risky way on the other (Heim et al., 2007; Valcke et al., 2007). However, Youn (2008) and Lee and Chae (2007) found that parental rules, such as time restrictions, do not have significant effects on the Internet behaviour of adolescents. Active mediation appears to have more promising results in shaping children's Internet behaviour (Fleming et al., 2006; Moscardelli and Divine, 2007). Talking to adolescents about their Internet behaviour seems effective in enhancing their level of Internet literacy (Mendoza, 2009). For social media, in particular, scholars have reported that adolescents whose parents restrict their online activities are less likely to disclose personal information, seek inappropriate sites, or engage in online conversations with strangers (Rosen, Cheever, & Carrier 2008). Little research focuses on the active mediation or the discussion between the parent and the child concerning their social media use. Moreover, social media are not a frequently discussed topic in person-to-person dialogues at home. Instead, adolescents increasingly use social media in the privacy of their bedrooms and tend to hide their social media profile and the information on it from their parents (Barnes, 2006; Livingstone, 2008). Further research is needed to clarify parents as a factor in adolescents' social media literacy. In addition, adults' social media literacy is also stimulated in the household at the hand of their children. Having children in the household stimulates the parents' social media literacy, especially in terms of technical competencies, by the children informally teaching or guiding their parents (Clark, 2011).

Numerous theoretical models and empirical studies alike posit that people's social network is also of tremendous importance in the development of social media literacy. Bourdieu (1986) refers to this social network with his term 'social capital'. Tichenor et al.

(1970) use the term 'relevant social contacts'. People's individual social network has already been recognized as an important factor in the acceptance and use of information and communication technologies (ICT) (Korupp & Szydlak, 2005; van Dijk, 2005). On an individual level, this social capital can be thought of as 'local experts' or '*individuals who play a key role in the support of ICT adoption and use within a heterogeneous social network*' (Stewart, 2007, p. 551). Alternatively, Bakardjieva (2005, p. 99) refers to them as 'warm experts' or '*Internet/computer technology experts in the professional sense or simply in a relative sense compared with the less knowledgeable other.*' Previous empirical research further indicated that the competencies supported by the social network depend on the quality of the ties within the social network (Putnam, 1993). The quality of the ties can be compared with Haythornthwaite's (1996) concept of 'tie strength', which is regarded as closeness between ties. The closer the actors are and the more reciprocal the relations are, the stronger the ties between the actors will be. Strong social ties have long been considered the most beneficial for information exchange (Festinger et al., 1950). More closely connected individuals have a more intimate relationship, which makes it easier to exchange information. However, Granovetter (1973) and Hansen (1999) challenged this notion that only strong ties are valuable for information exchange by indicating that strong social ties provide the transfer of tacit or complex knowledge (e.g. cognitive competencies), while weak social ties are better suited to transport simple or routine information (e.g. technical competencies). Hence, we can expect that having access to different kinds of social networks, for example colleagues, friends at school, and/or friends from leisure activities, all have a major positive influence on people's development of social media literacy. The latter is certainly the case when people move in social networks where many people have many social media competencies. Moreover, social networks also serve the community effect online, the more people one knows who use social media platforms, the more incentive one has to use it and the greater the benefits of participating online. People can find these social networks at school, in their leisure time, and/or at work.

Sen (2003) indicates that policy also has the responsibility to provide contexts or ways to obtain capabilities so that citizens can reach their goals. Concerning social media literacy, state intervention may not limit itself to the provision of infrastructure to make the Internet widely available, but also to promoting courses and adjusting the curriculum so these capabilities can be acquired. Policy initiatives in relation to social media literacy already occur on two levels. At the first level, a significant amount of attention goes to the field of education. Some of this is in the form of learning packages or training for professionals, other as guides for parents, and still other in the form of initiatives for the young people themselves. Examples of these initiatives can be found in the box below.

Examples of policy initiatives on the level of social media education for young people

Examples of learning or training packages for professionals are MediaCoach and *De Juiste Click*. *De Juiste Click* is an education game on Internet safety that teachers can play with their students. Click Safe (Child Focus), Sensoa, developed *De Juiste Click* in conjunction with Centrum Informatieve Spelen (C.I.S), the National Bank of Belgium and the European Commission. MediaCoach is a training programme, initiated by Linc vzw, Mediaraven, Bibnet, and KHLeuven, funded by the Flemish government (Evens Foundation), for professionals working with young people and for those who want to integrate media literacy into their own work. There are also attempts to enhance social media literacy of both young people and their parents in the form of guides for parents. An example of such a guide is the *Eerste Hulp Bij Internet (First Aid at Using the Internet)*, which originated with the help of Click Safe (Child Focus), Sensoa, the Flemish government, and the European Commission (through the Safer Internet Plus Programme⁹). Policy initiatives, such as the learning game *Master Find*, developed by Click Safe (Child Focus) and the European Commission, also exist specifically for young people.

The second level of policy initiatives concerns the conceptualization and measurement of (digital) media literacy, of which social media literacy is increasingly a part. This mapping and measurement of (social/digital) media literacy is necessary for being able to develop focused and appropriate policies. Some of these policy initiatives can be found in the box below.

Examples of policy initiatives on the level of conceptualization and operationalization of social media literacy

There are different policy initiatives or projects to conceptualize and measure (social/digital) media literacy, at the regional, national, and international levels. At the European level, the focus is on digital literacy or competence. This literacy or competence is seen by the European Commission (EC) as life skills, with a purpose to stimulate social equality and economic competitiveness. Examples of such European projects are DigEuLit, DIGCOMP, and EU Kids Online. The DigEuLit project (2005–2006) is as a response to a call for actions on ‘digital literacy’ in the context of the eLearning Programme of the European Commission (Martin, 2005; Martin & Grudziecki, 2006). The purpose of this project is thus to develop a European Framework for digital literacy, especially focused on European educational practices.

⁹ <http://ec.europa.eu/saferinternet>

The DIGCOMP project (2011–2012), or a project on Digital Competence, launched by the Information Society Unit at Joint Research Centre (JRC) Institute for Prospective Technological Studies (IPTS) of the European Commission (EC), has a goal of contributing to a better understanding and development of digital competence in Europe (Ferrari, 2013). EU Kids Online focuses particularly on the measurement of (social/digital) media literacy. EU Kids Online is a multinational research network, funded by the European Commission's Better Internet for Kids programme, which regularly maps European children and parent's experiences with the Internet. Belgium is one of the participating countries. However, only few policy initiatives on (social/digital) media literacy exist at the national level. The POD Maatschappelijke Integratie, Armoedebestrijding, Social Economie en Grootstedenbeleid [Social Inclusion, Poverty Reduction, Social Economics, and Urban Policy] is working on a national action plan for e-inclusion. However, the focus here is on the more vulnerable groups in society, not on all citizens. More initiatives exist on the level of the Flemish government, including the EMSOC project (see research context, Chapter 1). In addition, the intent of the launch of 'Mediawijs.be', the Flemish Centre for Media Literacy, an initiative of the Flemish government, is to gather all knowledge (initiatives, projects, measurements, etc.) about media literacy and make it available for everyone who is interested in it. Apestaartjaren is a biennial research collaboration investigating young people's new media use in Flanders. The Research Department of the Flemish government (Studiedienst van de Vlaamse Regering, SVR), which aims to support the Flemish government and its services in the conduct of 'informed' policies, also directs attention to the measurement of (social/digital) media literacy in Flanders, as part of more general monitoring of ICT use in society.

The purpose of the information in the boxes about policy initiatives was not to make a complete review of all the existing policy initiatives, as this is not the core focus of this dissertation. The aim was rather to show that many good initiatives¹⁰, which should be further elaborated, already exist. However, the latter is only possible when we know whether these initiatives achieve their goals, which is, in turn, only possible if there is a clear conceptualization and there are consequently and additionally good and regular measurements of social media literacy.

Technological factors

Many theoretical models and empirical research have indicated that the technological characteristics of a technology stimulate some actions and not others. For example, the structuration theory (Giddens, 1984) indicates that people's behaviour is partially fixed or determined by structures, which, in turn, are dependent on the actions of people. Concerning

¹⁰ It is no coincidence that we mentioned these projects, as we were involved in some of these projects or platforms, including the MediaCoach project, the EMSOC project, Mediawijs.be and Apestaartjaren. This is further proof that the doctoral research is and will be further validated in practice.

social media, Papacharissi and Easton (2013) use the concept of habitus to explain how the structures of social media are simultaneously reproduced by human agency and the reproductive of these structures. Much like the culture and architecture of offline spaces, the architecture of online spaces stimulates or forms a barrier to particular modes of behaviour (Papacharissi, 2009). Stutzman (2006), for example, empirically indicated that architectural differences between social media platforms contributes to variations in the disclosure of personal information. If social media platforms make users believe that their privacy is/or can be protected, through for example privacy settings, this frequently results in a higher disclosure of personal information by the users (Dwyer et al., 2007). Thus, the technological characteristics or the design of social media could help people to behave in a more (or less) social media literate way. Hence, social media literacy is not reducible to a feature or skill of the user; instead, it is the co-production between the technology and the user.

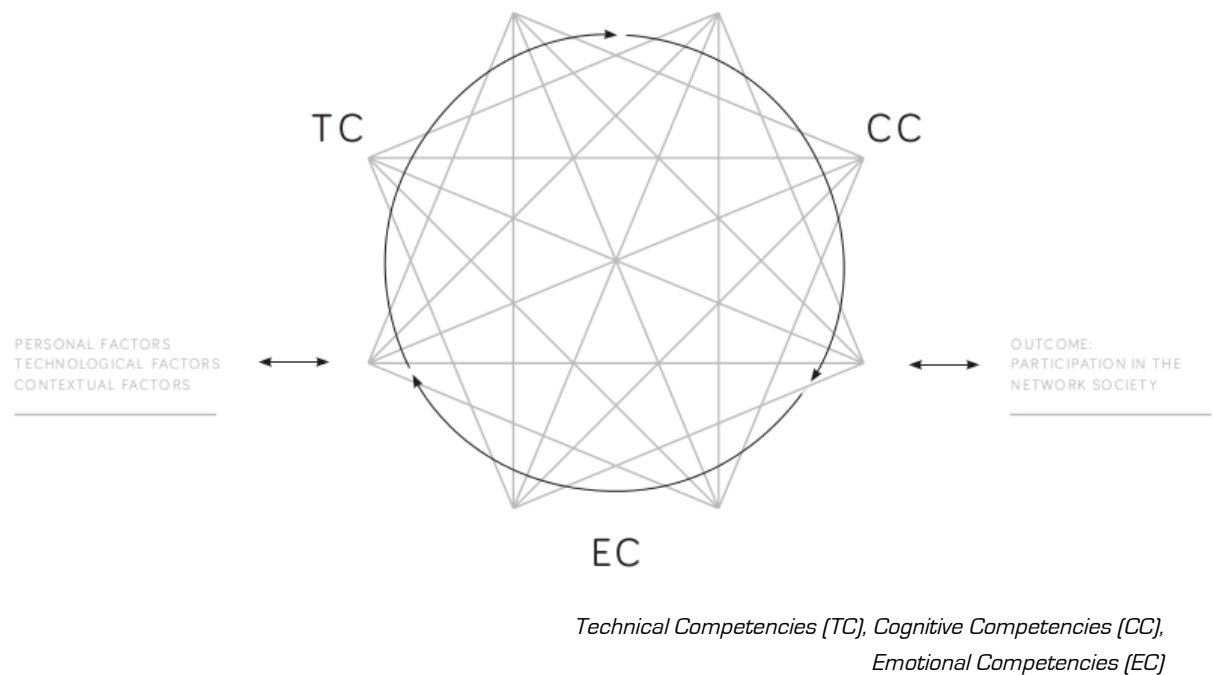
Above, we provided existing insights and literature on the determinants of social media literacy, whereas Chapter 5 covers our empirical work on the subject.

3.5. Concluding remarks: The development of a conceptual framework

We propose a conceptual framework of social media literacy that is built on and can be linked to the concepts and discussions of media literacy and related concepts in literature (see Figure 6). This framework places social media literacy in a central position, which is defined here as: *'the set of technical, cognitive, and emotional competencies required when using social media to search for information, for communication, content creation, and problem-avoiding and problem-solving, both in a professional and a social context.'* All three competencies are needed to explore and face the architectural features of social media, to analyze, critically evaluate and select and/or create content on social media, to avoid and solve problems on social media, to exploit the technical potentials in order to represent and build your own and shared knowledge and creative content while being aware of your own personal responsibilities and the respect for reciprocal rights.

Social media literacy is in our work framed as a circular reasoning, or a circuit, with three competencies, of which the three points of the circuit are each interconnected. Each competence in the circuit represents a moment, and each moment depends on the others but is also distinct, as it is impossible to measure all of the competencies as a whole. Social media literacy demands a holistic mode of conceptualization that considers all three competencies of social media literacy. Specifically, we cannot simply interpret people's social media literacy practices on social media platforms without considering the interplay between technical, cognitive, and emotional competencies.

Within this framework, we also direct attention towards the factors and outcome of this social media literacy. The factors include the aspects that can influence people's development of social media literacy. The outcome of social media literacy is the different opportunities to participate fully in the current networked society (cf. empowerment).

Figure 6 Conceptual framework of social media literacy

Social media literacy depends on how the different competencies are combined. An individual, who has a significant amount of technical competencies to use social media but is deliberately not very active on social media, because he/she is afraid that the information about him/her on a site will be used against him/her, can hardly be called less social media literate. It is thus important to take into account all three social media competencies. A person can be empowered through social media literacy if he/she is able to fulfil his/her needs in society successfully by using social media (i.e. outcome of social media literacy).

In the subsequent parts of this dissertation, we discuss how we can measure and acquire this social media literacy. Methodologically, we look for ways to measure social media literacy. Empirically, we provide an in-depth examination of different social media literacy profiles of individuals and the various factors that may have an impact on individual social media literacy.



THE CHALLENGE
OF MEASURING
SOCIAL MEDIA
LITERACY

4

THE CHALLENGE OF MEASURING SOCIAL MEDIA LITERACY

In order to fully understand how people deal with social media, we must be able to measure social media literacy and to grasp the context wherein people develop this social media literacy. After introducing the different possible methods for measuring social media literacy, we explain our plea for a multi-method study. Although, multi-method studies are most appropriate for measuring social media literacy, they are often very expensive and time-consuming for large-scale data collection. Therefore, in this Chapter, we also seek for a valid method of measuring social media literacy in surveys.

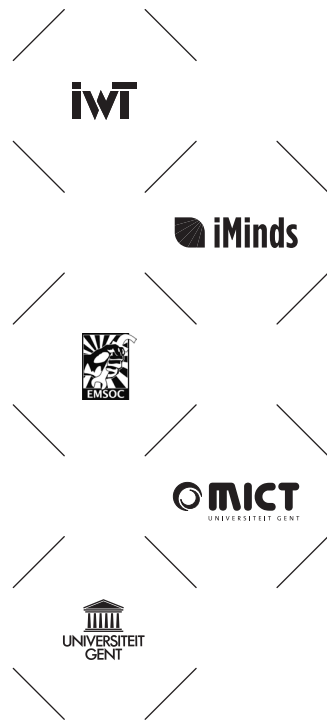
Social media literacy is extremely difficult to measure, as it is concerned with complex, implicit, and subtle understandings of social media by individuals (Livingstone et al., 2005). Many social media literacy practices have become a habit, and are thus no longer performed consciously. Consequently, social media literacy is about things people cannot remember doing, whereby they are often unaware of and/or things people do not see the importance of, which makes it difficult to ask directly about their social media literacy practices. Specifically, without introducing how it happens, how do you ask people if they are aware that Facebook employs the users' personal data for its own profits? In addition, when asking people about their knowledge and skills to deal with social media in surveys, social desirability is inevitable and people often claim greater knowledge and skills than they in fact possess (Hargittai & Shafer, 2006; Merrit, Smith, & Renzo, 2005).

Because of the complexity of social media literacy and the lack of clear measurement instruments and indicators for it, we elaborate on previous measurements of media, digital, and information literacy. Since social media literacy can be seen as a convergence between media and information literacy, measuring it can only be done by mixing the methodological approaches of both literacy traditions (Livingstone et al., 2008). The information literacy research tradition, which focuses on access and technical use, employs surveys to measure people's levels of competence and/or experiments to discern levels of competence underlying observable performance. The media literacy research tradition relies more on qualitative approaches, which are more suitable for measuring critical understanding.

The goal of this chapter is to gain insight into the possible methods, both quantitative and qualitative, for measuring people's social media literacy. We will start by reviewing current methods used in media and information literacy research and their methodological promises and challenges for the study of social media literacy; this is done using the format of a (methodological) toolkit. In this toolkit, we will also provide examples of questions and indicators for measuring social media literacy, both for Facebook and Twitter. After introducing the possible methods and indicators for measuring social media literacy, we suggest a multi-method approach to compensate for the disadvantages of certain methods. However, using multiple methods for measuring social media literacy is often very expensive and time-consuming for very large-scale data collection. Therefore, we elaborate in this chapter especially on the development of survey questions for measuring social media literacy whereby we do not ignore the fact that this kind of quantitative research ideally gets accompanied with other methods.

4.1. Getting started: Measuring social media literacy

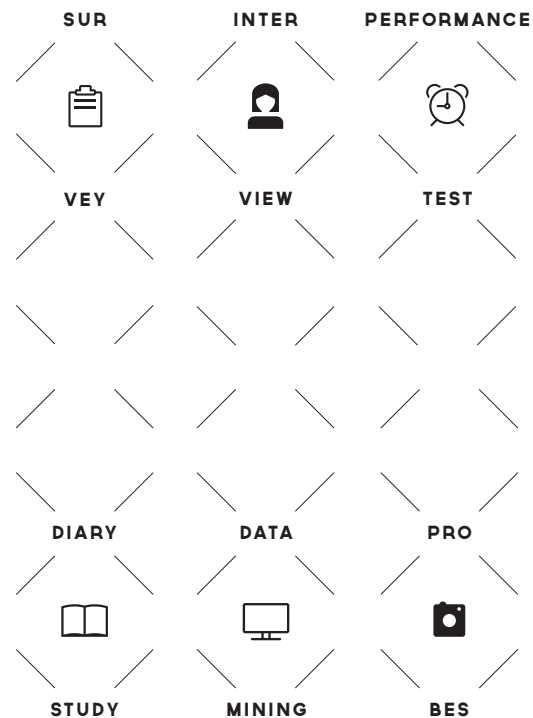
Below, in the form of a so-called toolkit, we discuss the different methods that can be found in the literature to measure people's social media literacy. This methodological toolkit is conceptualized in the form of a card set that can be consulted when looking for an appropriate method for measuring social media literacy. Every card contains a description of the method, the advantages and disadvantages of it, the use of this method in previous media literacy research, and possible questions and indicators for measuring social media literacy. Different studies, presented in this dissertation, bring these questions and indicators into practice.



Hi there!

Welcome to this starter toolkit for measuring social media literacy. The impact of social media on people's everyday life is only going to get bigger. This makes measuring how people deal with and use these media increasingly important. With this toolkit, we have created an overview of possible ways for measuring social media literacy. You can find more information about how the toolkit works on the flip side of this card. We hope this toolkit will be helpful as well as inspirational for you, your colleagues and your friends.

**Hadewijch Vanwynsberghe
& Louise Haspeslagh**

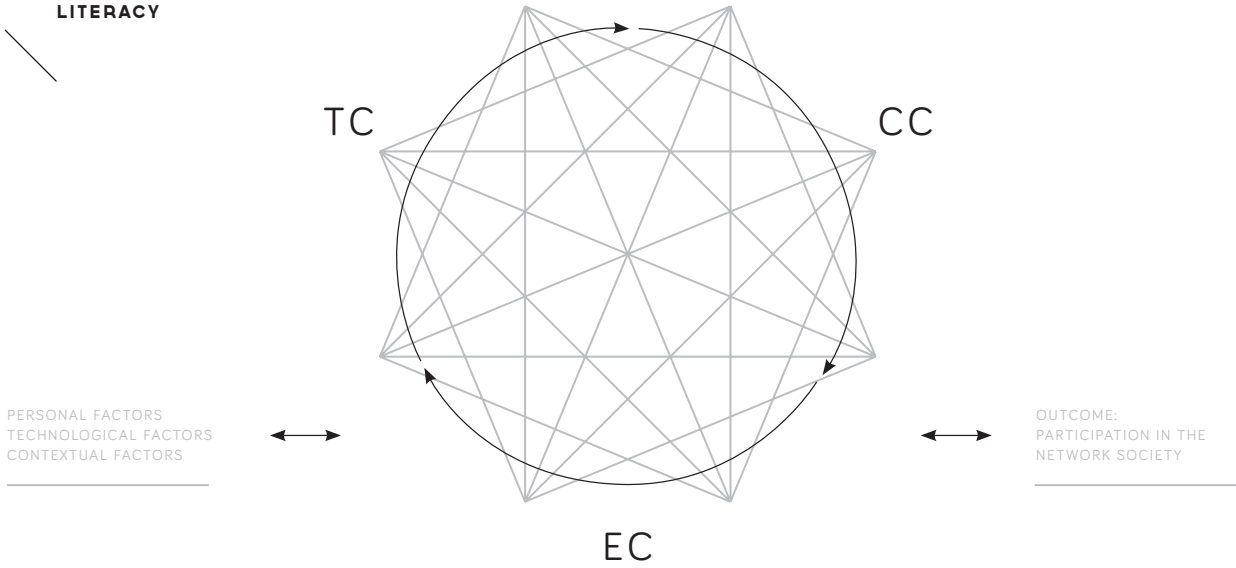


The cards in this toolkit provide information on different methods for measuring social media literacy. As an introduction to the concept, a model of social media literacy and its different underlying emotional, cognitive and technical competencies, is drawn out on the next card. Thereafter you can find an overview of the methods, which should make it easier for you to make a first selection based on the size of your sample and the competencies you are interested in. The following cards then provide more information on the methods.

Each of these method cards contains general information on the front side about the method in question and some advantages and disadvantages. On the reverse is an example of how to apply that method to studying social media literacy. A literature overview is provided, followed by a list of (non-exhaustive) questions and indicators for Facebook and Twitter, two of the most popular social media sites. These questions are mainly intended to serve as examples and should be adapted to the specific platform, research question and sample of respondents. Some of the methods were tested within EMSOC: survey, interview, performance test and the diary method. Others (probing and data mining) were not. For these last methods, the indicators provided on the cards are purely illustrative.

The toolkit contains information on six methods, but it is not necessarily exhaustive. It is not a static set of cards but a living tool, open to changes, suggestions and additions. An empty card is added at the end to encourage the addition of methods to the toolkit. Any feedback on the cards, shortcomings or suggestions for extra methods are very welcome on the EMSOC website (www.emsoc.be/toolkit).

**BUILDING BLOCKS
OF SOCIAL MEDIA
LITERACY**



TECHNICAL COMPETENCIES (TC)

The theoretical and practical knowledge and the conversion of this knowledge into skills needed to handle social media tools and applications.

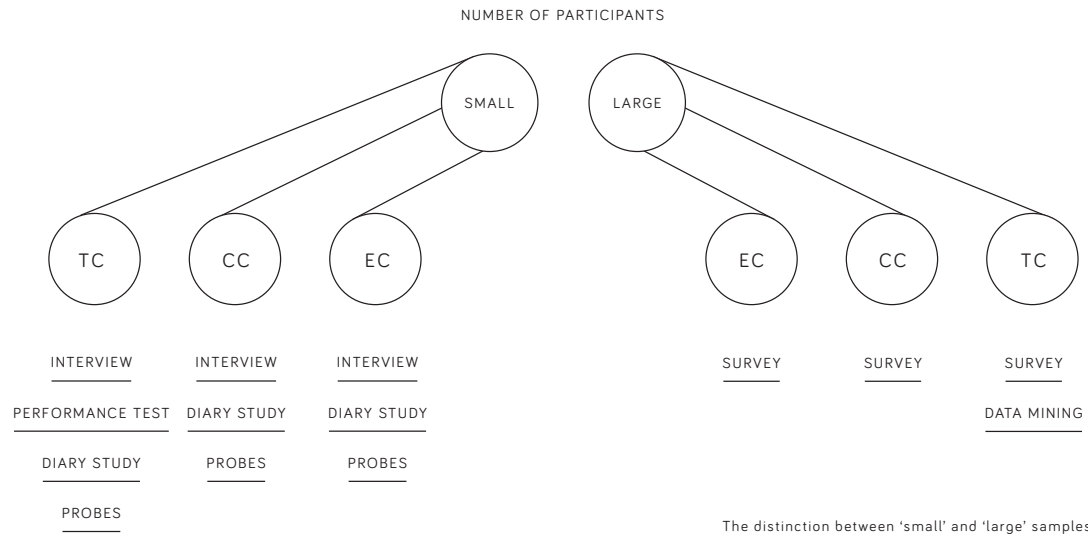
COGNITIVE COMPETENCIES (CC)

The competencies to analyze and evaluate the content on social media. Analyzing is questioning of, interpreting of, reflecting on and understanding of the social, cultural, political, economic and historical context wherein social media content is created and communicated. Knowledge about this context can then be used to evaluate or decide if the content is relevant important, biased, realistic, trustworthy or true.

EMOTIONAL COMPETENCIES (EC)

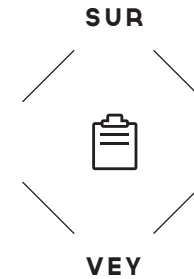
The thoughts, attitudes, and affective states toward social media and their or other's actions on social media sites, which may determine actual online behavior.

**METHODS FOR
SOCIAL MEDIA
LITERACY
RESEARCH**



The distinction between 'small' and 'large' samples in this scheme is rather arbitrary and indicative in nature. On the different method cards, the ideal sample size is also indicated by S (5-20), M (21-50), L (51-100) and XL (>100). Keep in mind that this number is intended only as an indication and should not be seen as an absolute number of respondents.

DESCRIPTION A survey is a method for collecting numerical data about a certain topic in the population. A survey exists as a predefined set of questions that is given to a sample of people. By means of a survey, researchers can ask factual questions (e.g. age, gender, education level), but it can also be used to collect information about people's opinions, feelings, attitudes, past behaviours and competencies. However, most of the survey questions are self-reported, which means people can claim greater competencies than they actually have. There are three main ways to conduct survey research: using an offline questionnaire with pencil and paper, an online questionnaire (through mail or other online communication channels) or a structured survey interview. The survey method does not require a high level of engagement by participants, making it possible to ask a large sample of people a lot of questions in a short time.



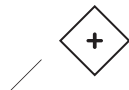
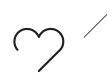
NUMBER OF PARTICIPANTS

L (51-100)
XL (>100)



PARTICIPANTS ENGAGEMENT

low engagement



POSITIVE

- It is possible to ask a lot of questions in a short time.
- The survey method make it possible to collect large samples of data.
- If the sample is representative, it is possible to generalize the findings for a population group.



NEGATIVE

- Self-report questionnaires have problems of validity.
- The retrospective nature of surveys may cause events or experiences to be minimized, forgotten or distorted.

IN WHAT FOLLOWS ... Surveys can touch upon all competencies—technical, cognitive and emotional. On the following cards, we will discuss these different competencies, starting with three questions for measuring technical competencies: familiarity, frequency and self-efficacy questions. The next card provides information on cognitive competencies by elaborating on critical thinking and trust questions. Finally, we discuss emotional competencies as measured by attitude questions.



TIPS AND TRICKS FOR YOUR OWN SURVEY

Through evaluating different methods within EMSOC, we are able to indicate which survey questions are better suited for measuring social media literacy than others. Depending on the space provided for the survey, researchers should make sure to include at least the best proxies in their survey. Those questions that score poorer (but still provide useful information) can be eliminated in shorter surveys. For technical competencies, the familiarity question gives the best indication of actual competencies, followed by self-efficacy first and frequency next. For measuring cognitive competencies, we advise to use the two trust questions (toward social media sites and toward their users). Lastly, for emotional competencies, the attitude toward social media sites as companies can be used if there is little space. If more space is available, you can gain deeper insights by using the question on attitude toward how these sites operate and the question on attitude toward how friends use the sites. Researchers should however keep in mind that they better use additional qualitative methods to have a full understanding of people's social media competencies.



LITERATURE REVIEW TECHNICAL COMPETENCIES : SELF-EFFICACY For measuring media literacy, most of the existing literature relies on self-evaluation of knowledge and skills, often referred to as self-efficacy. Since research on self-efficacy indicates that people with a higher belief in their own skills and knowledge are more likely to use the Internet and to complete online tasks more successfully, self-efficacy is widely used for measuring people's media literacy. Based on Eastin and LaRose (2000), Livingstone and Helsper (2010) measure Internet literacy by asking respondents about which online activities they are good at (e.g. finding information online, setting up an email account), and by asking on a four-point scale (beginner-expert) how respondents rate their online skills. However, one criticism is that self-perceived competencies do not measure users' actual media literacy; self-perceived competencies are always context-dependent. Talja (2005) notes that an individual's perception of his/her competencies depends on whom they compare themselves with, how one is feeling or who is present in the same room when completing the questionnaire. Another criticism is that due to sufficient experience with a certain technology, self-efficacy loses its influence on use of that technology, as most people would feel proficient in using it. But survey self-efficacy measures for media literacy may not be completely degraded; van Deursen (2010) found that self-evaluation survey measures can be used as a proxy for actual skills.

FACEBOOK

How good are you at performing the following activities?
(1 = not good at all - 5 = very good) ^A

- Changing privacy settings
- Removing content from the timeline
- Using groups
- Customizing what data apps or applications can collect about you
- Sharing
- Uploading photos
- Giving a reaction (in text form)
- Tagging



TWITTER

How good are you at performing the following activities?
(1 = not good at all - 5 = very good) ^A

- Adding an image to a tweet
- Adding tweets to favorites
- Giving a response to the tweets of others (via @replies)
- Addressing a tweet to someone via @ mentions
- Unfollowing someone
- Spreading a tweet of others through retweets
- Using hashtags
- Removing your own tweets



LITERATURE REVIEW TECHNICAL COMPETENCIES : FREQUENCY Researchers also use indirect measures of people's media literacy such as number of activities people have ever performed and frequency of use. Eurostat, for example, asks its respondents whether they have ever performed certain Internet activities, such as using a search engine to find information, sending an email with attachment or posting messages. Respondents who have already carried out the most activities are deemed to have the highest level of media literacy. One criticism of this measure is that the activities are not clearly defined (cf. what is posting messages?). However, Howard, Rainie, and Jones (2001) indicate that people with the longest (cf. how long have you been using the Internet?) and most frequent use of the Internet (cf. how frequently do you log on from home?) benefit most from their Internet use. Van Deursen (2010) criticises these use questions for actual media literacy, indicating that these measures are poor indicators as they do not measure actual media literacy but rather media use. However, his research did show that frequency is best suited as a proxy for actual Internet skills.



FACEBOOK

How often do you do the following activities?
(1 = never - 5 = several times a day) ^{A B}

- Changing privacy settings
- Removing content from the timeline
- Using groups
- Customizing what data apps or applications can collect about you
- Sharing
- Uploading photos
- Giving a reaction (in text form)
- Tagging



TWITTER

How often do you do the following activities?
(1 = never - 5 = several times a day) ^{A B}

- Adding an image to a tweet
- Adding tweets to favorites
- Giving a response to the tweet of others (via @ replies)
- Addressing a tweet to someone via @ mentions
- Unfollowing someone
- Spreading someone else's tweet through retweets
- Using hashtags
- Removing your own tweets



LITERATURE REVIEW TECHNICAL COMPETENCIES : FAMILIARITY Familiarity (with terms) questions are another conventional way of measuring media literacy. Based on performance tests, Hargittai (2005) found that asking people about their understanding of different computer- and Internet-related terms is a stronger predictor of people's digital literacy than measures of self-efficacy or frequency of use. Hargittai (2009) queried respondents' familiarity with computer- and Internet-related terms such as JPEG, preference settings, PDF, refresh/reload, spyware, bcc, wiki and torrent. To test whether respondents simply check off items in a haphazard manner, Hargittai (2009) includes three bogus items in the list that have strong similarities with real terms: proxypod, JFW and filtibly. A majority of respondents notice that there are bogus items, which means that in follow-up studies we can rely on the formerly proposed instrument without bogus items. Despite the positive outcomes from use of familiarity questions, they have recently been rather underused.



FACEBOOK

How familiar are you with the following Facebook-related items?
(1 = no understanding - 5 = full understanding) ^A

- Tagging
- Privacy settings
- Sharing
- Advertisement
- Apps
- Groups
- Reactions
- Uploading
- Events
- Likes



TWITTER

How familiar are you with the following Twitter-related items?
(1 = no understanding - 5 = full understanding) ^A

- Hashtag
- Hootsuite
- MT
- Follower
- Bot
- @ mention
- RT
- #dtv
- Tweets
- Unfollowing
- Tweep

LITERATURE REVIEW EMOTIONAL COMPETENCIES : ATTITUDE An often-used measurement of attitudes towards technology is that of Bruner, James and Hensel (2001). This measure contains an established seven-item, five-point semantic differential scale (bad/good, foolish/clever, unpleasant/pleasant, useless/useful, boring/interesting and negative/positive). Yang & Yoo (2004) based their measurements on Crites, Fabrigar & Petty (1994) and Davis (1989) to make a thoughtful combination of three affective attitudinal items—happy/annoyed, positive/negative and good/bad—and three cognitive attitudinal items—wise/foolish, beneficial/harmful and valuable/worthless. We based our selection of attitude question items on Bruner's ideas and derived some extra items from his scale. On top of this attitude question, some questions from the cognitive competencies card may also give us insight into users' emotional competencies: the attitude towards Facebook/Twitter question and the attitude towards Facebook friends/Twitter users question.



FACEBOOK

Attitudes: Facebook is ... (1-5) ^

- useless/useful
- boring/interesting
- negative/positive
- unnecessary/necessary
- untrustworthy/trustworthy
- unfair/fair
- does not respect my privacy/respects my privacy
- does not take into account what I want/takes into account what I want



TWITTER

Attitudes: Twitter is ... (1-5) ^

- useless/useful
- boring/interesting
- negative/positive
- unnecessary/necessary
- untrustworthy/trustworthy
- unfair/fair
- does not respect my privacy/respects my privacy
- does not take into account what I want/takes into account what I want





LITERATURE REVIEW COGNITIVE COMPETENCIES : CRITICAL THINKING AND TRUST For measuring people's cognitive competencies or critical thinking for online behaviour, Hargittai et al. (2010) use trust measures in which respondents have to indicate the importance of various factors in deciding to visit a website (e.g. knowing who owns the website), the frequency with which they engage in various actions when looking for information (e.g. checking if information is current) and the frequency with which they visit the 'about us' page on a website. One criticism here is that these measures are often limited to information searching (cf. information literacy) and tell us nothing about critical thinking when communicating and creating content through media technologies, which is crucial to social media use. In addition, the trust measure of Hargittai et al. (2010) focuses mainly on trust placed in the owners/authors of a website while neglecting trust in other users, an aspect which is even more important in the case of social media. Dwyer et al. (2013) indicate that it is better to measure people's attitudes than to ask directly about trust/distrust. This attitude is determined by the level of knowledge a user has about the social media platform and its users (McKnight & Chervany, 2006). Combining knowledge and attitude questions, we propose the indicators below. Based on Hargittai's questions about what people find important when visiting websites, we also asked respondents more directly what they do or do not think about while using social media sites.

FACEBOOK ...

Which of these aspects do you think about when you are using Facebook? (Yes/No)

- Which of your Facebook friends can see your personal information (e.g. age, gender, school name, relationships)
- Which of your Facebook friends can see your user data (e.g. text messages, photos, movies)
- Your language on Facebook
- The context of text messages, photos or movies of Facebook friends
- Why Facebook friends post text messages, photos or movies
- How Facebook uses information about you to make profit
- For whom text messages, photos or movies of Facebook friends are intended



TWITTER ...

Which of these aspects do you think about when you are using Twitter? (Yes/No)

- Who can see your personal information (e.g. age, gender, school name, relation) on Twitter
- Who can see your user data (e.g. text messages, photos, movies) on Twitter
- Your language on Twitter
- How Twitter uses information about you to make a profit



... FACEBOOK

Which of the following activities do you think Facebook does?
(Yes/No) Do you mind if Facebook does these things?
(1 = I do mind - 5 = I do not mind at all) ^{A C}

- Keeping deleted data
- Selling personal information of users
- Selling user data
- Adapting advertisements based on visits that users have made to other websites
- Saving user data
- Taking over the copyright of users' posts on Facebook
- Using your name for advertising in the newsfeed of friends
- Storing the personal information of users



Which of the following activities do you think Facebook friends do?
(Yes/No) Do you mind if your Facebook friends do these things?
(1 = I do mind - 5 = I do not mind at all) ^{A C}

- Acting differently than they actually are
- Posting text messages, pictures or movies about people who do not have a Facebook account
- Hacking the accounts of other Facebook users
- Doing things on Facebook that can hurt others
- Posting or sharing useless messages or pictures
- Not removing content when it is requested by other users
- Sharing unique creations of others, without mentioning the author
- Sending invitations for applications and games
- Saving data or text messages, photos or videos of other users

... TWITTER

Which of the following activities do you think Twitter does?
(Yes/No) Do you mind if Twitter does these things?
(1 = I do mind - 5 = I do not mind at all) ^{A C}

- Storing the personal information of users
- Keeping deleted data
- Selling user data
- Saving user data
- Selling personal information of users
- Displaying sponsored tweets, trends and tweeps

Which of the following activities do you think other Twitter users do? (Yes/No) Do you mind if other Twitter users do these things? (1 = I do mind - 5 = I do not mind at all) ^{A C}

- Acting differently than they actually are
- Posting tweets about people who do not have a Twitter account
- Saving data or tweets of other users
- Hacking the accounts of other Twitter users
- Tweeting or retweeting useless messages or pictures
- Retweeting unique content of others
- Posting tweets that can hurt others



DESCRIPTION In an interview, the interviewer asks questions to the interviewee, either in a face-to-face interview or telephone interview. A topic list includes themes or questions that an interviewer must address. How and when these questions are asked depends mainly on what the interviewee says. The interviewer can also ask follow-up questions, which makes interviews far more personal than surveys. Interviews provide the possibility of pursuing things in greater depth and contextualising the answers to achieve a holistic understanding of the interviewee's point of view, or to explore interesting areas for further investigation. It is neither necessary nor desirable to select a randomized statistically representative sample for interviews. The interviewees are selected on the basis of who is best at answering questions about a certain topic, usually based on a purposeful sampling procedure. The researcher may also be interested in the interplay between the ideas of a group of people in which case a focus group interview is the ideal method.



NUMBER OF PARTICIPANTS

S (5-20)
M (21-50)



PARTICIPANTS ENGAGEMENT

high engagement



POSITIVE

- During interviews, answers can be motivated and context can be provided by the interviewee.
- Insights can be gained from the body language of the respondents.
- Researchers have the opportunity to probe.
- In focus groups, participants can feed off each other's ideas, producing rich data.

NEGATIVE

- Much depends on the interviewer or researcher's (body) language and presentation.
- Interviews sacrifice the advantages of surveys in terms of number, diversity and representativeness of the population.
- The retrospective nature of interviews may cause events or experiences to be minimized, forgotten or distorted.
- In focus groups, peer influence on each other's responses may be problematic.





LITERATURE REVIEW Researchers who have made use of in-depth interviews to gain insight into people's social media behaviour include, for example, Livingstone (2008) and boyd (2008). Through interviews, Livingstone (2008) explored how teenagers behave on social networking sites. She conducted a series of 16 open-ended interviews with teenagers in their homes and addressed the following topics: (1) the choices, motivations and literacies shaping teenagers' use of social networking sites, (2) how they analyze and interpret others' profiles and (3) their online and offline relationships with friends. Boyd (2008) also made use of in-depth interviews to gain insights into why youth ♥ the social network site MySpace. She explores how teenagers give meaning to profile creation, identity performance and privacy on MySpace. In their focus group study of teenagers' perceptions and awareness of digital technology, Hundley & Shyles (2010) asked about participants' (desired) possession of digital technologies, their familiarity with these technologies, what they do with them and how much time they spend using them. Specifically in respect of social network sites, the moderator asked the group about activities teenagers perform, how many 'friends' they have and how they control information on these sites. The example topics below are based on the combined ideas of these three researchers.

FACEBOOK

Interviewers must address the following topics:

- The choices, attitudes, motivations and technical and cognitive competencies shaping participants' use of Facebook (e.g. how do people feel about tagging friends in a photo or being tagged themselves?)
- The factors that can influence participants' choices, attitudes, motivations and technical and cognitive competencies to use Facebook inside and outside the home (i.e. in what context do people prefer to use Facebook?)
- The reactions of participants to these factors and the impact of these factors



TWITTER

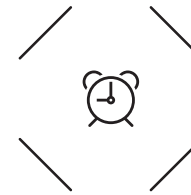
Interviewers must address the following topics:

- The choices, attitudes, motivations and technical and cognitive competencies shaping participants' use of Twitter (e.g. how do people feel about mentioning people in tweets or being mentioned?)
- The factors that can influence participants' choices, attitudes, motivations and technical and cognitive competencies to use Twitter inside and outside the home (i.e. in what context do people prefer to use Twitter?)
- The reactions of participants to these factors and the impact of these factors



DESCRIPTION In performance tests, respondents are provided with tasks to be completed. Their performance on these tasks is measured by observing their behaviour during the tasks. This method is therefore also framed as an observational method and provides a realistic view on respondents' actual competencies. To evaluate how well people have performed on a task, existing research looks at whether the task was completed successfully (cf. effectiveness) and at the amount of time people spent on a task (cf. efficiency). To reduce the impact of environment and provide equal opportunities to each participant, performance tests often happen in a kind of lab setting. This setting may however reduce the amount of relevant contextual information. Another criticism is that the presence of the researcher during the test can bias respondents' performances.

PERFORMANCE



TEST

NUMBER OF PARTICIPANTS

- S (5-20)
- M (21-50)
- L (51-100)



PARTICIPANTS ENGAGEMENT

high engagement



POSITIVE

- Performance tests provide a realistic view of people's competencies.
- Performance tests, depending on the setting (not always true for a lab setting), also provide insights into body language and contextual information (e.g. where in the home social media are used).

NEGATIVE

- Performance tests are very laborious for both the researcher and for the respondent.
- Because they are time- and budget-consuming, they can only be used for smaller groups of respondents.
- In performance tests, respondents' behaviour can be influenced by the presence of the researcher or other people in the environment.



LITERATURE REVIEW The performance test seems to be one of the most suitable methods for the direct measurement of actual media literacy. Two leading researchers in this area are Hargittai (2005) and van Deursen (2010). Hargittai made use of performance tests to ask about 100 randomly selected web users to complete eight tasks—for example, looking for information on job or career opportunities or tax forms. Van Deursen used performance tests to study Internet skills. He conducted performance tests in three different contexts, in each of which the participants had to conduct different operational, formal, information and strategic tasks. A criticism of both uses of performance tests is that they were conducted in a strict lab setting, causing information loss about the context of use. In addition, both studies neglected the choices and motivations of people to perform the tasks in a particular way. To address these comments, we conducted the performance tests in an environment where the participants felt at ease (cf. home), providing an opportunity to probe what they think and/or feel while performing the activity and to dig deeper into the participants' critical competencies.



FACEBOOK

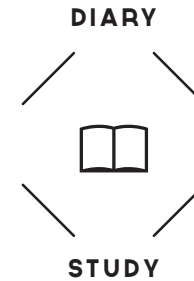
- Go to the Facebook website
- Sign in with a fake account
- Search the terms of use of Facebook
- Fill in your profile information
- Customize your privacy settings
- Make your last action invisible on your timeline
- Go to your activity logbook, remove your last activity
- Block the following app '...'
- Insert a YouTube movie on your profile page
- Share the YouTube video with every one of your Facebook friends/one person
- Create an event, with the intention to invite people to your home
- Create a group, for a limited number of friends
- Ensure that others cannot see what advertisements you like
- Delete the fake account

TWITTER

- Go to the Twitter website
- Sign in with a fake account
- Search the terms of use of Twitter
- Fill in your biography
- Customize your privacy settings
- Share a link from a news website through Twitter
- Read all recent tweets with #...
- Post a private message
- Post a tweet
- Remove the tweet
- Add an image to a tweet
- Give a response to the tweet of others (via @ replies)
- Address a tweet to someone via @ mentions
- Follow someone
- Unfollow someone
- Spread a tweet by someone else through retweets



DESCRIPTION In the diary method, participants are asked to record daily activities or experiences as they occur, on a paper diary or in an online diary (cf. in the form of an online questionnaire with many open fields). These diaries can be structured, with predefined questions, or unstructured, with one question and many open spaces. The diary method helps participants to accurately reflect on their experiences. In retrospective surveys or interviews, the experiences may be minimised over time and consequently seen as insignificant (Bolger, Davis, & Rafaeli, 2003). In addition, the diary method helps to accurately assess the frequency of daily experiences because after a while the similarity and mundane nature of daily activities makes this difficult. Hence, the diary method can raise issues that did not emerge in surveys, interviews or performance tests because participants forgot about them, or because we as researchers did not ask about them.



NUMBER OF PARTICIPANTS

- S (5-20)
- M (21-50)
- L (51-100)

PARTICIPANTS ENGAGEMENT

high engagement



POSITIVE

- The diary method helps participants to remember the ways they spend their time.
- Researchers have control over the questions and can ask follow-up questions or give new instructions the next day.
- Participants are encouraged to give more information about some issues.
- The influence of the researcher on the participants is minimised.

NEGATIVE

- It requires a high level of participants' commitment in order to achieve reliable and valid data.
- It is difficult to convince participants that they also have to record seemingly mundane and low-level activities.
- It interrupts the natural flow of an activity.
- The lack of many leading questions means that participants are sometimes uncertain about what to report.
- Habituation, and more specifically the development of a habitual response style when making diary entries, may have some deleterious effects.



LITERATURE REVIEW Despite the many advantages of the diary method for measuring people's media literacy, very few studies have made use of this method. Ladbroke and Probert (2011) utilised the diary method to gain insights into adolescents' information skills and critical literacy when searching for information online. The students had to respond every day for 14 days to the following questions: What did you read? Why did you go to this? What did you find out? How long did you do this for? How did you feel while you were doing this? Our criticism on Ladbroke and Probert's use of the diary method is that they did not take account of the fact that people do not always search for information online because information sometimes automatically comes to people. In addition, not all information online can be 'read' (cf. reading a text); information online may also occur as visuals. Granted these criticisms, the diary method can still serve as a valuable method of measuring social media literacy.



FACEBOOK

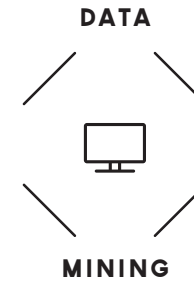
- Duration of your Facebook visit ... actively and ... passively
- On Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, I have done the following : ...
- In the following circumstance/context (e.g. during class, on a break at work ...
- Because ...
- I was thinking about ... before/during and/or after the activity
- I felt (e.g. positive, happy, angry) ... after the activity
- Because ...



TWITTER

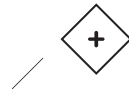
- Duration of your Twitter visit ... actively and ... passively
- On Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, I have done the following : ...
- In the following circumstance/context (e.g. during class, on a break at work ...
- Because ...
- I was thinking about ... before/during and/or after the activity
- I felt (e.g. positive, happy, angry) ... after the activity
- Because ...

DESCRIPTION The rise of the Internet and of social media sites has generated a lot of data about user behaviour that could be used for research on (social) media literacy. This data is stored through cookies and log files by almost all websites. The collection of this data can be achieved by means of Application Program Interfaces (APIs). The collected data can contain all sorts of user information (e.g. tags, time of upload, number of comments). They can also be helpful in recruiting respondents with specific profiles by categorizing them on the basis of this user data. Most major platforms, such as Google or Twitter, offer detailed documentation about their APIs. Data collection through APIs is inherently nonintrusive, as it does not require direct interaction with platform users. The data collection happens instantaneously and can be repeated as often as required. When used in combination with interviews, focus groups, or other methods, data mining fits into a netnography approach, which uses online communications for the ethnographic understanding of human behaviour.



NUMBER OF PARTICIPANTS

- S (5-20)
- M (21-50)
- L (51-100)
- XL (>100)



POSITIVE

- Data mining is unobtrusive.
- The data can be collected instantaneously and repeatedly.
- A lot of data can be collected quickly and cheaply.
- Access to contents and recorded interaction data is easy, and allows storage in a dedicated research database.
- Big data retrieved through data mining can easily be combined with data from other research methods (e.g. survey).

PARTICIPANTS ENGAGEMENT

low engagement



NEGATIVE

- Representativeness of the sample may be problematic.
- Researchers have little or no insight into the possible sampling and selection mechanism of the API.
- The blurred distinction between public and private spaces on the Internet raises ethical issues concerning the use of data mining techniques.
- Data mining requires the researcher to have a specific skill set.



LITERATURE REVIEW Social media offer unlimited access to authentic, relevant and detailed consumer-to-consumer communication. The use of this information can yield deep insights into users' experiences. In his study on vloggers, Snelson (2013) could freely access information about the number of views each video attracted, and the number of likes, comments and dislikes. Demographic information such as age and gender was also publicly available on users' YouTube profiles. Snelson also looked at the context in which the videos were recorded, the content of the vlogs, patterns of speech or behaviour and motivations for vlogging. All this information could be obtained in an unobtrusive, naturalistic and cheap way. D'Heer, Verdegem and Mechant (2013) gathered all tweets with the hashtag #vk2012 during a predefined time period, using the YourTwapperKeeper application. This way, they were able to look for links between social and mass media in order to gain an exploratory understanding of possible interplay between media agendas, political agendas and public opinion. Although these studies resulted in some interesting conclusions about social media behaviour, the use of data mining techniques for research on (social) media literacy is sparse if not nonexistent.



FACEBOOK

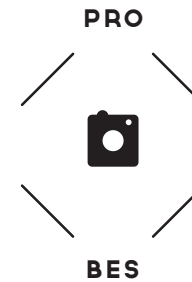
- What kind of content does the person post most often?
- When does the person most often post content?
- How many times per week does the person post this kind of content?
- How many times per day does the person like content?
- How many times per month does the person share content?



TWITTER

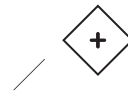
- What kind of tweets does the person post most often?
- When does the person most often tweet?
- How many times per week does the person post tweets?
- How many times per day does the person favorite tweets?
- How many times per month does the person retweet other user's tweets?

DESCRIPTION Probes are design-oriented user research instruments, often in the form of boxes, that study user experiences in their natural context. They are based on self-documentation and invite respondents to reflect on and verbalize their experiences, feelings and attitudes. Probing boxes can be used to inform researchers and to establish a conversation between users and researchers. They may consist of cameras, maps, photo album, diaries, pens and other creative artefacts. The boxes contain open-ended and ambiguous tasks (e.g. photographing and answering questions on illustrated postcards) with the purpose of exploring ideas about new possibilities rather than revisiting needs and desires that are already clearly established and understood. Respondents carry out the tasks and return their completed probes to the researchers, physically or virtually.



NUMBER OF PARTICIPANTS

S (5-20)
M (21-50)



PARTICIPANTS ENGAGEMENT

very high engagement



POSITIVE

- Experiences are studied in their natural context.
- Probes can establish a conversation between user and researcher.
- Probes can uncover new ideas and unknown desires or concerns, as well as inspiring users and researchers.
- Users tend to find the tasks pleasing.
- Results may yield holistic perspectives and vivid information on individuals and their contexts.

NEGATIVE

- The openness of the tasks makes the quality of the results uncertain and may lead respondents in unexpected directions.
- Users may be unsure what the researcher is looking for and consequently feel uncertain about some of the tasks.
- A lot depends on the motivation and deliberation of respondents.
- Completing the tasks is time-consuming.
- Creating the probing box is time-consuming.



LITERATURE REVIEW In their research on alternative media channels for urban youth, All, Coorevits and Schuurman (2013) used probes to map the needs and activities of young people on social media. They gave seven young people daily tasks over a period of seven days, including gathering information, applying for a job, sharing experiences and buying items. This way, probes can uncover previously unknown thoughts and concerns. In respect of social media literacy, probes can be used to assign specific social media tasks to respondents, in which they would have to document their thoughts and feelings using cameras, drawings or pictures. Tasks might also include generating content, such as a short movie clip or a photo, to post later on a social media site. In this way, researchers can gain insights into respondents' thoughts and considerations while performing certain tasks. Probes give participants the freedom to openly discuss, draw or write down their feelings. Within the field of social media literacy research, however—despite their high potential—probes are underutilized.



FACEBOOK

- Make a video about your day and post it on your Facebook profile. Write down your thoughts and feelings on the instruction card
- Make a pen-and-paper drawing of how you think you come across on your Facebook profile
- Write down your thoughts while scrolling your Facebook newsfeed
- Write down the most annoying posts you see today and explain why you picked them
- Draw your ideal profile picture. Write down your thoughts and feelings on the instruction card
- Using pen and paper, draw pictures you would never post on Facebook yourself. Point out the features that should bother you most



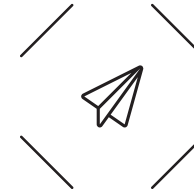
TWITTER

- Make a video about your day and attach the link to a tweet about it. Write down your thoughts and feelings on the instruction card
- Make a pen-and-paper drawing of how you think you come across on your Twitter profile
- Write down your thoughts while scrolling your Twitter feed
- Write down the most annoying tweets you see today and explain why you picked them
- Draw your ideal profile picture. Write down your thoughts and feelings on the instruction card



DESCRIPTION

YOUR



METHOD

NUMBER OF PARTICIPANTS



PARTICIPANTS ENGAGEMENT



POSITIVE



NEGATIVE



This empty card is to encourage additional methods to be added to the toolkit, but you can also upload your own ideas online through the EMSOC website. Any feedback on the cards, shortcomings or suggestions for extra methods are very welcome.

www.emsoc.be

LITERATURE REVIEW



FACEBOOK



TWITTER



REFERENCES

SURVEY

- Allen, I. E., & Seaman, C. A. (2007). Likert scales and data analyses. *Quality Progress*, 40(7), 64-65.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215.
- Barker, V. (2009). Older adolescents' motivations for social network site use: the influence of gender, group identity, and collective self-esteem. *CyberPsychology & Behaviour*, 12(2), 209-213.
- Bruner, G. C., Hensel, P. J., & James, K. E. (2001). *Marketing scales handbook*. Chicago: American Marketing Association.
- Chau, P. Y., & Hu, P. J. H. (2001). Information technology acceptance by individual professionals: A model comparison approach. *Decision Sciences*, 32(4), 699-719.
- Dwyer, N., Basu, A., & Marsh, S. (2013). Reflections on measuring the trust empowerment potential of a digital environment. *IFIP Advances in Information and Communication Technology*, 401, 127-135.
- Eastin, M., & LaRose, R. (2000). Internet self-efficacy and the psychology of the digital divide. *Journal of Computer-Mediated Communication*, 6(1). Retrieved September 2014 from <http://onlinelibrary.wiley.com/doi/10.1111/j.1083-6101.2000.tb00110.x/full>
- Häkkinen, K., Romaki, L., Lipponen, L., Muukkonen, H., Rahikainen, M., Tuominen, T., & Lehtinen, E. (2000). Students' skills and practices of using ICT: Results of a national assessment in Finland. *Computers & Education*, 34(2), 103-117.
- Hargittai, E. (2005). Survey measures of web-oriented digital literacy. *Social Science Computer Review*, 23(3), 371-379.
- Hargittai, E. (2009). An update on survey measures of web-oriented digital literacy. *Social Science Computer Review*, 27(1), 130-137.
- Hargittai, E., & Shafer, S. (2006). Differences in actual and perceived online skills: The role of gender. *Social Science Quarterly*, 87(2), 432-448.
- Hargittai, E., Fullerton, L., Menchen-Trevino, E., & Thomas, K. Y. (2010). Trust online: Young adults' evaluation of web content. *International Journal of Communication*, 4, 468-494.
- Howard, P. E. N., Rainie, L., & Jones, S. (2001). Days and night on the Internet: The impact of a diffusing technology. *American Behavioral Scientist*, 45(3), 383-404.
- Hundley, H. L., & Shyles, L. (2010). US teenagers' perceptions and awareness of digital technology: A focus group approach. *New media & society*.
- Kuhlemeier, H., & Hemker, B. (2007). The impact of computer use at home on students' Internet skills. *Computer & Education*, 49(2), 460-480.
- Lehmann, D. R., & Hulbert, J. (1972). Are three-point scales always good enough? *Journal of Marketing Research*, 444-446.
- Livingstone, S., & Helsper, E. (2010). Balancing opportunities and risks in teenagers' use of the Internet: The role of online skills and Internet self-efficacy. *New Media & Society*, 12(2), 309-329.
- McKnight, D. H., & Chervany, N. L. (2006). Reflections on an initial trust-building model. In R. Bachmann & A. Zaheer, (Eds.), *Handbook of trust research* (pp. 29-51). Cheltenham, UK: Edward Elgar Publishing.
- Merrit, K., Smith, K. D., & Renzo, J. C. D. (2005). An investigation on self-reported computer literacy: Is it reliable? *Issues in Information Systems*, 6(1), 289-295.
- Ofcom. (2004). *Strategy and priorities for the promotion of media literacy: a statement*.
- Quandt, T. (2012). What's left of trust in a network society? An evolutionary model and critical discussion of trust and societal communication. *European journal of communication*, 27(1), 7-21.
- Quan-Haase, A., & Young, A. L. (2010). Uses and gratification of social media: A comparison of Facebook and Instant Messaging. *Bulletin of Science, Technology & Society*, 30(5), 350-361.
- Swim, J. K., Myers, L. L., Cohen, L. L., & Ferguson, M. J. (2001). Everyday sexism: Evidence for its incidence, nature, and psychological impact from three daily diary studies. *Journal of Social Issues*, 57(1), 31-53.
- Talboom, S., & Pierson, J. (2013). Understanding trust within online discussion boards: Trust formation in the absence of reputation systems. *IFIP Advances in Information and Communication Technology*, 401, 83-99.
- Talja S (2005) The social and discursive construction of computing skills. *Journal of the American Society for Information Science and Technology*, 56(1), 13-22.
- van Deursen, A. J. (2010). *Internet Skills: vital assets in an information society*. Gildeprint.
- Thompson, R. L., Higgins, C. A., & Howell, J. M. (1991). Personal computing: toward a conceptual model of utilization. *MIS quarterly*, 125-143.
- Torkzadeh, G., & Van Dyke, T. (2002). Effects of training on Internet self-efficacy and computer user attitudes. *Computers in Human Behaviour*, 18(5), 179-194.
- Van Deursen, A. (2010). *Internet skills, Vital assets in an information society*. University of Twente, Enschede.
- Yang, H. D., & Yoo, Y. (2004). It's all about attitude: revisiting the technology acceptance model. *Decision Support Systems*, 38(1), 19-31.
- Yu, C. S. (2012). Factors affecting individuals to adopt mobile banking: empirical evidence from the UTAUT model. *Journal of Electronic Commerce Research*, 13, 104-121.

INTERVIEWS

- Asbury, J. E. (1995). Overview of focus group research. *Qualitative health research*, 5(4), 414-420.
- Berry, R. S. (1999). Collecting data by in-depth interviewing. Paper presented at the British Education Research Association Annual Conference, University of Sussex. Retrieved September 2014 from <http://www.leeds.ac.uk/educol/documents/000001172.htm>
- boyd, D. (2008). Why youth (heart) social network sites: The role of networked publics in teenage social life. In D. Buckingham (Ed.), *Youth, identity and digital media* (pp. 119-142). Cambridge, MA: The MIT Press.
- Burhanma, K. J., Seeholzer, J., & Salem Jr, J. (2009). No natives here: a focus group study of student perceptions of Web 2.0 and the academic library. *The Journal of Academic Librarianship*, 35(6), 523-532.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks: Sage.
- DiCicco-Bloom, B., & Crabtree, B. F. (2006). The qualitative research interview. *Medical Education*, 40(4), 314-321.
- Dolan, P., Cookson, R., & Ferguson, B. (1999). Effect of discussion and deliberation on the public's views of priority setting in health care: focus group study. *BMJ*, 318(7188), 916-919.
- Fetterman, D. M. (Ed.). (2010). *Ethnography: Step-by-step* (Vol. 17). Sage.
- Fuller, H. A., Damico, A. M., & Rodgers, S. (2004). Impact of a health and media literacy curriculum on 4th-grade girls: A qualitative study. *Journal of Research in Childhood Education*, 19(1), 66-78.
- Lindlat, T. R., & Taylor, BC (2002). Qualitative communication research methods.
- Livingstone, S. (2008). Taking risky opportunities in youthful content creation: Teenagers' use of social networking sites for intimacy, privacy and self-expression. *New Media & Society*, 10(3), 459-477.
- Lunt, P., & Livingstone, S. (1996). Rethinking the focus group in media and communications research. *Journal of communication*, 46(2), 79-98.

Morrison, H. (1998). Information literacy skills: An exploratory focus group study of student perceptions. *Research Strategies*, 15(1), 4-17.

Swim, J. K., Hyers, L. L., Cohen, L. L., & Ferguson, M. J. (2001). Everyday sexism: Evidence for its incidence, nature, and psychological impact from three daily diary studies. *Journal of Social Issues*, 57(1), 31-53.

Wrigley, B. J. (2002). Glass ceiling? What glass ceiling? A qualitative study of how women view the glass ceiling in public relations and communications management. *Journal of Public Relations Research*, 14(1), 27-55.

PERFORMANCE TESTS

- Hargittai, E. (2005). Survey measures of web-oriented digital literacy. *Social Science Computer Review*, 23(3), 371-379.
- Van Deursen, A. (2010). *Internet skills. Vital assets in an information society*. University of Twente, Enschede.

DATA MINING

- Kozinets, R. (2009). *Netnography: Doing Ethnographic Research Online*. London: Sage Publications.
- Mechant, P. (2012). *De studie van interactiviteit in een Web 2.0-context: een exploratief-kwalitatief onderzoek op YouTube, Flickr en deviantART* (Doctoral dissertation). Ghent University.
- Mechant, P., & Courtois, C. (2011). An evaluation of the potential of Web 2.0 API's for social research: New challenges and methodological innovations in European Media Audience Research. Meeting Abstracts (pp. 43-44). Presented at the COST Action ISO906: New challenges and methodological innovations in European Media Audience Research.
- Snellson, C. (2013). Vlogging about school on YouTube: An exploratory study. *New Media & Society*, 14(6)444815504271.
- Stragier, J., & Mechant, P. (2013). Mobile fitness apps for promoting physical activity on Twitter: the #Run-

Keeper case. *Etmaal van de communicatiewetenschappen, Proceedings*. Presented at the Etmaal van de Communicatiewetenschap.

Verdegem, P., D'heer, E., & Mechant, P. (2013). Tweeting the local elections in Belgium: a cross-media perspective. *Etmaal van de communicatiewetenschappen, Proceedings*. Presented at the Etmaal van de Communicatiewetenschap.

DIARY METHOD

- Bolger, N., Davis, A., & Rafaeli, E. (2003). Diary methods: Capturing life as it is lived. *Annual review of psychology*, 54(1), 579-616.
- Ladbrook, J., & Probert, E. (2011). Information skills and critical literacy: Where are our digikids at with online searching and are their teachers helping? *Australasian Journal of Educational Technology*.

PROBES

- All, A., Coorevits, L., & Schuurman, D. (2013). Bottom-up radio: creating a new media format using living lab research. In *Breaking the Media Value Chain: VII International Conference on Communication and Reality*.
- Gaver, B., Dunne, T., & Pacenti, E. (1999). Design: cultural probes. *Interactions*, 6(1), 21-29.
- Graham, C., Rouncefield, M., Gibbs, M., Vetere, F., & Cheverst, K. (2007). How probes work. In *Proceedings of the 19th Australasian conference on Computer-Human Interaction: Entertaining User Interfaces* (pp. 29-37). ACM.
- Mattelmäki, T. (2005). Applying probes—from inspirational notes to collaborative insights. *CoDesign*, 1(2), 83-102.

NOTES + GLOSSARY

A

Seven-point Likert scales can also be used for these questions. They have the advantage of being the most reliable scales, and they reduce the rounding error. However, increasing the number of scale points may also increase administration costs, non-response bias and respondent fatigue. When scales are being averaged in analyses, the cost of increasing the scale points will probably outweigh the benefits. When working with individual scales, the benefits of seven-point scales usually outweigh the costs.

B

This question takes up a lot of space in a survey and requires intense thinking by participants. When space is limited, researchers can opt for the following question, using the same items: 'Which of the following activities have you done in the past year/month?' It is important, however, to realize that deeper information is lost when using this last question.

C

These two questions use the same items listed below, but uncover different (although related) cognitive competencies: what people know about how social media or users operate, and in how far they would mind if they would operate in certain ways.

Cookie

A cookie is an amount of data that a server sends to the browser to be saved and sent back to the server on your next visit. This allows the server to recognize the browser and track what the user, or the web browser, has done in the past.

Log file

A logfile is a file that records events that happen while an operating system or other software is running.

API

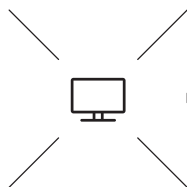
An API is a defined set of request messages, along with a definition of the structure of response messages, that enables automated and repeatable collection of data.

Vlogs

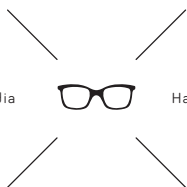
Vlogs or video logs are a form of blog in which the medium is video. A vlogger is someone who regularly posts vlogs online (on their blog, on YouTube etc.).

YourTwrapperKeeper

YourTwrapperKeeper is an open source application that enables researchers to track, archive and share datasets of tweets relating to various keywords.



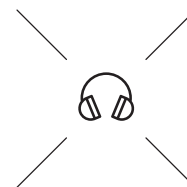
Getting Started
Measuring Social Media
Literacy



Research
Hadewijch Vanwynsberghe
& Louise Haspeslagh



Graphic Design
Elvire Delanote
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4.2. A multi-method approach to measure social media literacy

In the previous section of this methodological chapter, we discussed how the disadvantages of some methods are at the same time advantages of other methods, arguing in favour of a multi-method approach to measure social media literacy. From our perspective, supported by previous research, it is not sufficient to measure social media literacy by asking people how they rate themselves on performing certain social media literacy practices. These practices frequently happen unconsciously, depending on how well people succeeded in the action. Therefore, they are often not able to recall these social media literacy practices, which results in retrospective responses that reflect an incorrect reconstruction of these practices. For these reasons, we feel inclined to use a multi-method approach to measure social media literacy.

To establish such a multi-method research, we rely on Courtois' (2012) multi-strand mixed method research design. The first stage of this research design consists of exploring the macro-patterns or obtaining a general view on the research topic through quantitative research methods. In the second stage, the patterns founded in the first stage are subject to more in-depth qualitative research. *'In epistemological terms, the researcher first 'objectively' overviews the field, discerns meaningful patterns from an objectivist stance, and then deliberately selects interesting patterns that deserve a "subjective" detailed, socially situated inquiry'* (Courtois, 2012, pp. 4-2).

Applied to the multi-method measurement of social media literacy, we also distinguish two stages. First, we need to get an overview of people's social media use, competencies, and the context of use. The best way to get an indication of the broader picture of social media literacy is through large-scale surveys or other ways of large-scale quantitative data gathering methods (e.g. log data). However, in quantitative survey measures, scholars must ask closed questions and are limited in the number of questions they could ask. Therefore, it is difficult to fully measure a complex phenomenon, such as social media literacy, using only survey questions.

Second, we must get deeper insight into the patterns and trends founded in the survey data. Here qualitative methods, such as interviews, performance tests, probes, and diaries are preferred. Since it is impossible (e.g. because of limited resources in terms of time and money) and also not necessary to apply these qualitative methods to the large amount of respondents from surveys, we divide the research population into subsamples (i.e. profiling). A standard technique for doing this is cluster analysis (Kauffman & Rousseuw, 1990). Cluster analysis helps us find groups of people who are internally homogenous and externally heterogeneous. Here it is important to know that even without a qualitative follow-up study this profiling technique is useful as it provides a better understanding of how the different social media competencies are related to each other and thus also to people's social media literacy in general. In qualitative follow-up research we use this profile technique to 'purposefully' select participants, for example, on the criteria of having a specific profile of social media literacy. If

respondents for these qualitative methods are selected at random, or based on availability, it is possible that we would exclude many outliers and only study the largest group.

In comparison to the decontextualized describing, explaining, and predicting of the social media behaviour of the quantitative method, qualitative methods provide an understanding of people's social media behaviour and literacy practices in their context. It can provide insights into why people behave and think as they do on social media. The goal of qualitative research is thus to further enrich the quantitative data; not to just validate the results obtained by the quantitative method (Flick, 2002). In addition, it is important that quantitative and qualitative research results are 'genuinely' combined when describing the findings, not just treated as separate domains (Bryman, 2007). This multi-method approach does not only provide us with a better measurement of people's social media literacy, it is also provide us with a better measurement of the factors that can stimulate (or form a barrier to) people's development of social media literacy, as will be discussed in Chapter 5.

4.3. Survey proxy measures for social media literacy

Policymakers and civil society organizations are increasingly measuring media and Internet use on a national as well as an international level. With the growing importance of social media in both the private and the professional arena, it will only be a short time before policymakers, civil society organizations, and other stakeholders want to measure how people deal with these media. In Europe, for example, policymakers and civil society organizations have already attempted to measure how people deal with new and social media: specifically the databank Eurostat, the Eurobarometer, and the EU Kids Online project. In Belgium, some efforts have been made to measure how people deal with social media by, for example, the 'Digimeter', 'Apestaartjaren', and 'Studiedienst van de Vlaamse Regering'. These examples of measuring how people deal with social media are not conclusive. It is noteworthy that the majority of these measurements use surveys and focus primarily on social media use (e.g. frequency of use, place of use, selection of social media platforms) and seldom on the competencies needed to use these media.

Since the other methods are often very labour-intensive and expensive, it is often impossible for policymakers and civil society organizations to measure social media literacy with methods other than surveys. The development of concrete survey questions to measure social media literacy would be a useful addition to the overview of the methods applicable to social media literacy (cf. toolkit). In this context, Hargittai (2005) and van Deursen (2010) have both proposed survey items that served as a proxy for Internet skills based on performance tests. Hargittai proposes the importance of a survey familiarity question (e.g. 'How familiar are you with the following Internet-related items?'), while van Deursen sees value in the survey frequency question (e.g. 'On the Internet, how often do you...') to measure Internet skills.

Our goal in this chapter is to investigate which survey questions and items best serve as proxies for social media literacy. In our study, we further complete the studies of Hargittai and

van Deursen, as we compare the survey questions not only with the results of performance tests, but also with the results from interviews and diary studies.

In the following, we first provide insight into the sample, the data collection, and the study procedure. Then, we follow four steps, which when combined, result in survey proxy measures for social media literacy. In the first step, we correlate the survey items with the observed technical competencies. Second, we compare survey answers with the interview data. In a third step, we compare survey answers with the data obtained by a diary study. The last step uses the Fornell and Larcker (1981) discriminant validity criterion to test the discriminant validity of the survey items that were kept after the first three steps. In this step, the remaining items are further analyzed using a first-order factor analysis.

4.3.1. Sample, data collection, and procedure

Due to reasons mentioned above, it is impossible to test all possible methods in one study. Therefore, we set up and conducted two studies that each tested and compared different methods. One study focused specifically on Flemish adolescents (aged between 13 and 23), while the second study directed attention to the entire Flemish population (aged between 16 and 65+). Both studies concentrated on the competencies needed to use Facebook. Following van Deursen (2010) and Hargittai (2002), we limit our research to people who either use or have used the media technology in question, in this case Facebook. Although this choice excludes 33% of the Flemish population (iMinds & iLab.o, 2013), it ensures that all participants can answer the questions. The main purpose of this multi-method testing is to search for survey proxy measures for social media literacy. In the following, we explain the data sampling, the collection processes, and the procedures of our two method studies.

The first study

For the first study, we focus on adolescents between 13 and 23 years old and their social media literacy practices on Facebook. We focus on Facebook as this social media platform is still the most popular (87%) and the most actively used by Flemish adolescents (90%) in comparison to Twitter, which is less actively used by Flemish adolescents (25%) (Apestaartjaren, 2014). For the recruitment of the participants, we have not opted for 'random' sampling or drawing a representative sample of existing databases, but for 'purposeful' sampling (Glacer & Strauss, 1967). We used different social media platforms for recruiting participants who are between 13 and 23 years old, Dutch-speaking, Facebook users, willing to show their Facebook profile for research purposes, being enthusiastic for doing some tasks on Facebook and being excited to speak openly about their Facebook behaviour for approximately two hours. When people indicated they were willing to participate, an appointment for the research session was scheduled.

The participants who agreed to participate had to complete one session of multi-method testing, which included a survey, a performance test, and an interview. After the session of approximately two hours, the participants were given an incentive. In total, 53 subjects participated in the multi-method testing. Since we did not contact any of the participants in advance, we cannot calculate the response rate. After data cleaning, we removed 10 participants, because they attempted to finish as quickly as possible; they did not execute the

performance activities properly. Since the data of these participants would bias the results of the study, we removed them from the analysis. The remaining sample was distributed for age and gender as follows: 35% men and, 65% women, with an average age of 18 years (SD = 3.06).

The study was conducted between April and June 2013 at a place that the respondents suggested themselves, where they had an Internet connection, could not be disturbed, and could feel at ease. The latter has many advantages, as the respondents were able to use their own device with which they usually access Facebook. The disadvantage here is that we could not guarantee the quality of the Internet connection and/or the hardware/software.

All the participants received verbal instructions before we started the multi-method testing. Prior to the performance test and the interview, the participants had to complete a survey in which we collected data about their demographics, social media use, and literacy. We investigated social media literacy with the survey measures proposed in Section 4.1. This included a self-efficacy question, a familiarity question, a frequency question, situation-based questions, and an attitude question. We also asked respondents for demographic information, such as age, gender, education level, their living and working situation, and the extent to which they had access to certain digital devices. To ensure an adequate test of the validity of the survey tool, the order of the question items was randomized, so that the items in similar questions did not appear consecutively.

After the survey, we started the interview and the performance test. The interview and performance test ran together, as we feel this approach would provide the most insights into what people think while they are performing an activity. Before conducting the performance tests, we selected five subjects to participate in a pilot-test to test the tasks for complexity and comprehensibility. After the pilot, some tasks were changed or adjusted, primarily for concerns related to comprehensibility. We worked with semi-structured interviews: a number of questions and performance tests were fixed in advance, but the participant determined the order in which the additional questions were asked. For the performance tests in particular, we used the assignments described in Section 4.1 under the performance test card¹¹.

Because it is not justifiable to have people, for example, remove, or upload photos or messages on their own profile, we created fake Facebook accounts for the performance tests. To ensure that the participants were not influenced by the previous user's actions, we have reset the fake profile on default settings for every new test. For each task, we directly measured whether the task was completed successfully and how much time was spent on doing this. We used these two measures to score people's technical competencies, as these were used in previous studies to evaluate people's level of performance (e.g. Aula & Nordhausen, 2006; van Deursen, 2010). If the participants did not know how to fulfill a task,

¹¹ In this study, we asked participants to perform 16 assignments; the toolkit thus contains only a selection of the assignments. These are the 16 assignments: Go to the Facebook website, sign in with a fake account; Change your password to a secure password; Search the terms of use of Facebook; Fill out your profile information; the same as on your own Facebook account; Customize your privacy settings, the same as on your own Facebook account; Make your last action on Facebook invisible on your timeline; Go to your activity logbook and remove your last activity; Block the following app '!...'; Insert a YouTube movie on your profile page; Share the YouTube video with every one of your Facebook friends; Share the YouTube video with one person; Create an event, with the intention to invite people to your home; Create a group for a limited number of friends; Adjust your setting so that others cannot see what advertisements you like; Delete the fake account.

they could decide for themselves whether they wanted to give up. No help or encouragement was given. If the participants were not able to complete a task, they got the lowest score.

During the performance test, we also interviewed the participants. By talking to people, while they were performing different tasks on social media, we learned more about their actions, attitudes, and motivations than by simply observing them. Through the combination of these methods, we did not only learn about people's technical competencies, as well as their critical thinking, the underlying motivations of their actions, and their affects when using social media. The interview contained the following topics: the choices; motivations; technical competencies; cognitive competencies; and emotional competencies shaping the participants' use of Facebook.

The second study

In the second study, which ran from May until June 2014, we focused on the social media literacy practices of the Flemish population in general. For this study, we first conducted a large-scale survey (N = 2332) with the support of a professional market research agency. Later, we carried out diaries to compare the survey questions to the qualitative data.

The survey was conducted using an online questionnaire; it was distributed via email and social media. On the first page of the survey, the respondents were informed about the aim of the survey and that the questionnaire would be anonymous. All Flemish people over the age of 16 years were eligible to participate. As an incentive to fill out the survey, respondents had a chance to win gift vouchers for several stores. In total, 2332 people participated in the survey. The response rate cannot be verified because the distribution of the survey was done through different channels, including social media.

Respondents were required to provide information on their use of social media in general and on their use of Facebook. Using survey questions, we examined the state of social media literacy, as proposed in Section 4.1: we included a self-efficacy question, a frequency question, a familiarity question, a critical thinking question, trust questions, and an attitude question. In addition, we asked respondents for demographic information, including their age and gender, education level, living and working situation, and the extent to which they have access to certain digital devices. Weighing our data for age and gender, our sample was distributed as follows: 49.3% men, 50.7% women; the average age was 42 (SD = 16.41). Randomizing the questions and making them mandatory allowed us to obtain as much information as possible from our respondents. At the end of the questionnaire, respondents were provided the opportunity to indicate their willingness to participate in the follow-up diary study.

In the second step, we carried out a semi-structured diary study. To select participants for this step, we examined the social media literacy profiles using a *k*-means cluster analysis on the questions. For interpretation purposes, we did not include all of the social media literacy survey questions in our cluster analysis. However, we did make sure to include survey measures on all of the social media literacy attributes: technical competencies (self-efficacy question), cognitive competencies (critical thinking question), emotional competencies (attitude question), knowledge about Facebook (knowledge part of the trust Facebook questions), and social media use (frequency of Facebook use and number of activities performed during the last year on

Facebook). In order to identify the appropriate number of clusters (k), we first conducted a hierarchical cluster analysis on the social media literacy questions. We used Ward's method of linkage and squared Euclidean distances, or the 'minimum variance method', designed to generate clusters in such a way that mergers at each stage are chosen to minimize the within-group sum of squares (Gong & Richmann, 1995). Examination of the dendrogram revealed peaks at five clusters for Facebook. Table 9 provides an overview of the Facebook clusters and their main characteristics. These clusters differ significantly for both gender ($p < 0.001$) and age ($p < 0.001$). For interpretation purposes, we standardized all variable scores. We briefly describe each cluster below.

Table 9 K-Means clustering social media literacy profiles (* $p < 0.05$, *** $p < 0.001$)

Social media literacy profiles		Uninterested users (4.5%)	Reckless users (9.5%)	Habitual users (31.0%)	Cautious users (19.9%)	Critical users (19.9%)	F	MSQ ^a
Frequency of use		-0.07	0.64	0.68	0.61	0.63	103.62***	9.27
Activities		-0.91	1.01	0.70	0.82	1.01	307.21***	64.48
Knowledge ¹²		0.40	0.13	0.56	-0.67	0.81	327.08***	126.16
Technical competencies		-1.86	-0.75	0.45	0.38	0.29	616.01***	126.70
Cognitive competencies		0.24	-0.69	-0.11	1.00	0.98	485.11***	158.90
Emotional competencies		-0.42	-0.00	0.68	0.83	-0.52	247.62***	147.23
Gender ^b	Male	0.71	0.13	0.08	0.07	0.12		
	Female	0.29	0.87	0.92	0.93	0.88		
Average age ^b		36.35 (12.67)	26.36 (9.85)	23.67 (5.13)	24.28 (9.05)	23.93 (6.18)		

^a MSQ = Mean square clusters

^b Descriptive socio-demographic statistics of respondents corresponding to the four parenting styles

The first Facebook cluster, or 'uninterested users', consists of respondents who do not use Facebook often, and who perform the least activities in comparison to the other clusters. The people in this cluster have relatively negative attitudes towards Facebook, and average cognitive competencies compared to the other clusters. Compared to the other clusters, these users have the lowest score on technical competencies. We assume that users who are socially or professionally encouraged to use Facebook belong to this group. They may be

¹² In this clustering, we considered knowledge about what Facebook can or cannot do (i.e. the knowledge part of the trust Facebook survey questions). One should be aware that, in this, we do not measure cognitive competencies; just what they know or do not know. Cognitive competencies are measured here with the critical thinking question.

teachers, who have had an introduction on Facebook basics so they are able to deal with their students' changing media use, or they may be parents who feel that they need to monitor their kids' behaviour, but do not really want to use social media for themselves. Although these users have some basic knowledge about Facebook, they have no further interest in using it often. We name them the 'uninterested users'. They are the only cluster with a higher portion of males than females and these users predominantly belong to the oldest age group. This cluster is the smallest group, with only 4% of the respondents belonging to it.

The second Facebook cluster contains respondents who use Facebook a lot: these users spend a lot of time on Facebook and they perform many different activities. However, they have almost no knowledge about Facebook's operations and they do not often think about the activities of the social medium. We label them the 'reckless users'. The technical competencies of these users are low, only the uninterested users have lower technical competencies. The reckless users have a rather neutral attitude towards Facebook. Since they do not really (care to) see the risks associated with Facebook use, there is nothing stopping them from doing whatever they feel like – hence the high variety of activities. With 9% of the respondents, the reckless users are a relatively small cluster and are predominantly young and female.

Because they visit Facebook most frequently in comparison to the other clusters but perform significantly fewer activities than the reckless users, we call the third cluster the 'habitual users'. There is not necessarily a connection between frequency of use and variety of activities, since one can visit a social medium very frequently out of habit, without actually doing much on it. Compared to the other clusters, the habitual users have a relatively positive attitude towards Facebook. These users have significant knowledge about the social medium and (think they) are very capable in using it; they have the highest technical competencies of all the clusters, which may be due to their frequent visits to the social medium. For the most part, these users probably do the same activities every time they visit Facebook, such as scrolling their newsfeed and occasional status updates. With an average age of 23, the habitual users are the youngest cluster and they are predominantly female.

Our fourth Facebook cluster consists of users who do not use Facebook often and who do not perform that many different activities when they use it. They have high levels of technical competencies in comparison to the other clusters. Although these users think a lot about their own and others' actions on Facebook and thus have a high level of cognitive competencies, they have a low level of knowledge about how Facebook operates. We call these people 'cautious users'. They may try to protect themselves by limiting their use. However, although they realize that they do not know enough about the social medium to use it without risks and they consequently refrain from doing so, they do so without becoming pessimistic and they still have the most positive attitude of all the clusters. This may be due to their poor knowledge and the fact that they do not know about all of the risks that Facebook use entails. They are thus intuitively cautious: they do not really know what they have to be careful about, but they know that some things might be dangerous, and they consequently, very thoughtfully, perform only the specific activities that they really want to perform. The cautious Facebook users have an average age of 24 and are predominantly female. Twenty percent of the respondents belong to this cluster.

The last Facebook cluster contains the 'critical users'. With 35% of the respondents, this is the largest cluster. These users use Facebook frequently and perform a number of different activities, about as many as the reckless users. However, they think more about Facebook operations than the reckless users and they have a significant amount of knowledge about Facebook, the most of all the clusters. However, their technical competencies are not very developed. This indicates that having high cognitive competencies does not necessarily guarantee that the users benefit from all of the social media advantages at all levels. It may also be the case that their self-assessed technical competencies reflect their critical stance, and that they evaluate themselves to be less technically skilled, since they realize more and more how many complex activities and mechanisms Facebook includes. The critical users have the most negative attitude towards the social medium. They have used Facebook for some time, and have had the time to learn about it and evaluate the site. With the knowledge they have gathered, combined with their critical mindset, they are pessimistic about the risks involved in using Facebook. They consciously think about every step that they take online; however, since they feel aware of Facebook's hazards and opportunities, they do not refrain from using it, as is the case with the cautious users. The critical users are young and predominantly female.

Although we found significant differences in the educational level of the users in the different clusters, we did not include this factor in our cluster descriptions. Because of the relatively young average age in some of the user groups, we cannot ensure that all of the respondents were even old enough to be highly educated at the point of the survey. This may bias the results, which is why we did not consider this variable.

This clustering is useful to understanding the state of social media literacy in Flanders. Nonetheless, we must be cautious, since we did not take people younger than 16 years into consideration, it cannot be generalized to the entire Flemish population. The clustering was also valuable in recruiting participants for the diary study. Since the participants for the diary study were recruited from the respondents who participated in the survey, we already had significant (descriptive) information about them. These participants were purposefully sampled on the criteria of having a specific profile of social media literacy. In total, we selected 41 respondents (with a response rate of almost 76%) to fill out the diaries and report on their activities on Facebook on a daily basis for one week. As an incentive to collaborate within the diary study, all participants received a gift voucher. The questions in our diary investigated the activities executed, their context and duration, and the emotional and cognitive processes underlying them. Most of the questions were open-ended, allowing for rich and detailed experience descriptions (Palen & Salzman, 2002). We only used a closed-ended questioning method when we queried the emotional state and activities, which may partially compensate for the respondents struggling to answer open-ended questions.

Before implementation, the diary was pretested, from both a technical and an end-user perspective, to uncover potential participant difficulties, which are frequently overlooked by researchers (Bolger, Davis, & Rafaeli, 2003). The diaries had to be completed in an online form, easing the entry and management of the data and enhancing its accuracy (Bolger et al., 2003). Realising that our participants may be highly mobile during the day and not have

constant access to the Internet, we equipped them with a pen and paper version of the diary, on which they could take notes, and later use to fill out the online version. This reduced the time that elapsed between the execution of the activity and the accounting of the experience, which ultimately reduces the likelihood of introspection and thus enhances the reliability of the diary entries (Bolger et al., 2003).

We also provided the participants with a list of possible activities on Facebook. This served to remind them that all activities were to be reported, even if they seemed insignificant, and to guide them in the specificity with which they were supposed to enter their activities. Numerically coding the list made the actual filling out of the diaries a little less labour-intensive for the participants; all they had to do was indicate the code of the activity. We also added an option that allowed users to indicate when no social media were used at all that day. After coding their activity, the participants had to provide additional information on their experiences, such as their reasons for performing the activity and their thoughts and feelings regarding it. To allow them to elaborate more freely on these feelings, an open field complemented the closed-end question about participants' emotional state.

Aside from the activities list, follow-up and involvement of the researcher enhanced the quality of the diary entries. By monitoring the diary entries closely, we were able to guide the participants through the process, assist them when certain questions appeared to be unclear. Participants who failed to submit their activities in the online form were contacted and urged to fill out his/her diary. By encouraging our participants to fill out their diaries every day, we hoped to lose as little information as possible due to participants either forgetting about or minimizing their experiences (Bolger et al., 2003).

Not all of the methods and questions were used in both studies. In the reflections below, along with each point, we refer specifically to the study from which we derived the results.

4.3.2. Step 1: Correlation between technical competence survey questions and performance tests

This section contributes to the literature on refined survey measures of digital literacy, and more specifically of social media literacy. By comparing the survey questions with people's actual competencies found in the performance test, we can determine whether the questions asked in the survey can be used as a proxy for people's actual technical social media competencies. To examine this, we used the data of the first study, since it was the only study where we coupled a survey with a performance test. Here, we only concentrate on technical social media competencies, as the performance test contained no information about people's cognitive and emotional competencies.

We calculated the Spearman rank correlation coefficients between the different survey questions of people's technical competencies and the two indicators of people's actual technical abilities: percentage of tasks successfully completed in the performance tests (i.e. effectiveness) and the amount of time spent on each task (i.e. efficiency). We chose to use Spearman rank correlations over Pearson's correlations as the latter is less advisable here

because of the ordinal scales and the monotonic (non-linear) relationship between the variables (Howitt & Cramer, 2004).

Table 10 presents the Spearman's correlation coefficients between the familiarity questions for technical competencies in the survey and the two outcomes of the performance test (i.e. percentage of tasks successfully completed and time spent on the nine tasks).

Table 10 Spearman's correlation coefficients between the knowledge survey question, and the percentage of tasks successfully completed in the performance tests and the amount of time spent on each task [$*p < 0.05$, $**p < 0.001$]

How familiar are you with the following items?	Percentage of tasks successfully completed	Time spent
Time line	0.33*	-0.01
Sharing	0.31*	-0.09
Friend lists	0.08	-0.36*
Privacy statement	0.24	-0.18
Privacy settings	0.46**	0.01
Apps	0.10	-0.07
Advertisement	0.26 ^(*)	0.13
Events	0.38*	-0.31 ^(*)
Groups	0.23	-0.29 ^(*)

Concerning the percentage of tasks successfully completed, the coefficients are in the expected direction. All of the correlation coefficients are positive, suggesting that self-reported ratings of familiarity with social media terms correlated positively to people's actual technical competencies. In the majority of the cases, the coefficients are statistically significant for the percentage of tasks successfully completed outcome of actual technical competencies. This suggests that the created items may be used as a proxy measure in the survey for actual technical competencies.

For the time spent on each task most of the correlations are negative, meaning that people with a better understanding of social media terms took less time to perform the tasks. However, the majority of the cases are not statistically significant for time spent as outcome for actual technical competencies, not even when we consider borderline significant^(*) results. Borderline significance means that the p -value is just over the arbitrary threshold for significance, in this study between 0.10 and 0.05. Since it is possible that with more participants these correlations would be significant, we mention borderline significance in the tables (Motulsky, 1995).

It is noteworthy that for both the 'privacy settings' and the 'advertisement' terms, the correlations are positive for time spent as the outcome for actual technical competencies. During the performance test, we also observed that even people who were familiar with privacy settings and advertisements on Facebook needed a significant amount of time to perform these activities. It is additionally noteworthy that the term 'friend lists' is the only item that statistically correlates with the time spent outcome of actual technical competencies. The

participants who knew the term 'friend lists' were extremely fast in performing the related activity; the others did not have a clue how to perform it.

Most existing empirical research on people's media literacy focuses more on the frequency question to measure people's media literacy and Internet literacy in surveys (van Deursen, 2010). For testing whether this frequency survey measure can serve as a proxy for people's actual technical competencies, we also calculated the Spearman's correlation coefficient between the frequency question and people's actual technical social media competencies. Table 11 presents the results.

Table 11 Spearman's correlation coefficients between the frequency survey question and the percentage of tasks successfully completed in the performance tests and the amount of time spent on each task (* $p < 0.05$, ** $p < 0.001$)

How often do you do the following activities?	Percentage of tasks successfully completed	Time spent
Removing content from the time line	0.09	0.15
Sharing text messages, photos, or movies	-0.26 ^{**}	-0.19
Using friend lists	-0.03	-0.12
Reading the privacy statement	0.07	-0.15
Changing the privacy settings	0.23	0.06
Removing an app or application	0.24	-0.16
Deactivating (network) advertisement	0.04	-0.06
Inviting friends for an event	0.23	-0.23
Using groups	-0.12	-0.17

Here, the majority of the correlation coefficients are also in the expected direction. However, only one correlation is significant. This suggests that the created frequency measure is less suitable for use as a proxy for actual technical competencies.

Another possible proxy for technical social media competencies is self-efficacy, a very common measure in the existing media literacy research (Hargittai & Shafer, 2006). Table 12 shows the Spearman's correlation coefficients between the self-efficacy question measure and the two outcomes of actual performance.

Table 12 Spearman's correlation coefficients between the self-efficacy survey question and the percentage of tasks successfully completed in the performance tests and the amount of time spent on each task (* $p < 0.05$, ** $p < 0.001$)

How good are you in performing the following activities?	Percentage of tasks successfully completed	Time spent
Removing content from the time line	0.20	-0.09
Sharing text messages, photos, or movies	0.12	0.03
Using friend lists	0.12	-0.12
Reading the privacy statement	0.07	-0.15
Changing the privacy settings	0.39*	-0.09
Removing an app or application	0.17	-0.02
Deactivating (network) advertisement	-0.04	-0.08
Inviting friends for an event	0.29* ¹	-0.09
Using groups	-0.04	-0.07

Similar to the above findings, the majority of the coefficients are in the expected direction. Although the correlations here are higher for some items and lower for others, there are more significant items, than between the frequency survey question and the performance outcomes. However, the correlation coefficients are lower than the correlations between the familiarity question and the performance outcomes. This means that the self-efficacy question is more suitable to measure technical competencies than the frequency question, but less suitable than the familiarity question.

In concurrence with Hargittai (2005), we conclude that the familiarity question is the most ideal survey question to measure people's actual technical social media competencies. In contrast with van Deursen (2010), we found that the frequency question is least suitable to measure people's actual technical competencies.

4.3.3. Step 2: The relationship between the survey questions to measure social media literacy and interview data.

By comparing the survey questions to people's technical competencies, cognitive competencies, and the emotional competencies mentioned by the participants in the interviews, this section also contributes to the literature on refined measures of social media literacy. We do this to obtain an indication as to whether the survey questions can serve as a proxy for measuring social media literacy. For doing this, we rely on the data of the first study, since it contains both survey and interview data.

We used the matrix-coding query in NVivo to compare the survey question answers with the interview data. Since it is not possible to compare an exact score from a Likert survey scale or interval variable with a quote in the interviews, we divided the scores of the survey questions on five points into three categories, which were easy to compare with the answers in the interviews. The participants who scored between 1 and 2.5 on the survey questions got a low competence category; those who scored between 2.5 and 3.5 got the medium competence category; and the ones who scored between 3.5 and 5 got the high competence category. We used this division because, on each variable, the median and average score was between 2.5

and 3.5. A participant who scored 4/5 on the cognitive competence survey questions is categorized as highly cognitively competent. A participant who scored 2/5 on technical competencies in the survey was categorized as low technical competent. Through matrix coding queries, we could link this survey information, which was put in NVivo 10 through a classification sheet, to the quotes of the participants. Below, we present the matrix coding queries for the different survey questions. The codes of the survey data are in the rows of the matrix and the codes of the interviews are in the columns. Participants were categorized 'low' if the majority of their quotes reflected a low level of competency. Those who had the same number of quotes for the high and low competencies were excluded from the analysis. In the interviews, we did not consider the category of medium competencies, as it is difficult, sometimes impossible, to define what a medium competence is in the quotes of the participants. Consequently, we only coded the participants' quotes as high or low competencies.

For technical competencies, we compare the three different survey questions specifically, the familiarity question, the frequency question, and the self-efficacy question with the interview data. Regarding the familiarity question, we note that most of the participants who say in the survey that they are familiar with many of the social media terms also indicate in the interviews that they have a high level of technical competency. However, the majority of the participants overestimated themselves in the survey. In Table 13, we can see that the majority of the participants got a high or medium score in the survey, but only a low competence in the interviews. From the interviews, we notice that, for the most part, this mismatch is connected to privacy related technical competencies, which include the adjustment of privacy settings, the adjustment of the visibility of personal information, and the use of friend lists. The eleven participants who had a high score on both the survey and interviews primarily mention in the interviews that they are good in the activities on Facebook that require very little brainwork (in contrast to changing privacy settings, for example), such as making an event, liking messages/photos/movies, [de]friending, and tagging. Therefore, in the survey, people frequently indicate that they are very familiar with a certain social media term, even though they are not always that good at performing the activity on Facebook. This is quite logical, as people can be very familiar with a term without being good at performing that particular activity.

Table 13 Matrix query between the familiarity question and the technical competencies in the interview

Survey codes	Interview codes	
	Low	High
Low	0	0
Medium	4	0
High	9	11

Table 14 indicates that the frequency question for technical competencies provides a good estimate for low technical social media competencies. This is quite logical, as people are not always that good at activities that they do not do often. However, some participants underestimate themselves in the survey though the frequency question. According to the interview data, this underestimation is related primarily to activities they do not often do, but that they are good at, such as blocking people, sharing messages/photos/movies, and deleting friends.

Table 14 Matrix query between the frequency question and the technical competencies in the interview

Survey codes	Interview codes	
	Low	High
Low	10	5
Medium	6	6
High	0	0

In Table 15, we found that most of the participants who indicate a high self-efficacy on technical competencies in the survey also indicate in the interviews that they have a high level of technical competencies. The difference between that and the familiarity question is that the participants overestimate themselves less strongly here. Still, Table 15 shows that many participants got lower codes in the interviews than in the survey. Again, this incongruity has to do with privacy related technical competencies. Therefore, we conclude that the self-efficacy question is a more adequate measurement instrument to assess high technical competencies than to assess low technical competencies. It is, for example, possible that the participants have problems estimating themselves when they are not good in performing an activity. This may also indicate social desirability, as people are more inclined to say that they are good at something than to say they are not good at it.

Table 15 Matrix query between the self-efficacy question for technical competencies and the technical competencies in the interview

Survey codes	Interview codes	
	Low	High
Low	1	0
Medium	10	2
High	4	10

For cognitive competencies we used the situation-based questions¹³. As the name suggests, situation-based questions are questions wherein we present a situation and ask how the participant would react in this situation; they have four response choices. Many participants,

¹³ Situation-based questions are, as the name suggests, questions wherein we present a situation and ask how the respondent would react in this situation with four response choices. An example of such a situation is: You want to spread the following message to a few friends: 'My parents are on vacation this week, I'm home alone, so come on down.' Then we asked the respondents what they should do in this situation: [1] I put this message in a status message; [2] I send it in a private message; [3] I put this message in a group; or [4] I make an event and invite a few people whom I want to come.

however, skipped these questions. From the interviews we learned that many participants did not answer these questions because they did not agree with any of the four response choices and/or because the questions require too much thinking. In addition, we found no connection between the answers on this question and the cognitive competencies in the interviews. We conclude that these situation-based questions are not ideal as survey proxy measures for cognitive competencies and, therefore, we did not include the situation-based question in the toolkit.

With emotional competencies, we notice in Table 16 that what the participants indicate in the survey about their emotional competencies¹⁴ does not completely match with what they say in the interviews. The majority of the participants indicate less positive attitudes towards Facebook in the survey than in the interview. Specifically, when asked directly about their attitudes towards Facebook in a survey, people are more negative about Facebook as a social media company than when they are asked to talk about their activities on Facebook in the interviews. When confronted with their own stories in the interviews, they primarily mention the advantages of Facebook.

Table 16 Matrix query between the attitude question and the emotional competencies in the interview

Survey codes	Interview codes	
	Negative	Positive
Negative	1	6
Average	2	17
Positive	0	4

Here, we can conclude that the self-efficacy and familiarity questions serve as a good proxy for technical social media competencies. The survey measures for cognitive and emotional competencies are less appropriate. Nevertheless, we acknowledge that interviews are not the most ideal method for validating survey questions, as scholars cannot look into people's heads or know with 100% certainty what they are really thinking (Weiss, 1994). The latter can also be said about the performance test: people can lie and say that they do not know how to perform a task in order to, for example, complete the test very quickly.

4.3.4. Step 3: The relationship between the survey questions to measure social media literacy and the diary data

In this section, we compare the participants' technical, cognitive and emotional social media competencies, as measured in the large-scale survey, with their competencies, as measured in the diary study in Study 2. This enables us to detect whether our survey questions really measure what we want them to measure, and which questions are best suited as proxies for actual competencies.

¹⁴ Since it is not possible to make statements about an individual's critical attitudes in the interviews by only considering the attitude quotes, we only compared here whether positive and negative attitudes in the survey match with positive and negative attitudes in the interviews. This is not to say that is not valuable or impossible to detect whether people have a critical attitude through survey data; on the contrary, it is a key component to measuring people's social media literacy. However, here we only wanted to know whether the attitude question really measures people's attitude.

We used the matrix-coding query in NVivo to compare the survey question answers with the diary data. Since it is not possible to compare an exact score from a Likert survey scale or interval variable with a quote in the diaries, we divided the scores on the survey questions on five points into three categories, which were easy to compare with the answers in the diaries. The participants who scored between 1 and 2.5 on the survey questions got a low competence category; those who scored between 2.5 and 3.5 got the medium competence category, and the ones who scored between 3.5 and 5 got the high competence category. We used this division because the median and average score on each variable was between 2.5 and 3.5. A participant who scored 4/5 in the cognitive competence survey questions was categorized as highly cognitively competent. Below, we present the matrix coding queries for the different survey questions. The codes of the survey data are in the rows of the matrix coding queries and those of the diaries are in the columns. Participants were categorized as 'low' if the majority of their quotes reflected a low level of competency. We excluded, from the analysis, individuals who had the same number of quotes for high and low competencies. We did not have a code for medium competencies in the diary codes, as it is difficult, sometimes impossible, to determine what a medium competence is. Consequently, we only coded the participants' quotes as high and low competencies.

For technical competencies, we compared the frequency and self-efficacy questions with the diary data. We did not include the survey's complete frequency question in Study 2, but instead asked the participants which Facebook activities he/she did in the past year. The latter can be seen as a derivative of the frequency question. Table 17 shows that the derivative frequency question appears to be a good proxy for technical competencies. Low and high technical competencies in the survey match with respectively low and high technical competencies in the diary.

Table 17 Matrix query between the frequency question and the technical competencies in the diary

Survey codes	Diary codes	
	Low	high
Low	8	2
Medium	4	3
High	2	7

Table 18 indicates that the majority of the participants estimated their technical competencies as quite good when the self-efficacy question was used. Facebook users who indicated to be skilled in this in the survey, also show high technical competencies in the diaries and vice-versa. The self-efficacy survey question is a good proxy for measuring technical competencies. Based on these two comparisons, it seems that the frequency and the self-efficacy questions are good proxies for measuring technical competencies.

Table 18 Matrix query between survey's self-efficacy question and the technical competencies in the diary

Survey codes	Diary codes	
	Low	High
Low	8	2
Medium	5	4
High	1	6

In the survey, cognitive competencies were measured by the trust Facebook questions (i.e. towards how Facebook operates), the trust Facebook users questions (i.e. towards other Facebook users), and the critical thinking question. In Table 19 it appears that the critical thinking question frequently leads to an underestimation of cognitive competencies. According to the diary data, this mismatch frequently occurs when people who are simply scrolling through their newsfeed express critical ideas about how Facebook works or why other users post certain things. However, it is possible that participants only remember these thoughts when they are confronted with them (cf. diaries).

Table 19 Matrix query between the critical thinking question and the cognitive competencies in the diary

Survey codes	Diary codes	
	Low	high
Low	2	11
Medium	0	3
High	3	9

The trust Facebook questions, which combine the users' knowledge about Facebook operations and the extent to which they mind the site doing these things, correctly estimates cognitive competencies. Table 20 illustrates that the users with low trust in Facebook in the survey have high cognitive competencies in the diary study. Specifically, all of the people who do not trust Facebook do indeed think a lot about its actions. The diaries indicate that these people, for example, think about advertisements on Facebook, about what Facebook does with their user data, and consequently about what they should or should not post on their profiles. All of the participants who highly trust Facebook think more about what other users on Facebook can do with their personal information and user data. Hence, although we can conclude that these survey questions correctly measure whether people think a lot about Facebook as a company or not, they say nothing about how people think about the users on this platform. Therefore, we also set up the trust Facebook users question.

Table 20 Matrix query between the trust Facebook questions and the cognitive competencies in the diary

Survey codes	Diary codes	
	Low	High
Low	0	6
Medium	5	13
High	0	4

Table 21 illustrates that the trust Facebook users questions, which are essentially a combination of the participants' knowledge of what their friends can do on Facebook and the extent to which they mind their friends doing these things, is a relatively good proxy for cognitive competencies. Again, we notice that the people with a low trust in the other users on Facebook have high cognitive competencies and thus think frequently about, for example, what other users can do with their personal information or user data. Nonetheless, although we notice that the people who highly trust the other users on Facebook also ask many questions about what other users do, these questions have nothing to do with how other users can harm them. Instead, the latter rather think about what other users post (e.g. they ask questions about how many reactions their post would get) and why their friends post certain things on their profiles. We can conclude that the combined trust questions (i.e. trust Facebook questions and the trust Facebook users questions) are a good survey proxy measure for cognitive competencies. Participants with a low level of trust ask many (critical) questions about how Facebook or its users can harm themselves or others around them, while participants with a high level of trust worry less about these things.

Table 21 Matrix query between the trust Facebook user questions and the cognitive competencies in the diary

Survey codes	Diary codes	
	Low	High
Low	0	3
Medium	2	13
High	2	7

For emotional competencies¹⁵, we compare the attitude question (i.e. towards Facebook as a company), the attitude Facebook question (i.e. towards how Facebook operates), and the attitude Facebook users question (i.e. towards what other Facebook users can do on Facebook) with the diary data. In Table 22, we notice that the attitude question leads to more negative attitudes in the survey comparison to the diary data. This does not match with what we found in the comparison with the interview data. It is possible that the participants are confronted with more negative aspects of Facebook when they actually use it and thus are more negative about Facebook in the diaries than when they must generally indicate their attitude in the survey.

Table 22 Matrix query between the attitude question and the emotional competencies in the diary

Survey codes	Diary codes	
	Negative	Positive
Negative	1	0
Average	20	4
Positive	2	1

¹⁵ As it is not possible to make statements about someone's critical attitudes in the diaries by only considering the attitude quotes, we only compared here whether positive and negative attitudes in the survey match with positive and negative attitudes in the diaries. This is not to say that is not valuable or impossible to detect whether people have a critical attitude through survey data, on the contrary, it is a key component to measure people's social media literacy. But here we only wanted to know whether the attitude question really measures people's attitude.

Measuring emotional competencies using the attitude Facebook question may be a better idea. This survey question seems to estimate actual attitudes quite well. Participants who indicate minding whether Facebook does certain things (i.e. negative attitude) also have negative attitudes in the diary study about how Facebook operates. Those with average attitudes in the survey have predominantly negative attitudes; these users mainly indicate that they find their use of Facebook a waste of time and that it is not interesting. They do not like the fact that checking Facebook has become a habit and they feel somewhat addicted. The ones with an average attitude are thus more negative about their own behaviour on Facebook than on how Facebook really operates. The ones with positive attitudes in the survey are evenly divided between positive and negative attitudes. Table 23 also indicates the same trend as above: people estimate their attitudes as more positive in the survey than they do in the diary. Nonetheless, this attitude Facebook question is a better proxy for people's attitudes than the attitude question. However, it only indicates what people's attitudes are towards Facebook. To measure people's attitudes towards the users of Facebook we will need the question addressed in the next paragraph.

Table 23 Matrix query between the attitude Facebook question and the emotional competencies in the diary

Survey codes	Diary codes	
	Negative	Positive
Negative	4	1
Average	17	2
Positive	2	2

Participants indicating negative attitudes towards Facebook users' operations also indicate negative attitudes in the diaries. However, those indicating average or positive attitudes in the survey also show relatively negative attitudes in their diary entries. Similar to the attitude questions above, this survey question results in an overestimation. Table 24 shows that the participants appear more negative in the dairy study than in the survey. The participants with positive attitudes in the survey indicate in the diaries that their friends post useless things that are not at all newsworthy or interesting. While the people who have negative attitudes in both the survey and diary indicate that they are sometimes afraid of what other users can do with the information they have (e.g. posting an embarrassing photo of long ago) or with the information you have once posted (e.g. poor song or movie choice).

Table 24 Matrix query between the attitude Facebook user question and the emotional competencies in the diary

Survey codes	Diary codes	
	Negative	Positive
Negative	11	2
Average	9	2
Positive	3	1

Based on these comparisons, it seems that for Facebook, neither of the attitude questions are really good proxies for measuring emotional competencies. They all overestimate actual attitudes. It may be that users are more positive about Facebook and its users when they are directly asked for their attitudes in a survey, than when they are confronted with their own and their friends' actions while simultaneously filling out their diaries. The attitude Facebook question and survey attitude Facebook users question are the best proxies for emotional competencies.

4.3.5. Step 4: Discriminant validity of and factor analysis on the survey questions

Discriminant validity can be established when items that should not be related (i.e. items from different questions) are indeed not related. We rely on the Fornell and Larcker criterion, which is satisfied when an item is more closely related to its own indicators than to other items. Below, we discuss the convergent validity of survey questions, which occurs when items that should be related (i.e. items within the same question) are in fact related. If both convergent and discriminant validity can be demonstrated, there is strong evidence for the questions' construct validity (Fornell & Larcker, 1981). For the latter, we use a correlation matrix between the different survey questions on technical, cognitive competencies, and emotional competencies. We used the Cronbach's alpha to test the internal consistency between the items within one question. Based on these statistical techniques, we were able to extract the items with the highest potential for further analysis. The items remaining after completing the discriminant validity test were further validated in a factor analysis. This procedure results in a reduction in the number of items per survey question, which fits the measurement model better. The data were checked for normality before completing the factor analysis.

For technical competencies, all items in the survey questions (i.e. the survey familiarity question in Study 1, the frequency question in Study 2, and the self-efficacy question in Studies 1 and 2) showed discriminant and convergent validity. To increase internal consistency, one item (deactivating advertisement) was deleted in the frequency question in Study 2. The internal consistency of these questions was also very high, measured with Cronbach's α coefficients. The familiarity question has a Cronbach's α of 0.87 in Study 1 (correlations ranging from 0.01¹⁶ to 0.89). For the frequency measure, α is 0.83 (correlations ranging from 0.09 to 0.53). The new variable in Study 2 yields an α of 0.87 (correlations ranging from 0.16 to 0.64). For the self-efficacy question, α is 0.86 (correlations ranging from 0.02 to 0.76) in the first study and 0.99 in the second study (correlations ranging from 0.31 to 0.83).

The factor analysis revealed a separate factor for the familiarity question in Study 1 if two items are eliminated, specifically, the 'privacy statement', and the 'friend list'. These items also scored poorly in the comparison with the performance test (cf. Section 4.3.2).

¹⁶ Some of the correlations of the remaining items are rather low. This does not mean that the item does not fit the rest of the items in the question well and thus should be removed. On the contrary, we kept these items because of their sufficient convergent and discriminant validity values, due to higher correlations with the other items of the same questions and low correlations with items of other questions. It may be that some items do not correlate that well with *all* of the items of the question, which explains the low number in the correlations range. One low correlation is however no reason to remove the item.

Since the items of the survey frequency and self-efficacy questions in Study 2 correspond highly in pairs on a content level, it is not logical to remove an item in the frequency question and retain it in the self-efficacy question, or vice versa. We thus created new variables by combining the questions in pairs (i.e. 'Did you perform the activity in the past year?' and 'How good are you at performing the activity?'). We conducted a confirmatory factor analysis on these variables and only removed the items in the original questions for which the combined variable would also have to be eliminated, or for which both separate original variables have been eliminated in the steps described above. If an item was eliminated in only one of the corresponding questions, and was not removed when analyzing the combined questions, we again included the item in the survey question scales. According to this factor analysis, only one item must be eliminated in the frequency and self-efficacy questions, more specifically the item about deactivating an advertisement. The remaining items of the familiarity, self-efficacy, and frequency questions can be found in the toolkit.

Regarding cognitive competencies, all of the items in the critical thinking question showed discriminant and convergent validity. The internal consistency of these items, measured with Cronbach's α coefficients, is 0.71 [correlations ranging from 0.44 to 0.73]. In evaluating the Facebook trust questions, we noticed that three items did not show convergent validity (i.e. removing an inactive account, showing all actions of friends in the news feed and communicating significant changes in the operation of Facebook to its users). This creates a new variable with a Cronbach's α coefficient of 0.87 and correlation coefficients ranging from 0.01 to 0.76. In the trust Facebook users questions, all items showed discriminant and convergent validity. The combined items of the trust Facebook users questions have a Cronbach's α coefficient of 0.79, with correlations ranging from 0.15 to 0.52.

The factor analysis reveals one factor for the critical thinking question. The factor analysis on the trust questions reveals that we have to eliminate the following items: removing an inactive account, clearly communicating changes in Facebook's terms and privacy policy, and displaying all actions of friends in the news feed. In the toolkit, we have included the items that remain for the critical thinking and trust questions.

For emotional competencies, the attitude question showed discriminant and convergent validity. For the attitude question, the Facebook question had a very high internal consistency ($\alpha = 0.89$, correlations ranging from 0.34 to 0.77). In evaluating the attitude Facebook question we noticed that three items did not show convergent validity (removing an inactive account, showing all actions of friends in the news feed and communicating significant changes in the operation of Facebook to its users). This creates a new variable with a Cronbach's α coefficient of 0.87 and correlation coefficients ranging from 0.01 to 0.76. In the attitude Facebook users question, all items showed discriminant and convergent validity. The combined items of the attitude Facebook users question have a Cronbach's α coefficient of 0.79, correlations ranging from 0.15 to 0.52.

The factor analysis revealed one factor for the attitude question, which means that we do not have to eliminate additional survey items. None of the items were deleted. For the attitude Facebook and Facebook users question, we deleted the same items as in the trust Facebook

and trust Facebook users questions, as the attitude question is a component of the trust questions. The remaining items can be found in the toolkit.

4.3.6. Conclusion on self-reported ratings

This section analyzed the proxy survey measure for social media literacy. Four steps were followed to obtain valid items. In the first step, correlations between the survey questions for technical competencies and the results of the performance test were calculated. This step revealed that the familiarity question is the best proxy for actual technical competencies. In the second and third steps, we respectively compared survey questions with the interview and diary data. According to steps two and three, the familiarity question, and the self-efficacy and frequency questions, are the best proxies for technical competencies, respectively. As the performance test can be seen as the 'best' method (in addition to observation) to measure technical competencies we can conclude that the familiarity question is the best survey proxy measure. Concerning cognitive competencies, we notice in both steps two and three that the situation-based and critical thinking questions are not sufficient as proxies for cognitive competencies. However, the trust questions are a good indicator for people's cognitive competencies. These are the first steps in the correct direction towards measuring cognitive competencies through surveys. For emotional competencies, we notice that the attitude question sometimes led to an overestimation and sometimes to an underestimation, which led us to the conclusion that this is not a very good proxy for emotional competencies. The survey attitude Facebook and attitude Facebook users questions together are a better proxy for measuring emotional competencies in a survey. In the final step, the Fornell and Larcker (1981) criterion was used to test discriminant validity and the remaining items were further analyzed using a factor analysis. The items that resulted from these four steps could be used in future survey measures.

These survey questions (which are included in the toolkit) produce a list of social media competencies that in themselves carry little information about people's social media literacy in general. An index of the social media competencies variables can be used in subsequent analyses as a dependent or an independent variable, with higher scores indicating a higher level of social media literacy. If possible, so if the research question permits this, we recommend looking for patterns of respondents that have similar combinations of social media competencies. Hence, we advise to make social media literacy profiles or to detect an a priori unknown number of respondent groups that are internally homogenous and externally heterogeneous concerning their social media competencies. A standard technique to do this is cluster analysis (see Section 4.2.).

Although these methodological findings are essential guidelines for developing an assessment tool for social media literacy through surveys, three things should be considered:

1. In multi-method testing errors could occur on three levels: on the level of the method, on the level of the respondent, and on the level of analysis. It is possible than one method is more appropriate for measuring certain competencies than the other methods, which makes comparison between different methods difficult and perhaps impossible. Respondents have a strong tendency to give socially desirable answers,

which can influence the results of the above presented analysis. In the interviews and diary studies, the researcher is responsible for assigning codes to what the participant has said or written, therefore, if the researcher wrongly coded the data, this could also lead to errors. In the latter case, we must also consider that we, as researchers, are not value-free when we are encoding competencies. Certain things that we code as highly competent may be low(er) according to the participant. However, we must realize that *'a researcher can never be fully sure whether his or her measures really cover the full extent of a phenomenon'* (Courtois, 2012, pp. 4–17). This is certainly an utopia for social media literacy, as it is a complex construct that evolves over time;

2. Despite significant correlations in step 1 and obvious links between survey data and interview as well as diary data, we notice that people still face serious problems in indicating their own social media competencies (cf. overestimation and underestimation of competencies) through surveys. Therefore, further research should keep searching for adequate operationalizations of the competence items;
3. In order to minimalize these errors, it is advisable to rely on a combination of quantitative and qualitative methods.

Despite these limitations, this study represents an important first step for improving social media literacy measurement procedures in surveys. In a society permeated by social media, it is important for policymakers, civil society organizations and researchers to know which groups in society are lacking the competencies to effectively and efficiently deal with social media. In the preparation of the toolkit, more specifically the part of the development of the survey, the above findings were taken into consideration. This makes the toolkit immediately usable for policymakers, civil society organizations, and others aiming to measure social media literacy.



COLLECTION
OF PAPERS

5

COLLECTION OF PAPERS

Chapter 5 reports on how we brought the developed measurement instruments into practice by gathering empirical data about people's social media literacy. Since an important goal of the dissertation is to determine how people acquire and strengthen social media literacy, we focus on the factors that can improve (or form a barrier to) people's social media literacy. To this end, four papers are included in this chapter. First, this chapter presents the structure and organization and the main results of these four papers. We also indicate what the relationship is between each of the papers. Secondly, we include the full version of the four papers in the form they were submitted to international peer reviewed journals. All of these papers contribute to a deeper insight into how people acquire social media literacy.

In contrast to a PhD dissertation in the 'monograph' format, this thesis builds upon a selection of four papers that are published, accepted or under review with international journals (included in the Social Sciences Citation Index of Web of Science). All papers went or are going through a rigorous peer-review process and target a broad and international distribution. Each paper is based on research that is the result of a close interaction and cooperation with the stakeholders of the EMSOC project. The research questions of these papers were thus guided by the societal stakeholders' needs, questions and challenges, which ensured that the papers are rooted in the contemporary public debates of that moment. The latter is an illustration of the demand-driven character of this dissertation. Even though all papers are stand-alone readings that address a specific dimension of the central research question of this dissertation, they all have in common that they give insights into the factors that can improve (or form a barrier to) people's social media literacy.

Table 25 provides an overview of the four papers. This synopsis obviously indicates that the collection of papers can be called eclectic, as it does not hold to a single idea but draws upon multiple theoretical approaches, perspectives, target groups and methods to gain complementary insights into the factors that can strengthen people's social media literacy.

Each of the papers departs from one of the theories that were explained in Chapter 1. The first paper explicitly focuses on the domestication theory to study how people develop social media literacy at home, with a special focus on the role of parents in this. In paper 2, we investigated how different factors including outcome expectations (cf. SCT) and technical factors can predict young people's disclosure of personal information on social media. The choice for the ANT in paper 3 is also quite logic as this paper focuses on the of knowledge dissemination about social media among the library staff, with special attention to the role of the social media expert within that network. In this paper the focus is on the professional context as factor and more in specific the presence of an expert. In paper 4, we made use of the UTAUT model to investigate what personal and contextual factors determine to which social media literacy profile civil servants belong. As self-efficacy and outcome expectations are important variables in the UTAUT model, we can state that paper 4 is also indirectly based on the SCT.

These theories lead to differences in the methodological approaches of the case studies, as also indicated in Chapter 1. The domestication theory wants to better understand people's behaviour in the everyday context, such as in paper 1, and consequently draws on qualitative research (in-depth interviews), often in combination with a survey method. The ANT is linked to social network analysis, which has thus been used in paper 3. SCT is foremost linked to the quantitative survey methods as its main aim is to predict behaviour, which is the case in paper 2 and 4.

The four papers also focus on different target groups. The first two papers are especially focused on young people's social media literacy, while paper 3 and 4 are dedicated to employees. Despite all these differences between the papers, they all contribute to insights into which factors can improve (or form a barrier) to people's social media literacy.

Table 25 Overview of the four research papers

	Paper 1	Paper 2	Paper 3	Paper 4
Title	Negotiating social media at home: How young people develop social media literacy in the household	Adolescents' privacy protection behaviour on social network sites: Do culture and architectural features matter?	Experts as facilitators for the implementation of social media in the library? A social network approach	The necessity of Twitteracy: How and why civil servants employ Twitter for government communication
Aim	This study explores how young people develop social media literacy at home and how perceived parenting styles can serve as a factor in adolescents' development of social media literacy	This study explores the impact of the culture and architectural features of social platforms on adolescents' privacy protection behaviour and on the factors that predict this behaviour	This study examines if a social media expert in the library facilitates (or constrains) the other librarians' social media literacy development	This study examines how civil servants deal with social media and how the professional context influences their social media behaviour
Focus factors	Contextual factors	Technical factors	Contextual factors	Contextual factors
Target group	Young people	Young people	Employees	Employees
Approach	Domestication theory	Social Cognitive Theory (SCT)	Actor Network Theory (ANT)	UTAUT, a combined theory of user acceptance models including SCT
Method	Survey + interviews	Survey	Social network analysis + interviews	Survey

On the next pages we include the papers that report on the empirical research conducted within this doctoral project. Instead of a sometimes really short abstract, we have replaced the original abstract (as in the submitted and/or accepted version) by an extended abstract. This way, the reader quickly gets a sense of what to expect from the different papers.

5.1. Paper 1 - Negotiating social media at home: How young people develop social media literacy in the household

Full reference: Vanwynsberghe, H., Courtois, C., & Verdegem, P. (under review). Negotiating social media at home: How young people develop social media literacy in the household.

In this first paper, we explore how young people develop social media literacy at home. Based on the domestication theory, we assume that family's daily routines, rules, structures, norms and values determine the way young people use social media. As parents are a central determinant of the structure in the home, this paper especially focuses on the perceived parenting styles as a factor in adolescents' development of social media literacy. For the latter we build on parental mediation literature.

For this study we made use of a two-staged methodology, a quantitative and a qualitative stage, to get deeper insight into how adolescents' develop social media literacy at home and the role they think their parents play in this development. We conducted a large-scale survey with a sample of 1658 adolescents, between 12 to 18 years old, in order to get descriptive data about adolescents' social media use, social media literacy and the perceived parenting styles. To get richer data on the results derived from the survey data, i.e. gaining better insight on how adolescents experience parental mediation strategies and how they react to them, we conducted in-depth interviews with 27 adolescents who participated in the survey.

Using this multi-method study, we found three remarkable conclusions: (1) adolescents dominantly experience a permissive parenting style concerning their social media use; (2) the current parenting styles are not sufficient to mediate adolescents' social media use; and (3) adolescents' social media literacy in itself is a barrier for parental mediation.

These findings are especially relevant in the current age when parents are searching for ways to mediate their children's social media use. This study also provides educators and policymakers with the opportunity to rethink current media literacy education and mediation practices.

5.1.1. Introduction

Adolescents are in a prime position to benefit from social media. Scholars have long noted that the teenage years, between 13 and 19 years old, are subject to a tumultuous period of forming one's identity and developing one's role in society (Kroger, 2007). Adolescents fixate on social contacts and relationships during this time, and consequently experience increasing pressure to be on social media, as these media can help them present themselves to peers and acquaintances as well as develop and maintain relationships (boyd, 2008). However, these opportunities of social media may simultaneously entail risks, such as cyber bullying, inappropriate distribution of peer-to-peer content, increased commodification of personal information, and a lack of online privacy awareness (O'Keeffe & Clarke-Pearson, 2011).

An important challenge connected to this social media environment consists of enabling adolescents to maximize the opportunities and minimize risks associated with it. In this context,

the debate on media literacy comes into play. However, traditional interpretations of media literacy and related concepts (e.g. Internet literacy, information literacy, digital literacy, visual literacy) are no longer sufficient to fully understand how individuals deal with social media, considering the increasing participation of the user. A better concept is 'social media literacy', as it is a combination of the concept of 'social media', which refers to people's active participation in communicating and creating content, and the 'literacy' concept, which indicates the importance of pre-existing literacy-terms that refer to the relevance of both technical and cognitive competencies to deal with media (messages) (Livingstone et al., 2008). Being social media literate implies having both the technical and cognitive competencies required when using social media to search for information, to communicate, to create content and to avoid and solve problems, both in a professional and social context.

Even though adolescents are frequently portrayed as 'digital natives' or the 'net generation', they do not learn to be social media literate on their own (Jenkins, Purushotma, et al., 2009). They do this by interacting with others in different contexts, including the home. Despite the often-mentioned claim of the home as the natural social context for using media technologies (Kennedy & Wellman, 2007; Silverstone et al., 1992), little or no insights exist into how adolescents use social media at home. To this end, this paper attempts to contribute to a better understanding of how adolescents develop social media literacy at home. Although we admit that adolescents use social media in other contexts outside the home as well, we are especially interested in the home context, as we postulate that this is where most negotiations take place about the use of social media. Since parents are the ones who enforce rules and structure, but are simultaneously the nearest point of contact for questions and troubles in the home, also concerning their children's media use (Clark, 2011), we especially focus on how adolescents experience their parents' role in their social media literacy development.

In order to better understand adolescents' social media use in the home context, we first explain how the domestication theory has inspired this study. Second, we build upon parental mediation theory to gain insights into the role parents can have in adolescents' development of social media literacy. To investigate this role, a multi-method study was set up. Research findings and conclusions explicitly focus on adolescents' social media literacy practices and their perception of their parents' behaviour, which shapes how they use social media.

5.1.2. Home as the natural context for adolescents' development of social media literacy

Domestication theory has inspired the investigation of how people use and integrate new media in their everyday life for more than two decades (Berker et al., 2006; Silverstone & Hirsch, 1992). This social-constructivist theory focuses on '*what users do to and with technologies in order to fit them into their lives, to make them acceptable*' (Haddon, 2004, p. 4). This theory therefore stresses the role of human agency and thereby rejects technological determinism (Silverstone, 1991).

Domestication theory focuses on the natural social context of the home wherein members of the household are using media technologies (Silverstone et al., 1992). The household is seen as a 'moral economy' or a specific type of economic entity that gives and is given meaning by its members. According to the domestication theory, how people use media depends on the

structures, daily routines, norms and values of the people in that environment and the environment itself. In this study, we especially focus on the negotiation in the home, between the parent and the child, that determines and is determined by the daily routines of each family member, and which in turn would affect their media use as well (Berker et al., 2006).

Several studies already made clear that the use of social media thoroughly challenged and changed the family landscape of daily routines, structures, norms, values, and rule negotiation. Rainie and Wellman (2012), for example, indicate that social media not only connect adolescents to the outside world, as originally thought, but also provide a means for family communication. At the same time, communication through social media is not frequently discussed in person-to-person dialogues at home. Instead, adolescents increasingly use social media in the privacy of their bedrooms or through mobile devices and they tend to hide their social media profile and the information on it from their parents (Clark, 2011; Livingstone, 2008b; Livingstone & Helsper, 2008). There is a simultaneous pressure on parents to use social media themselves to access personal information about their children and to control their behaviour on these platforms.

Given the ambivalent position of the negotiation processes between parents and their children about social media use in the home, it is not clear how adolescents' develop social media literacy at home. To obtain a deeper understanding of these negotiation processes, we rely on the parental mediation theory. Parental mediation refers to the active role that parents play in managing and regulating their children's media use (Clark, 2011). Parental mediation theory posits that parents use different practices in their attempts to mediate media use by mitigating the negative and stimulating the positive effects. In our analysis, we focus on the two dominant techniques that parents use to achieve this: restrictive mediation and active mediation. Restrictive mediation contains rules or other parental decisions that do not involve the active participation of the child, while open discussions and joint creation of agreements between the parent and the child characterize active mediation.

Because parental mediation researchers have primarily focused on television and Internet use, there are gaps in how the parental mediation theory applies to social media. In addition, because it is rooted in the media effects tradition, most parental mediation research focuses on the negative effects of media and consequently on restrictive mediation as this should lead to less risky behaviour (Heim, Brandtzaeg, Hertzberg, Endstad, & Torgersen, 2007; Lwin, Stanaland, & Miyazaki, 2008; Valcke, Schellens, Van Keer, & Gerarts, 2007; Wang, Bianchi & Raley, 2005). However, no consensus exists on the influence of restrictive mediation (Lee & Chae, 2007; Youn, 2008). Although active mediation appears to have more promising results in shaping children's Internet behaviour (Fleming, Greentree, Cocotti-Muller, Elias, & Morrison, 2006; Moscardelli & Divine, 2007), only a small part of parental mediation research focuses on this form of mediation (Mendoza, 2009; Valkenburg, 2002). To get a deeper insight into the roles parents play in fostering responsibility in adolescents' online activity, we use the concept of 'parenting styles' (Darling & Steinberg, 1993).

Based on Baumrind's approach (1991), Valcke, Bonte, De Wever, and Rots (2010) distinguish between responsiveness (e.g. warmth) and demandingness (e.g. control) to empirically define four parenting styles. The 'authoritarian parenting style' (ANPS) demands

absolute obedience from children. It involves rules outlined by parents combined with discussion with adolescents. The 'permissive parenting style' (PPS) involves parents not putting forward explicit rules, but rather discussing what they and their children want. The 'laissez-faire parenting style' (LFS) involves an almost complete lack of parental intervention, or at most only a very limited intervention. Previous studies on the relation between parenting style and adolescents' Internet use indicate that the authoritative parenting style is dominantly used by parents and is related to fewer high-risk behaviours of adolescents in comparison to the other styles (Rosen, Cheever, & Carrier, 2008; Valcke et al., 2010).

Since we are interested in how adolescents perceive their own social media literacy development at home, we focus on the adolescent's perception of his/her parent's behaviour, or perceived parenting style, concerning their social media use. Several studies have already emphasized the importance of perceived parenting styles as important factors for individual development during adolescence (e.g. Grolnick, Ryan, & Deci, 1991; Perris, Arindell, & Eisemann, 1994). In this study, we question how adolescents develop social media literacy at home and whether the perceived parenting style is indeed an important factor in this development.

5.1.3. Methodology

Our study uses a two-staged methodology, a quantitative and a qualitative stage, to obtain deeper insight into how adolescents' develop social media literacy at home and the role they think their parents play in this development. The goal of the quantitative research is to obtain descriptive data about adolescents' social media use, social media literacy and the perceived parenting style. The goal of the qualitative stage is to obtain richer data on the results derived from the survey data, such as a better understanding on how adolescents use social media, how they experience parental mediation strategies, and what this means for their social media use. In this study, we focus on Facebook as a social media platform in particular because it is difficult, if not impossible, to map all social media platforms and the related literacy issues within one study. Furthermore, Facebook is the most popular social media platform, having reached the milestone of one billion users worldwide in October 2012.

Survey

The quantitative stage consists of a large-scale survey conducted in 12 Belgian secondary schools. The selected schools reflect diversity in type of education. In-class surveys were administered to 1,658 adolescents between the ages of 12 and 18 years old. Before conducting the survey, the researchers gave the students a consent form and explained that their responses would be handled anonymously. In total, 1,319 adolescents (Mage = 15.03, SDage = 2.01; 49% Female, 51% Male) participated to the survey, yielding a response rate of almost 80%. The survey addressed the following aspects:

1. *Facebook access and use* was measured by asking the respondents if they have a Facebook account or not. We also asked what devices the respondents use to go on Facebook (Y/N). In this study, we focus on the computer and mobile phone, as they are most often used to access Facebook. We also asked if they use Facebook in the

bedroom and/or elsewhere in the home. Frequency of Facebook use was measured by asking respondents how often they connect to Facebook on a 5-point scale, ranging from 'once a month or less' to 'several times a day'.

2. *Social media literacy concerning Facebook* was measured by determining how well adolescents are technically and cognitively competent to deal with social media. For technical competencies, we asked the respondents how they evaluate themselves in performing nine Facebook activities (i.e. being able to upload pictures, updating statuses, adding comments, sending private messages, chatting, creating a Facebook group or page, changing privacy settings, inviting friends to an event, and posting a link on Facebook). The ability to carry out these activities was measured using a 5-point scale ranging from 'I cannot do this at all' to 'I am very good at this'. We also added the category 'I do not know this action', so the respondents did not feel forced to evaluate themselves. Simultaneously, we considered the frequency of use as a measure of technical abilities (van Deursen & van Dijk, 2009). This was measured on a 5-point scale ranging from 'never' to 'daily or more'. We multiplied the self-efficacy measure with the frequency measure to get a better picture of people's technical Facebook competencies¹⁷. Factor analysis (maximum-likelihood estimation with varimax rotation) identified a single factor ($\alpha = 0.94$).

Respondents' cognitive competencies were measured on a 5-point Likert scale of how much they agree with the following three statements: (1) 'I always check the author of a message or photo on Facebook'; (2) 'I always think about the possible reason(s) why people post a message or photo on Facebook'; and (3) 'I always check the context wherein messages or photos on Facebook are shared. Factor analysis (varimax rotation) identified a single factor ($\alpha = 0.68$).

3. *Parental mediation perception* was measured by asking the respondents if they experience rules about how long, the location in which, on what devices and what content they are allowed to access Facebook. Responses were measured using 'yes' or 'no' answers. The reason for choosing dichotomous variables was to provoke orthogonal points of view. As a result, we do not elicit unnecessary fuzzy boundaries, consequently limiting the classification error. We also inquired how often the respondents discuss their use of Facebook with their parents, measured on a 5-point scale ranging from 'never' to 'daily or more'. To capture the heterogeneity in the styles parents adopt to intervene in their children's Facebook use, we performed a latent class analysis on these parental mediation variables. A four-cluster model yields a good fit ($L^2(1317) = 14.94, p = 1$). Table 26 provides an overview of the different parenting styles and their main characteristics.

¹⁷ The methodology section of this dissertation shows that it is better to measure technical social media competencies with the survey familiarity question. After comparing the combination of the survey frequency and self-efficacy questions with the performance tests, we can conclude that this is also a relatively good survey proxy measure for technical competencies.

Table 26 Four clusters of perceived parenting styles: PPS, LFS, AVPS and ANPS [$*p<0.05$, $***<0.001$]

Parenting styles		PPS (39%)	LFS (32%)	AVPS (18%)	ANPS (11%)	Wald	R ²
Control: content		0.14	0.07	0.87	0.74	198.42***	0.49
Control: devices		0.07	0.01	0.78	0.89	136.42***	0.65
Control: time/place		0.14	0.04	0.81	0.86	170.09***	0.52
Warmth	Never	0.20	0.98	0.11	0.85	8.95*	0.51
	Sometimes	0.62	0.02	0.60	0.15		
	Often	0.17	0.00	0.29	0.00		
Gender*	Male	0.47	0.60	0.42	0.45		
	Female	0.53	0.40	0.58	0.55		
Average age*		15.51 (2.03)	15.13 (2.04)	14.38 (1.83)	14.24 (1.65)		

*Descriptive socio-demographic statistics of respondents corresponding to the four parenting styles

*Permissive parenting style (PPS), Laissez-faire parenting style (LFS),
Authoritative parenting style (AVPS), Authoritarian parenting style (ANPS)*

The first cluster consists of adolescents whose parents take on a 'permissive parenting style' (PPS) (Mage = 15.51, SD = 2.03). The second cluster comprises adolescents whose parents have a 'laissez-faire parenting style' (LFS) (Mage = 15.13, SD = 2.04). The third cluster consists of adolescents with an 'authoritative parenting style' (AVPS) (Mage = 14.38, SD = 1.83). Finally, the fourth cluster arises from adolescents whose parents have an 'authoritarian parenting style' (ANPS) (Mage = 14.24, SD = 1.65). The PPS is the parenting style that is most perceived by adolescents for intervention in their SNS behaviour (37%). Concerning gender and age, we notice clear differences between the perceived parenting styles (see Table 26).

We use these perceived parenting styles to profile adolescents in function of their technical and cognitive competencies, both on the level of description (i.e. quantitative) and the level of understanding (i.e. qualitative).

Interviews

We conducted 27 in-depth interviews with adolescents in their homes. Their age ranged from 12 to 17 years, half were boys, and half girls (see Table 27). All had home access to the Internet and their own personal profile on Facebook. The interviewees were recruited from the respondents who participated in the survey, meaning we already had much (descriptive) information about them. These respondents were purposefully sampled, i.e. on the criteria of having a specific profile or perceived parenting style. The respondents and their parents received a written explanation of the research aims and ethics before signing a consent form.

The in-depth interviews lasted approximately one hour and were in the form of a semi-structured discussion in a room where the parents and other family members could not hear the interview.

Table 27 Participants' details

Boys	Girls
Max, 13, PPS	Alison, 12, ANPS
James, 13, AVPS	Carol, 13, AVPS
Alfred, 14, LFS	Kate, 13, PPS
Arthur, 14, AVPS	Jessy, 13, LFS
Eddie, 14, AVPS	Kelly, 13, LFS
Leo, 14, LFS	Lisa, 13, LFS
Christian, 14, LFS	Lyla, 13, AVPS
Elliot, 14, LFS	Ella, 14, AVPS
Robert, 14, PPS	Ana, 14, AVPS
Richard, 15, PPS	Lynn, 15, AVPS
Charlie, 15, ANPS	Carrie, 17, LFS
Wesley, 15, LFS	Elisa, 17, PPS
Danny, 16, PPS	Mia, 17, AVPS
Marvin, 17, PPS	

*Permissive parenting style (PPS), Laissez-faire parenting style (LFS),
Authoritative parenting style (AVPS), Authoritarian parenting style (ANPS)*

The interview questions addressed the following aspects:

1. The choices, motivations and literacies shaping the participant's own use of social media;
2. How adolescents experience the mediation of their parents in their social media use;
3. What this means for how they use social media.

The interviews were audio-recorded and transcribed before being coded with NVivo 10 software. To obtain an overall sense of the interview data, we first read the full interview transcriptions. Next, we analyzed the data using an open coding procedure to realize a code list focused on the issues emerging from the participants' responses in the survey as well as from the questions asked in the interviews and their responses. Then, we recoded the data in terms of the categories provided by the literature review.

5.1.4. Results

Adolescents and their technical competencies in dealing with Facebook

We begin by discussing access variables in this section, as they are strong indicators for adolescents' frequency of use, which, in turn, is assumed to contribute to higher technical competencies (Hargittai, 2010). Concerning access, in Table 28, at the end of the results section, we notice significant differences between the respondents' profiles. The respondents

who perceive a permissive parenting style (PPS) are more likely to have an account on Facebook than those who experience another style. Furthermore, We additionally notice in Table 28 that adolescents who encounter a PPS also use the computer and the mobile phone more often to access Facebook in comparison to other adolescents. From the interviews we learned, that PPS participants followed by the participants who encounter a laissez-faire parenting style (LFS) mention a significant amount of freedom and thus little or no negotiations about the devices to go on Facebook, in contrast to the participants who perceive either an authoritative parenting style (AVPS), or an authoritarian parenting style (ANPS).

In addition to negotiations about the device adolescents use to go on Facebook, the AVPS and ANPS participants indicated in the interview that their parents also negotiate about where those devices can be used in the home. Again, we notice that the participants who perceive a PPS and an LFS do not mention these rules. Likewise, we can see in Table 28, that adolescents with a PPS or an LFS profile have high(er) probabilities of accessing the computer in their bedrooms. The AVPS and ANPS participants, who mentioned location rules, stated during the interviews that their parents use these rules to control what they are doing on Facebook. However, according to the participants, control of what their adolescents are doing on Facebook is not the only motivation for parents. Lyla (13, AVPS), for example, indicated that her parents want to check whether she is doing her *'homework at the same time as using Facebook'*. A lot of discussion takes place between the parents and the adolescents regarding when they use Facebook in relationship to when they must do their homework. It is not that the adolescents do not understand that this can disturb their concentration, but most of the time, they use Facebook in a function of their homework, for example, to ask questions about homework or to take a break. Again, the AVPS participants declared during the interviews that they experience most of these homework rules. However, the participants break these rules by contacting their fellow students through their mobile phones.

Similar to these findings, Table 28 shows that respondents who experience a style characterized by less control, such as the PPS and LFS, tend to have high(er) frequencies of Facebook use. Again, AVPS and ANPS profiles encounter most of the negotiations, which are dominantly related to homework and having a good night's rest. Mia (17, AVPS), for example, shared that her parents want her *'to concentrate'* while doing her homework. Consequently, she is not allowed to use Facebook while she is still doing that. Some parents proactively enforce cut-off times in using Facebook in the evening. Ella (14, AVPS), for example, is only allowed *'to use Facebook for a fixed period of one hour'*. Other parents ask their children to stop and hope that they follow the rules. Ana (14, AVPS) explains that the latter is not always the case; her parents ask her to use Facebook for only half an hour but she secretly uses it much longer when her parents are not around or when she is on her mobile devices.

It is a widespread assumption that more frequent use leads to more advanced technical skills (Hargittai, 2010), which also applies to our survey results. Respondents of parents with a PPS seem to have more technical competencies, followed by LFS, AVPS, and finally the ANPS. PPS participants indicate in the interviews that they have more freedom to use Facebook frequently and to experiment with it. The reasons they give have mostly to do with age: parents think that when their children are older, they are also more experienced and therefore do not

need so many rules or support. Ana (14, AVPS), for example, indicated that as adolescents get older, parents give their children more freedom and impose fewer restrictions. Moreover, Table 28 shows that older adolescents encounter PPS and LFS more often, while the younger adolescents more frequently perceive the other styles, which are characterized by a higher level of control.

Another reason that PPS participants mention in the interviews is the guidance or support they get from their parents. Danny (16, PPS), for example, indicated that the technical support takes place most often when he and his parents sit together in front of the computer, or at least in the same room, when he is using Facebook. His parents, mostly his mother, explains how he should perform certain actions on Facebook, for example how to like pictures of others. Parents who adopt a PPS style most often offer this technical support. Five participants indicated that they had experienced this technical support; these particular adolescents only recently started using Facebook. The other adolescents explain that they do not get technical guidance, because their parents are not skilled enough or because they do not want this guidance from their parents, since what is on Facebook is *'private'*.

Adolescents and their cognitive competencies regarding Facebook

In Table 28, we observe that respondents who experience an authoritative parenting style (AVPS) have a high score on cognitive competencies. From the interviews, we learned that AVPS parents use restrictions, co-viewing, and discussion on the type of content and type of contacts to enlarge their children's cognitive competencies.

Some parents, such as Lyla's (13, AVPS) mother, do not want their children to share insulting messages or photos about others, while other parents control which family pictures their children are allowed to share. Carol (13, AVPS) explained: *'when I want to share a picture of my brother on Facebook, I must first ask my mother and afterwards my brother whether they agree or not.'* In addition to restrictions concerning the content they put on Facebook, the AVPS participants also mentioned restrictions concerning their contacts on Facebook. Some respondents reported that their parents control what types of content their friends share. For example, Lynn's (15, AVPS) parents asked her to remove some contacts or to block some content from some of her Facebook friends, because it was too challenging and even insulting.

In addition to restriction strategies, AVPS parents also rely on co-viewing to enlarge their children's cognitive competencies. We learn from our survey data that the AVPS parents have a higher likelihood of being added as a friend on their child's Facebook page. This gives the parents a good deal of information about what their adolescents and their friends are doing online, and even what they are doing offline. Adolescents describe this parental mediation strategy as *'watching'* them on Facebook, or at least they try to do this. Half of the respondents in the interviews said that their parents ask, and sometimes even require them, to become friends with them on Facebook. Eddie's (14, AVPS) statement illustrates this: *'It is annoying that I'm friend with my parents on Facebook, because it is like they want to control everything I do or say on Facebook.'* Adolescents do not like the fact that their parents can control them because they perceive everything on Facebook as being personal. However, adolescents differ in how they deal with this issue. For example, Alfred (14, LFS) blocks his parents on Facebook while Christian (14, LFS) uses privacy settings or groups on Facebook to ensure that his parents only

see limited content on his profile. Marvin (17, PPS) ignores his parents' friendship request, and others, such as Lynn (15, AVPS), add their parents as friends but are then careful about what they share. The latter is mostly done by AVPS parents. As to the other strategies (e.g. blocking parents or blocking the content parents can see), we notice no discernible difference between the four parenting styles.

AVPS participants do not always mention rules when it comes to type of content and contacts on Facebook, some of these parents also tend to give support. The parents of Eddie (14, AVPS) and Jessy (13, LFS), for example, regularly talk to their children about their Facebook activity. This includes interpretive or evaluative comments or guidance about, for example, whom to add as a friend or what kind of personal information can be shared or not on Facebook. However, only two of our AVPS participants report experiencing this type of support from their parents. Elisa (17, PPS) revealed that her parents take up *'the role of protector'* and often warn her about potential risks of using Facebook. We interpret this act of warning also as support because adolescents can autonomously decide whether to follow up on the warning or not. Mostly adolescents with AVPS parents experience support on the content or types of contacts, followed by adolescents who encounter a permissive parenting style (PPS).

Table 28 Differences between adolescents' perceived parenting styles and their Facebook behaviour (* $p < 0.05$, *** < 0.001)

		Total sample	PPS	LFS	AVPS	ANPS	
	(%)						χ^2
Frequency Facebook use	Daily	83	85	84	79	75	13.78*
	Weekly	14	13	11	17	20	
	≥ Monthly	3	2	4	4	6	
Facebook on computer		77	86	74	72	68	30.35***
Facebook on cell phone		30	38	27	22	24	22.35***
Location Facebook use	Bedroom	61	64	64	50	57	16.53***
	Elsewhere	39	36	36	50	43	
Parents as a friend		57	62	48	67	51	26.15***
Mean							F
Technical competencies		3.44	3.61	3.40	3.45	3.02	13.77***
Cognitive competencies		2.96	3.02	2.84	3.08	3.01	10.22***

Permissive parenting style (PPS), Laissez-faire parenting style (LFS), Authoritative parenting style (AVPS), Authoritarian parenting style (ANPS)

5.1.5. Discussion and conclusion

Three major findings characterize adolescents' social media literacy development in the home context and the role of perceived parenting styles herein: (1) adolescents dominantly experience a permissive parenting style concerning their social media use; (2) the current parenting styles are not sufficient to mediate adolescent' social media use; and (3) adolescents' social media literacy is a barrier for parental mediation.

Dominance of permissive parenting styles

Our findings show that adolescents experience different strategies of their parents to intervene in their Facebook use, varying from relatively open, non-directional strategies of parent-child co-using, to more restrictive or controlling strategies. According to the respondents, parents predominantly opt for warmth, guidance and communication rather than control strategies when moderating Facebook use. The popularity of the permissive parenting style (PPS) in the context of social media differs from what Valcke et al. (2010) and Rosen et al. (2008) found in their investigation of Internet use. These studies reported a dominance of the authoritative parenting style (AVPS). We argue that Facebook, the social media platform under investigation in this research, largely explains this difference in our results. It is possible that parents set fewer rules for using Facebook than using the Internet in general. It might be that parents recognize the importance of warmth strategies, since restrictions are not effective for moderating online communication as this is infrequently discussed in person-to-person dialogues at home (Clark, 2011). Another explanation might be that parents hope that adolescents are capable of translating rules about Internet use in general to the context of Facebook. Moreover, we found that parents are more hesitant to restrict their adolescents' use of social media, because they tend to lack the specific expertise or because the adolescents themselves tend to be more expert in this than their parents are. Adolescents may also underestimate the parental regulations on their Facebook use. The problem may be with the language parents use to set rules, the enforcement of these rules or with the understanding and acceptance of these restrictions. Additional research is needed to further clarify this.

Current parenting styles are no longer sufficient to mediate adolescents' social media use

In accordance with previous research (Fleming et al., 2006; Lwin et al., 2008), our analysis shows that parental mediation has positive outcomes when parents are actively involved in their adolescents' Facebook behaviour, through being a Facebook friend and/or giving advice on how to use Facebook in a technical, safe, or responsible way (e.g. authoritative parenting style and permissive parenting style). Simply restricting or doing nothing seems less effective (e.g. authoritarian parenting style and laissez-faire parenting style). However, it is not that the ANPS or LFS would produce really 'bad' results. Nevertheless, adolescents who perceive a PPS or an AVPS do have somewhat higher social media competencies than the adolescents who perceive an ANPS or a LFS.

We found that the perception of an AVPS style is beneficial for adolescents' cognitive competencies; however, parents must balance the costs in terms of reducing their freedom to interact with friends with the advantages. On the other hand, adolescents who perceive a PPS experience more freedom in their use and they seem to develop higher technical competencies. Of course, PPS parents should be aware that frequent Facebook use and the consequent cost of experiencing more risks go together with more limited cognitive competencies.

Contrary to the expectations of policymakers and parents, introducing forms of parental mediation to maximize the opportunities and simultaneously reduce the risks that adolescents can encounter through Facebook is proving difficult. The difficulties that parents experience

when attempting to understand how to best monitoring their adolescents' Facebook behaviour partially explains the finding that parental mediation cannot support both technical and cognitive competencies. Additionally, the adolescents indicated that they find ways to get around parental mediation concerning Facebook, for example, by using mobile devices, telling lies to their parents in their own best interests, or just by ignoring these rules.

Another clue as to why parents may not be engaged in parental mediation concerning social media, in the way that policymakers and research may expect, could be due to the third person effect. When making comparisons regarding the influence on other children, parents frequently underestimate the influence of (social) media on their own children (Meirick, Sims, Gilchrist, & Croucher, 2009; Nathanson, Eveland, Park, & Paul, 2002). Parents often see their own child as more capable of protecting themselves against the negative influences of media (messages) (Livingstone & Helsper, 2008). Consequently, they make fewer efforts to increase both technical and cognitive competencies. Domestication theory can also explain these low efforts. Family routines, such as the work schedule of the parents, sometimes make it difficult for parents to focus on both technical and cognitive competence development (Warren, Gerke, & Kelley, 2002).

To explain why parents cannot stimulate both competencies with one parenting style, we also consider the reasoning of Clark (2011), who indicates that in addition to the traditional parental mediation strategies, parents must rely on other strategies (e.g. participatory learning) to stimulate both the positive effects and mitigate the negative effects of digital media in their children's lives.

Adolescents' social media literacy as a barrier for parental mediation

Parents who want to guide or safeguard their adolescents in their use of Facebook face a number of barriers. Most respondents indicated that they have to use Facebook in a public space in the home, but they often find ways to bend this rule, primarily by using their mobile devices. Half of the respondents also pointed out that their parents asked them to become friends, but they do not like this idea because the content on their Facebook page is too private. Adolescents use their developed social media literacy to subvert their parents' interventions in their Facebook use, for example, by blocking their parents or by being careful with what they share online. This is to be expected, as adolescents strive for more autonomy by figuring out ways to circumvent parental mediation strategies (Pasquier, 2001).

Future research directions

Our findings show that parents indeed play a role in their adolescents' enactment and development of social media literacy. However, to gain a deeper understanding of this role and thereby inform policy, future research should consider whether parental mediation is instituted before or after adolescents' media behaviour. It is not yet clear whether adolescents develop a high(er) level of social media competencies because of warmth (and control) strategies or whether parents adapt their parenting style to suit adolescents' competencies. An accurate evaluation of the impact of parental mediation on social media literacy may require longitudinal research designs. A criticism on this study could be that we only used adolescents as respondents. Nonetheless, adolescents are the principal actors since they could tell us how they deal effectively with the rules and expectations of their parents.

It is not possible to extrapolate the findings of using an authoritative versus permissive parenting style in all social or cultural contexts. For this research, we focused on Belgian families from a similar social milieu that reflects European middle class families (Darling & Steinberg, 1993). We further recognize the importance of other factors influencing the relationship between parenting styles and adolescents' social media literacy, such as characteristics of the child, peers, ethnicity, socioeconomic status and parent/family dynamics. Future survey research should consider these factors when investigating parenting strategies in managing adolescents' social media literacy.

Despite these limitations, this study contributes to a richer understanding of what happens when adolescents and parents come together in and through social media in the home. This research provides policymakers, parents, and educators with an opportunity to rethink their current media literacy education and mediation practices.

5.2. Paper 2 - Adolescents' privacy protection behaviour on social network sites: Do culture and architectural features matter?

Full reference: Vanwynsberghe, H., Courtois, C., & Verdegem, P. (under review). Adolescents' privacy protection behaviour on social network sites: Do culture and architectural features matter?

The second paper reflects on the architectural technological features of social media as a factor that can influence young people's social media literacy¹⁸. In this paper, we focus on young people's privacy protection behaviour (PPB), or their ability to customize when, how, and to what extent his/her personal information is transmitted to others, on social network sites (SNSs)¹⁹. We state that the technological features of these sites set the tone for a particular kind of user behaviour, and thus also PPB. Given the increasing importance of online social networking, this research seeks to determine if adolescents' PPB and the factors that predict this behaviour differ according to the culture and architectural features of a SNS. The analysis is built around a case study of two popular SNSs in Belgium, Facebook and Netlog.

In order to answer the two central research questions, we conducted a large-scale survey with a sample of 1,250 adolescents in Belgium, ranging in age from 12 to 18 years. Results reveal significant differences in adolescents' PPB and the factors that predict this behaviour on both SNSs. Culture and architectural features of SNSs explain differences in adolescents' PPB, but not the predictors of this behaviour.

The answers on both research questions are not only relevant when entering legal and political discussions about privacy and information control on social media platforms. They also bring academic insights into the architectural features as an important factor that can determine people's social media literacy behaviour on these sites. This topic is worth investigating because the findings can assist educators, parents, and policymakers in developing policies and guidelines that facilitate social media literacy education for young people.

5.2.1. Introduction

Social Network Sites (SNSs) have emerged as an immersive and pervasive tool for adolescents to communicate and update others on their activities and whereabouts (boyd & Ellison, 2008; Lenhart, Purcell, Smith, & Zickuhr, 2010). Public or semi-public profiles of users within a bounded system characterize SNSs, which are structured around the display of connections, prompting their members to traverse these connections and those of other members within the system (boyd & Ellison, 2008). Similarly, inferences about character, habits, interests, tastes, likes/dislikes, and routines can be made.

SNSs favour the idea that people disclose correct information about themselves, releasing personal information and habitual behavioural data in the process of communicating with other

¹⁸ In this paper we see privacy protection behaviour as a constituent of social media literacy.

¹⁹ In the paper we conceptualize social network sites as a classification of social media. All social network sites are social media, but not all social media are social network sites (cf. Section 2.3.3.).

users (van Dijck, 2013b). An example of this is Facebook's real name policy, which obstructs users from the site who misrepresent themselves. SNSs want to obtain this maximum transparency to know who their users are, but even more important, to sell this 'truthful' data to advertisers. The more interaction, in the form of, for example, disclosing personal information, friending, messaging or liking, between users or between users and nonhuman entities, the more the users benefit from the accumulation of social capital (Ellison et al., 2007). Moreover, the more social capital is assigned to people, things or ideas, the more economic capital the SNS gains (van Dijck, 2013).

Despite both adolescents and adults being aware of the fact that their privacy may be jeopardized on and by an SNS, research has demonstrated that users, especially young people, generously share personal information on these networks (Acquisti & Gross, 2006; Taraszow et al., 2010; Young & Quan Haase, 2009). Raynes-Goldie (2010) argues for a more nuanced understanding of this privacy paradox. She maintains that adolescents are more concerned about their social privacy, in comparison to their institutional privacy. They are more worried about who of their friends on Facebook can see what kind of information they share or how to manage an inappropriate friend request, rather than how the company Facebook or advertisers might use their personal information. Not disclosing certain kinds of personal information provides the only control for institutional privacy; while in comparison, for social privacy, SNSs offer policies and data protection mechanisms. The SNS' architectural features for controlling social privacy lead users to the belief that their privacy can be or is protected, which often results in a higher disclosure of personal information (Dwyer et al., 2007).

How these architectural features are used depends on the user, who is able to customize or decide when, how, and to what extent his or her personal information is transmitted to others (Phelps et al., 2000; Westin, 1967). For this reason, we will refer to this behaviour as Privacy Protection Behaviour (PPB). PPB is not the information disclosure per se, but rather the degree of control that is exercised by users over the collection of information and its subsequent use by other users, SNSs and marketers (Feng & Xie, 2014). Based on Papacharissi's (2009, p. 207) three stage iterations on the private/public distinctions in SNSs, we elaborate on adolescents' PPB on SNSs. On a preliminary level, Papacharissi indicates the criteria for membership, or who can join the network. In this case, PPB can be seen as the choice for a network that is less publicly accessible or not publicly accessible at all. On a secondary level, PPB can be seen as controlling who may access an individual's profile, both externally and internally. On the tertiary level, PPB is the users' control over which aspects of their private information remain private, which aspects are disclosed, and to whom.

Different SNSs contain different cultures and consequently different architectural features, which suggests that it is *'easier to use them for some purposes than for others'* (Buckingham, 2008, p. 12). The culture and architecture of online spaces, much like the culture and architecture of offline spaces, stimulate or form a barrier to particular modes of behaviour (Papacharissi, 2009). Stutzman (2006), for example, has indicated that architectural differences between SNSs contributed to variations in the disclosure of personal information. Hence, on the premise that an SNS sets the tone for a particular type of PPB, this study focuses on the culture and architectural features of SNSs.

RQ1: Does the PPB of adolescents differ according to the architectural features of an SNS?

The majority of prior studies focused on one site, whereas the first objective of this case study is to compare adolescents' PPB on two SNS platforms. This will enable us to understand whether the PPB of adolescents is shaped through a given platforms' culture and interface. We will compare the PPB of adolescents on Facebook and Netlog. These two SNSs were selected because they have both similarities and differences. Both sites were very popular at the time of the data collection. Facebook's initial target group was college students; and Netlog has been especially popular among adolescents. While in 2010–2011 (the time of the study), the sites mostly attracted users from the same pool of primarily 12–25 years olds; they had very different purposes and consequently had different interfaces and/or architectural features. While Facebook is designed to reconstruct people's offline identity, Netlog's main purpose is to allow the user to meet new people. In this case study, the emphasis is primarily on the comparison of culture and architectural features of SNSs, not so much on the actual platforms.

The second objective of this study is to explore whether these differences in SNS culture and interface leads to differences in predictors for adolescents' PPB on these sites. Hence, the second research question is:

RQ2: Do the predictors for adolescents' PPB differ according to the architectural features of the SNS?

While both research questions are relevant when entering legal and political discussions about privacy and information control on SNSs; this topic is also worth investigating because the findings can assist educators, parents, and policymakers in developing policies and guidelines that facilitate privacy education for young people, which can help them protect their privacy on SNSs.

5.2.2. Literature

Comparing Facebook and Netlog

Based on Papacharissi's (2009, p. 207) findings on the private/public distinctions on SNSs in three stages, we analyze the following culture and architectural features of Facebook and Netlog:

1. The criteria for membership;
2. The architectural features that determine access to the profile or private information in general; and
3. The architectural features that determine which aspects of private information remain private and under what conditions.

It is additionally important to note that, in this section, we only discuss the culture and architectural features that were applicable to Facebook and Netlog at the time of the study.

Facebook

Facebook markets itself as a '*social utility that connects you with the people around you*'

[https://www.facebook.com]. Mark Zuckerberg and his fellow Harvard students launched Facebook in 2004. Although the website's membership was initially limited to Harvard students, it gradually spread to most universities in the United States and Canada. By 2006, the website was accessible all over the world for people aged 13 and older with a valid e-mail address.

Facebook focuses on facilitating personal self-presentation. As can be observed in Figure 7, Facebook allows users to create a richly detailed personal profile with information ranging from favourite music or movies, to sexual orientation, and contact information, such as home address and phone number (Ellison, et al., 2007; Stutzman, 2006). Facebook designs these profiles in a uniform way. Every action that you can do on Facebook, such as liking, friending, messaging, sharing content, or disclosing personal information, is conducted in the same way, every time, and everybody's profile is presented in the same way (see Figure 8). Moreover, Facebook is a community in which people must use their real identities (Staksrud & Lobe, 2010). If a user does not list his/her real name on the timeline, there is a chance that the account will be suspended. This uniformity and authenticity have made it easier for advertisers to personalize their marketing strategies (van Dijck, 2013b).

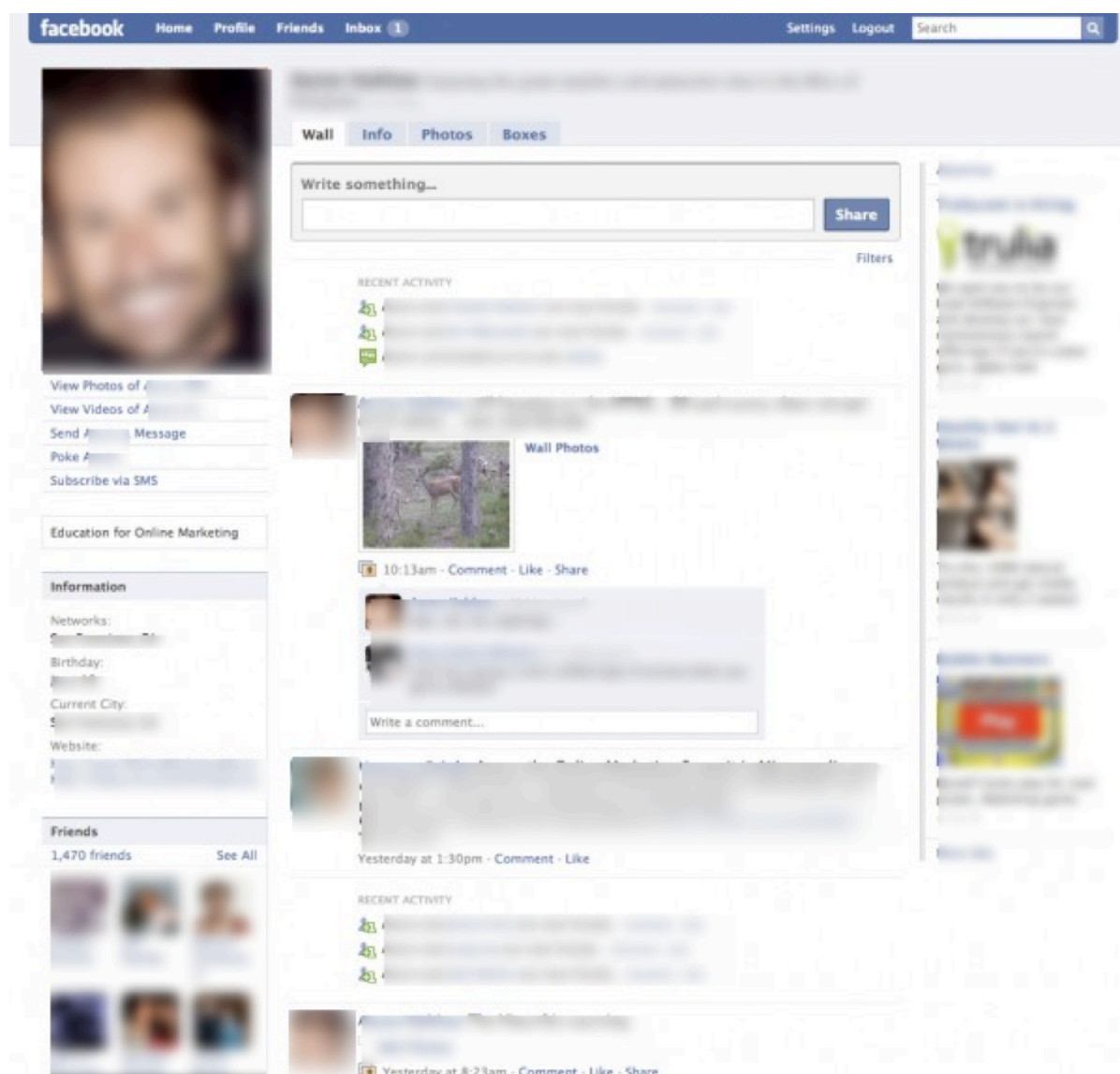
Figure 7 Screenshot of the personal information page on Facebook

The screenshot shows the Facebook 'Basic Information' page. The top navigation bar includes 'facebook', a search bar, and links for 'Home', 'Profile', 'Find Friends', and 'Account'. A 'View My Profile' button is in the top right. The left sidebar lists navigation options: 'Basic Information' (selected), 'Profile Picture', 'Relationships', 'Likes and Interests', 'Education and Work', and 'Contact Information'. Below this is a privacy settings link. The main content area contains the following fields and options:

- Current City:** [Text input field]
- Hometown:** [Text input field]
- Sex:** [Dropdown menu showing 'Male'] with a checkbox for 'Show my sex in my profile' (checked).
- Birthday:** [Date picker] with a dropdown for 'Show my full birthday in my profile'.
- Interested In:** [Checkboxes for 'Women' and 'Men']
- Looking For:** [Checkboxes for 'Friendship', 'Dating', 'A Relationship', and 'Networking']
- Political Views:** [Text input field]
- Religious Views:** [Text input field]
- Bio:** [Large text area]
- Favorite Quotations:** [Large text area]

At the bottom are 'Save Changes' and 'Cancel' buttons. The footer contains 'Facebook © 2010 English (US)' and a list of links: 'About Advertising Developers Careers Terms • Find Friends Privacy Mobile Help Center'.

Figure 8 Screenshot of a profile page on Facebook



Although, Facebook profiles are technically accessible for everyone, Facebook provides users with the ability to control who can access their profiles by making up friend lists. Facebook facilitates this process by underlying algorithms that make suggestions about people you should know, based on people's demographic data and location. Hence, 'friends' in Facebook terms is very broad and ambiguous; it may include anyone from a very close friend to a complete stranger who is a 'friend' only through their online identity.

Facebook users can also determine what kind of information is made public and what remains private, allowing them to control access to certain kinds of personal information (e.g. privacy settings). Of course, Facebook frequently changes its architecture and consequently has opened up everyone's profile to third parties, thus jeopardizing users' privacy. This has led to criticism in the mass media and to protest actions on Facebook itself (e.g. groups and pages such as 'Stop Facebook from invading my privacy' or 'A Facebook group to protest Facebook groups') (Papacharissi, 2009).

Previous research has indicated that the majority of Facebook users restrict their profile to friends only (Ellison, Steinfield, et al., 2011). However, Facebook members cannot control what appears on a friend's profile (Dwyer et al., 2007) or what the company Facebook and third parties can see. Although Facebook users understand the possible risks of posting personal information on their profiles, the façade that only friends can see their profile makes users believe that they have done an adequate job in protecting their personal information and consequently safeguarding their privacy.

Netlog

Netlog describes itself as a 'community website' that is designed to allow users to meet new people and have fun (De Ridder, 2013). In 2003, two young Belgian entrepreneurs, Lorenz Bogaert and Toon Coppens, founded Netlog. Although Netlog is specifically targeted at the global youth, aged between 14 and 24, the site is mostly used among Belgian young people. Particularly aimed at young users, the design is very visual, personalized, entertaining, and extremely easy to use (see Figure 10). This is in contrast to Facebook's focus on uniformity in people's online identities (Baym, 2010).

On Netlog, users can do the same activities as on Facebook, for example extend their social network, publish photos, share videos, play games, and post comments.

Figure 9 Screenshot of the personal information page on Netlog

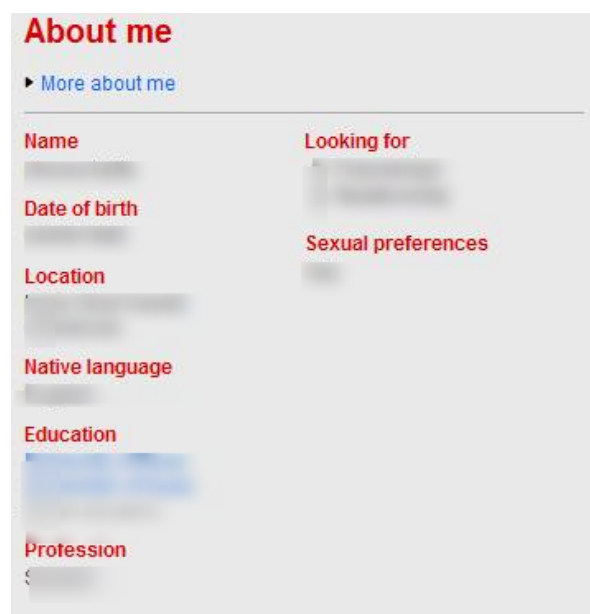
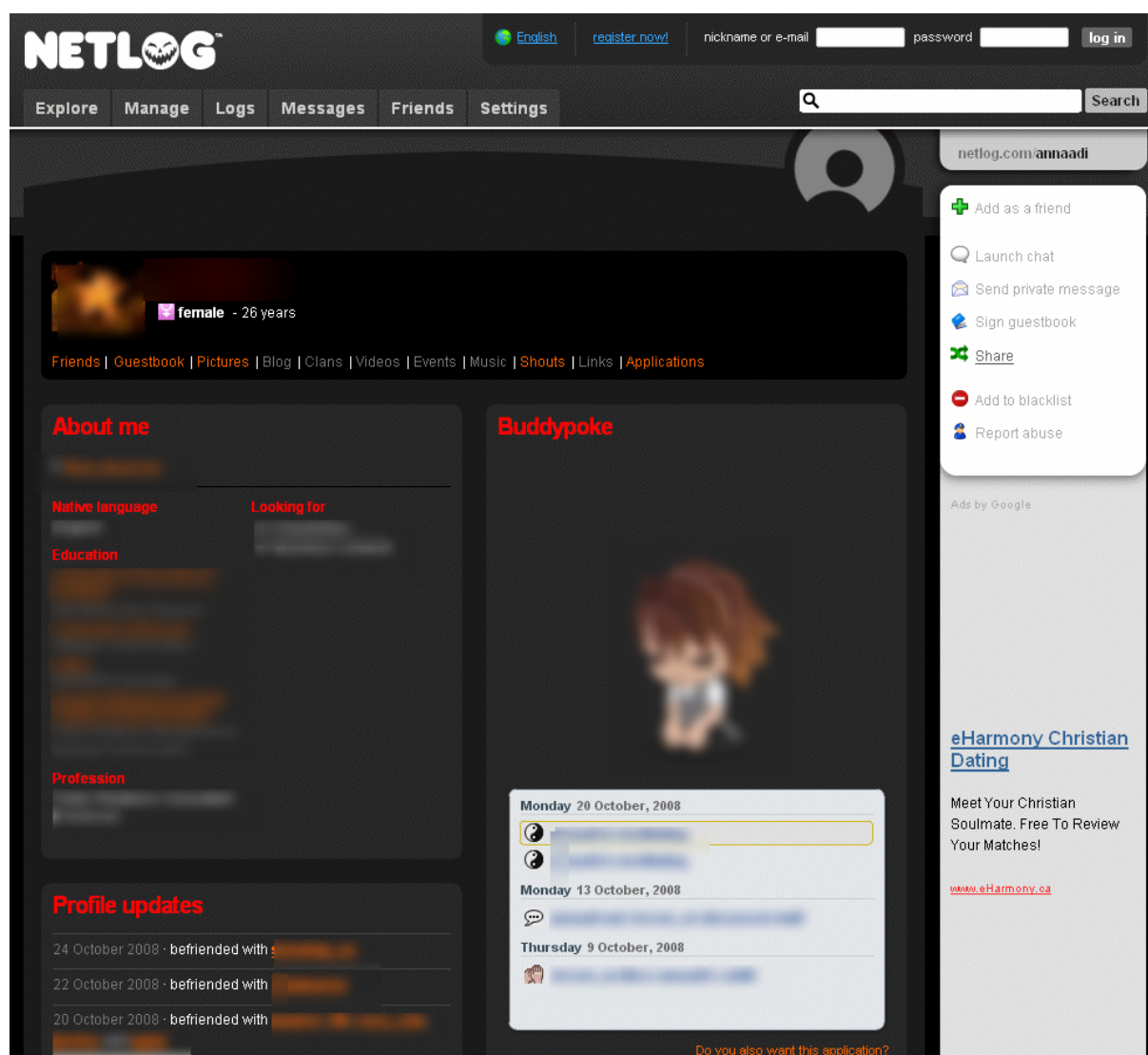


Figure 10 Screenshot of a profile page on Netlog



The public accessibility of the users' profiles is crucial for Netlog's strategy, which wants users to get to know new people. In contrast to Facebook, Netlog's architectural features encourage users to display personal information, such as gender, age, interests, hobbies, or relationship status, more so than the disclosure of contact information. Netlog users can also create friend lists on their profile to access their friends' profiles and vice-versa more easily. Moreover, underlying Netlog, algorithms ensure that every user has a personalized experience based on their demographic data and location. In line with the main purpose of Netlog, and in contrast to Facebook, it is impossible to control what kind of personal information is visible, to whom, and under what conditions.

The lack of architectural features to protect users' social privacy, led to a turning point in the popularity of Netlog at the time of the study (2010–2011). Until 2010, Netlog was immensely popular in Belgium (74% of Belgian youth had an account) (De Ridder, 2013). In 2012, however, not more than 22% of young people in Belgium regularly logged into Netlog. Netlog became less attractive, for the reason that the option to easily meet new people was

sometimes misused and led to negative stories such as problems with grooming and unwanted 'older men' connecting with young users. This lack of control over who can see your personal information and consequently who can contact you, was leading to users' mistrust. Another challenge for Netlog was the gradual monopolization of Facebook. Many Netlog users changed to Facebook because their friends were no longer on Netlog (De Ridder, 2013; Lovink, 2012). Because of the option to easily meeting up with new people, Netlog increasingly transformed into a platform that was known and used for dating. This was even encouraged by the fact that Netlog users were given the opportunity to reveal their relationship status in a detailed way.

Along with the challenge of attracting users, Lovink (2012) indicated that there is a notable move towards more online authenticity. While authenticity provides a greater feeling of trust in the site and its users, it also facilitates the narrative practices on the platform. Authenticity becomes the norm for SNSs, which is marketed by Facebook as an authenticity-based, real name culture (Staksrud & Lobe, 2010).

Predictors of adolescents' PPB

Based on the existing literature on adolescents' disclosure of personal information on SNSs, several factors predicting adolescents' online data disclosure can be distinguished:

Types of personal data

In addition to the basic information about oneself, such as name, age/birthday, and gender, most SNSs also encourage their users to publish contact details, details about personal interests and hobbies, as well as details about educational background and work. In marketing literature, the type of personal information being requested by a specific website is an important predictor of people's self-disclosure of personal information (e.g. Phelps et al., 2000; Wang & Petrison, 1993; White, 2004). These studies reveal that people are more protective of personal identifiers or data through which they can be contacted.

Only a few studies have examined adolescents' willingness to provide profile and contact data to SNSs. Most studies simply assess young people's overall disclosure of personal information. The few studies that have made the distinction between profile and contact information came to the same conclusion as the marketing literature. Stutzman (2006); Taraszow, Aristodemou, Shitta, Laouris and Arsoy (2010) and Young and Quan Haase (2009), for example, indicate that most adolescents enter profile information, such as demographic, lifestyle and other non-identifiable information, but less personal information through which they can be contacted directly, such as phone number or home address.

Hence, in order to have a nuanced and complete picture of adolescents' disclosure of personal information on SNSs it is relevant to distinguish between profile and contact information. Since the architectural features of Facebook make it possible for users to restrict the public accessibility to only 'friends' and Netlog's architectural features do not, we question whether there will be a significant difference in the types of personal information that Facebook and Netlog users disclose.

Privacy concern

Based on Rogers' Protection Motivation Theory (1975), this study examines privacy concern as an important predictor of adolescents' PPB on two different SNSs. This theory states that

individuals' estimation of a potential benefit or danger associated with risky behaviour, such as the disclosure of personal information, is the key in accounting for their motivation to protect themselves (e.g. PPB). Therefore, this study sees the level of privacy concern as a protective motivation that activates coping behaviours to deal with privacy risks.

Previous studies have empirically examined the relation between adolescents' privacy concerns and privacy protection behaviour (e.g. Dwyer, et al., 2007; Walrave, Vanwesenbeeck, & Heirman, 2012; Young & Quan Haase, 2009). De Souza and Dick (2009) and Debatin, Lovejoy, Horn and Hughes (2009) have indicated a negative relation between privacy concerns and personal data disclosure. The stronger an individual's concern, the more likely the individual will adopt PPB (Lwin, Wirtz, & Williams, 2007). Moreover, Utz and Krâmer (2009) found a positive relationship between privacy concerns and applying restrictive privacy settings on SNSs. Stutzman, Capra, and Thompson (2011) also argued that concern about the (mis)use of information leads to the application of stricter privacy settings. These privacy concerns are heightened when users feel uninformed about what happens with their personal information (Nowak & Phelps, 1992). The more users feel they are informed about what they can do to reduce risks, the less they are concerned (Dwyer, et al., 2007). Since Facebook's architectural features make it possible to protect users' social privacy and inform users how to do so, and Netlog's infrastructure does not foresee these possibilities, we question whether privacy concern is a significant predictor of young people's PPB on Facebook and Netlog

Frequency of use

A number of studies have demonstrated that the more people use SNSs, the more they are inclined to disclose personal information (Trepte & Reinecke, 2011; Walrave et al., 2012; Young & Quan Haase, 2009). Tufekci (2008, p. 33) argued that SNS users see a certain degree of self-disclosure as necessary to make SNS use useful: *'Why have a profile if your profile doesn't say enough about who you are?'* Social rewards stimulate this process in the form of feedback or other actions that users get for disclosing personal data. Hence, the more users receive such social rewards, the more they tend to disclose personal information. This is one way users can sustain their strong ties (with close friends). Additionally, by granting access to their profiles to a broader public, users can meet new people and consequently strengthen their weak ties (see e.g. Ellison, et al., 2011). Since Facebook focuses more on sustaining the strong ties and Netlog on strengthening weak ties, we question whether frequency of use is a significant predictor for adolescents' PPB on Facebook and Netlog.

Parenting

Although we often trivialize the intellectual demands of social media use for adolescents, these competencies are acquired over time and depend upon informal instruction (Jenkins, Purushotma, et al., 2009). Since a majority of young people still perceive the home as a natural space for accessing the Internet and taking advantage of what it has to offer (Bakardjieva, 2005; Kennedy & Wellman, 2007), we should consider the critical role of parents from the perspective of safe social media usage and education. Parents are the nearest point of contact for questions or problems concerning social media and can thus deliver social support. Therefore, we hypothesize that parents do play a crucial role in their children's PPB.

In the academic literature, the term 'parental mediation' has been used to refer to the active role that parents play in managing and regulating their children's media use (Warren, 2001, p. 212). This concept is used to capture either restriction and rule-making strategies or more conversational, supportive strategies (Nathanson, 1999; Valkenburg, Krömer, Peeters, & Marseille, 1999). Various studies have already examined the ways in which parents play a role in online risk coping behaviour by adolescents. Lee and Chae (2007), for example, indicated that parental mediation has positive outcomes for children's online risk coping behaviour when the parents themselves are actively involved in their children's Internet use or giving advice, while simply prohibiting or restricting seems ineffective. Moreover, Moscardelli and Divine (2007) posited that discussion between parents and their children enhances the privacy concern, while rules do not have significant effects (Youn, 2008).

However, the concept of 'parental mediation' does not consider how parents combine strategies of limiting or control and encouraging or warmth. The concept of 'parenting styles' enables elaboration of specific parental practices (i.e. rules or support) separately, but also the combination or absence of these strategies. Based on Baumrind (1966) conceptualization, four parenting styles are distinguished:

1. The *authoritarian parenting style* (abbreviated to ANPS) includes parents who demand absolute obedience. Children are expected to follow strict rules, established by the parents. Failure to follow these rules often results in punishment. According to Baumrind (1991, p. 63), these parents '*are obedience- and status-oriented, and expect their orders to be obeyed without explanation.*' These parents insist that their children accept their perceptions of Facebook and Netlog;
2. The *authoritative parenting style* (AVPS) is reflected in parents who simultaneously put forward rules, but who are also open to discussion. These parents expect their children to follow the rules and guidelines, but are much more open for discussion than the authoritarian parents are. Authoritative parents are responsive and willing to listen to questions of their children. Their disciplinary methods are more supportive than punitive. They rather put forward practical guidelines; such as in relation to privacy settings on Facebook;
3. The *permissive parenting style* (PPS) concerns parents who do not put forward explicit rules, but rather discuss what they want. According to Baumrind, these parents '*are more responsive than they are demanding.*' The permissive parents talk with their children a lot, and consequently, often take on the status of a friend more than a parent;
4. The *laissez-faire (or neglectful) parenting style* (LFS) is reflected in parents who almost never intervene in their children's behaviour. This style is characterized by few demands and little communication. These parents reflect neither supportive nor more restrictive attitudes towards their children's Facebook and Netlog behaviour.

Valcke et al. (2010) have already argued that parenting styles significantly affect the child's Internet usage in the same way as Lee and Chae (2007), Moscardelli and Divine (2007), and Young (2008) concluded before. However, we cannot assume that parents affect children's PPB on SNSs in the same way as they do for Internet use in general. Multiple issues, which are

particularly relevant to focus on in the home and the role of parenting in children's PPB on social media, need to be considered (Facer, Furlong, Furlong, & Sutherland, 2003; Livingstone & Helsper, 2008). The first issue to take into consideration is that children increasingly use new media (devices) in the privacy of their bedrooms, where their activities are less visible to parents. Second, parents can use SNSs themselves to access a significant amount of personal information on their children, including their behaviour on these platforms. Third, parents often experience a lack of expertise in using SNSs, which can be a barrier to implementing parental mediation strategies. Fourth, interactions on SNSs are not discussed frequently in person-to-person dialogues at home. Since Netlog, in contrast to Facebook, is publicly accessible, also to parents, and very easy to use, we question whether perceived parenting styles²⁰ are significant predictors of children's PPB on both Facebook and Netlog.

5.2.3. Methodology

Sampling procedure

For the present study, we conducted an online survey to investigate adolescents' social networking behaviour in 12 Flemish (Belgium's northern Dutch-speaking region) secondary schools. Selected schools reflect the diversity in the types of education. An online survey was designed with versions customized for both Facebook and Netlog. Both sites were very popular, with millions of users, in Flanders, at the time of the data collection in 2010. The questions were the same for Facebook and Netlog. A few adjustments were made for consistency with the terminology associated with each site. In total, 1,250 adolescents contributed to the survey. The sample consists of 573 boys (51%) and 544 girls (49%) with an average age of 15 years (SDage: 1.98).

Measures

Disclosure of personal data

Disclosure of personal data is examined by providing adolescents with a list of 10 specific pieces of personal information. Based on previous studies, we distinguish between profile (gender, age, relationship status, links, photos, and movies) and contact (home address, mobile phone number, e-mail address, and current location) information. The respondents were subsequently asked whether and to whom they had divulged each piece of profile and contact information on Facebook and Netlog. In total, eight sum variables were computed based on this two-dimensional understanding of information disclosure (i.e. what type of information is distributed and to whom). Hence, each of the variables represents the amount of profile or contact information that was disclosed to friends and non-specified people on Facebook and Netlog.

Privacy concern

Privacy concern is measured with two statements 'I am concerned about what Facebook does with my personal information' and 'I do not like the idea that strangers can see my personal information on Facebook'. The same statements were reformulated for Netlog. Responses were measured using a 5-point Likert scale ranging from 1 ('totally disagree') to 5 ('totally agree').

²⁰ As adolescents are the principal actors since they could tell us how they deal effectively with the rules and expectations of their parents in their behaviour on social network sites, we focus in this research on perceived parenting styles.

agree’). Raw scores are summed, with higher values indicating a higher level of privacy concern. The means of adolescents’ privacy concern for Facebook (SDprivacy: 0.86) and Netlog (SDprivacy: 0.97) are both 4 on a 5-point scale.

Frequency of use

Frequency of use is measured by asking respondents how often they connect to Facebook and Netlog. Responses are measured using a 5-point scale ranging from ‘once a month or less’ to ‘several times a day’. The vast majority of the adolescents (84%) connect to Facebook daily, while only 20% of the adolescents do so on Netlog.

Parental mediation styles

Parental mediation styles are measured by asking adolescents if they experience rules about where and how long to use SNSs, about the devices they use to access the SNS, and the content that they are allowed to share on them. Responses were measured using ‘yes’ or ‘no’ answers. We also asked them how often they discuss their SNS behaviour with their parents, using a 5-point scale ranging from ‘once a month or less’ to ‘several times a day’. To grasp the heterogeneity in the styles that parents take on to intervene in their children’s SNS use, we performed a latent class analysis (LCA). This statistical technique assists in discovering unobserved subgroups within a given set of categorical variables (Vermunt & Magidson, 2006). A four-cluster model yields a good fit ($L2(1317) = 14.94, p = 1$). Table 29 provides an overview of the different parenting styles and their main characteristics.

Table 29 Latent cluster analysis finding four parenting styles (* $p < 0.05$, *** $p < 0.001$)

Parenting styles		PPS (39%)	LFS (32%)	AVPS (18%)	ANPS (11%)		
						Wald	R ²
Control: content		0.14	0.07	0.87	0.74	198.42***	0.49
Control: devices		0.07	0.01	0.78	0.89	136.42***	0.65
Control: time/place		0.14	0.04	0.81	0.86	170.09***	0.52
Warmth	Never	0.20	0.98	0.11	0.85	8.95*	0.51
	Sometimes	0.62	0.02	0.60	0.15		
	Often	0.17	0.00	0.29	0.00		
Gender*	Male	0.47	0.60	0.42	0.45		
	Female	0.53	0.40	0.58	0.55		
Average age*		15.51 (2.03)	15.13 (2.04)	14.38 (1.83)	14.24 (1.65)		

*Descriptive socio-demographic statistics of respondents corresponding to the four parenting styles

*Permissive parenting style (PPS), Laissez-faire parenting style (LFS),
Authoritative parenting style (AVPS), Authoritarian parenting style (ANPS)*

The first cluster consists of adolescents whose parents take on a 'permissive parenting style' (PPS) (Mage = 15.51, SD = 2.03). The second cluster comprises adolescents whose parents have a 'laissez-faire parenting style' (LFS) (Mage = 15.13, SD = 2.04). The third cluster consists of adolescents with an 'authoritative parenting style' (AVPS) (Mage = 14.38, SD = 1.83). Finally, the fourth cluster arises from adolescents whose parents have an 'authoritarian parenting style' (ANPS) (Mage = 14.24, SD = 1.65). The PPS is the parenting style that is most experienced by adolescents for intervention in their SNS behaviour (37%).

5.2.4. Results

Facebook users have a less restrictive PPB

Table 30 displays the summary of PPB of adolescents on Facebook and Netlog along with a paired samples t-test analysis. The analysis indicates that Facebook users disclosed significantly more profile and contact information to friends, and friends of friends, or everyone (non-specified), compared to Netlog users.

Table 30 Paired samples t-test testing the differences in PPB on Facebook and Netlog (Df = 224) (* $p < 0.05$, *** < 0.001)

	Facebook	Netlog	t
Disclosure of profile information			
Shared with friends	2.50 (2.28)	2.19 (2.37)	2.07*
Non-specified	2.52 (2.26)	2.00 (2.29)	4.23***
Disclosure of contact information			
Shared with friends	1.14 (1.23)	0.74 (1.23)	4.77***
Non-specified	0.47 (0.91)	0.34 (0.84)	2.04*

Predicting factors of adolescents' PPB on Facebook and Netlog

To test which factors serve as an appropriate predictor(s) for adolescents' PPB on Facebook and Netlog, eight multiple hierarchical regressions were performed. Tables 31 and 32 provide an overview of the standardized regression coefficients for Facebook and Netlog respectively.

Profile information

Our analysis reveals that the main predictor for adolescents' disclosure of profile data on both Facebook and Netlog is privacy concern. The higher the adolescent's privacy concern, the more he/she discloses profile data to friends and the less he/she does so to strangers or casual acquaintances (non-specified).

For Facebook users specifically, key predictors of the disclosure of profile information are: having only an account on Facebook, parenting styles, and frequency of use. Table 31 shows that adolescents who only have an account on Facebook (and no account on Netlog), compared to those who have an account on both Facebook and Netlog, have a more restrictive PPB. They

are more likely to disclose profile information to friends and are less likely to do so to people they do not or hardly know. Parenting styles are a less strong, but also significant, predictor of adolescents' PPB on Facebook. Facebook users who experience an AVPS are less likely to disclose profile data to strangers or people they hardly know, compared to Facebook users who experience a LFS. Table 31 shows that the more people use Facebook, the more they disclose profile information to friends and contact information to strangers.

In contrast to Facebook, frequency of use serves as a significant predictor for adolescents' profile data disclosure to strangers on Netlog. The more adolescents use Netlog, the more they reveal profile information to people they either do not/or hardly know. We did not find a significant relation between the disclosure of profile and contact information on Netlog for any of the other variables.

Contact information

Table 31 and 32 show that privacy concern retains importance in explaining adolescents' disclosure of contact data on both Facebook and Netlog. Adolescents who have a higher privacy concern are less likely to disclose contact data to people they do not or hardly know. However, privacy concern does not serve as a significant barrier for disclosing contact information to friends on either site.

Our analysis further identifies age and gender as important predictors of disclosing contact data on both Facebook and Netlog. For both sites, age is negatively related to the disclosure of contact information to friends. This means that the older the adolescents, the less they are inclined to disclose contact data to friends. In addition, female adolescents proved less inclined than young male adolescents were to disclose contact information to strangers or people they hardly know.

Again, we notice differences between disclosing contact data on Facebook and Netlog. For Netlog, gender does not serve as a significant predictor for the disclosure to friends. Moreover, frequency of use only serves as an important predictor of adolescents' disclosure of contact information to unknown people on Facebook. Since young people use Facebook more often, they are more inclined to disclose contact data to everyone. Table 31 also shows that having an account on one site is only significantly related to the disclosure of contact data to unknown people on Facebook.

Table 31 Hierarchical multiple regression predicting the disclosure of profile and contact data on Facebook (Df = 972) [$*p < 0.05$, $*** < 0.001$]

	Profile		Contact	
	Friends	Non-specified	Friends	Non-specified
Gender ^a	-0.02	-0.01	-0.13***	-0.10**
Age	-0.01	0.05	-0.08*	-0.02
Frequency of Facebook use	0.09**	0.04	0.05	0.06*
Privacy concerns	0.27***	-0.35***	0.05	-0.31***
Parental mediation				
PPS	-0.03	-0.01	-0.04	-0.05
AVPS	0.05	-0.08*	-0.02	-0.06
ANPS	0.01	-0.04	0.03	-0.06
Having only an account on one site ^b	0.10**	-0.08*	0.01	-0.07*
F	12.83***	21.52***	3.21***	20.60***
R²	0.10	0.15	0.03	0.15

Table 32 Hierarchical multiple regression predicting the disclosure of profile and contact data on Netlog (Df = 267) [$*p < 0.05$, $*** < 0.001$]

	Profile		Contact	
	Friends	Non specified	Friends	Non specified
Gender (1)	0.09	-0.04	-0.09	-0.19**
Age	-0.06	0.03	-0.13*	-0.04
Frequency of Netlog use	0.03	0.14*	0.06	0.09
Privacy concerns	0.19**	-0.28***	-0.05	-0.18**
Parental mediation				
PPS	-0.11	0.04	-0.12	0.02
AVPS	0.11	-0.11	-0.01	0.04
ANPS	-0.01	-0.07	-0.04	-0.01
Having only an account on one site (2)	-0.07	0.10	-0.02	-0.01
F	3.47***	5.58***	1.46	3.35***
R²	0.10	0.15	0.04	0.09

(1) Coded as 0 = boy and 1 = girl

(2) Coded as 0 = having both a Facebook and Netlog account and 1 = having only a Facebook account

5.2.5. Discussion and conclusion

Although children's safety in online social networking has received extensive attention, few comparisons exist between SNSs regarding the differences in PPB and the factors that predict this behaviour. The goals of our study are twofold: 1) to detect whether the PPB of adolescents differs according to the architectural features of the SNS, and 2) to investigate whether the factors that predict adolescents' PPB differ according to the architectural features of the SNS.

For this case study, we chose to compare the most popular SNSs in Belgium at the time of the data collection, Facebook and Netlog. Although both platforms help to develop and maintain social contacts, they have different architectural features. We acknowledge that the social media landscape looks different today, but the added value of the comparative case study goes beyond the specific platforms under investigation. We are primarily interested in deconstructing whether and how people have a different PPB on the SNS and what factors predict this behaviour if their architectural features differ. The latter is important when it comes to developing appropriate social media literacy strategies (Authors, 2013).

Our results clearly indicate the existence of differences in the PPB of users on Facebook and Netlog. Facebook users disclose more profile and contact information than Netlog users. The architectural features of Facebook, as a site on which it is possible to control whom of your friends can see your personal information, partly explains this finding (Ellison, et al., 2007). Facebook gives users the opportunity, through the privacy settings, to control the visibility of their personal information, which gives them a greater feeling of control and consequently leads to a higher level of disclosure. Facebook's design also encourages its users to disclose both kinds of information more than Netlog. Facebook provides many options to complete your personal information; even friends can make suggestions. In addition, most Facebook users know how *'to restrict the visibility of their profile to desired audiences but are less aware of, concerned about, or willing to act on possible 'temporal' boundary intrusions posed by future audiences because of persistence of data'* (Tufekci, 2008, p. 33). Therefore, architectural features of SNSs that give users a feeling of control over the visibility of personal information ensure that users of SNSs will release more information about themselves and think less about the potential consequences.

Interestingly, regression analysis shows that different factors predicting adolescents' PPB on Facebook and Netlog also correspond to differences in disclosing profile and contact information. Similar to Young and Quan Haase's findings (2009), we find that privacy concern, whether or not the architectural features give users more or less control over the visibility of personal information, is an important predictor of adolescents' disclosure of profile and contact information on both sites. Despite the architectural features of an SNS, adolescents with more privacy concerns show a more restrictive PPB: they disclose less profile and contact information to people they do not/or hardly know and more to friends.

Parental mediation styles also make a difference in adolescents' PPB, which is in contrast to what Shin, Huh, and Faber (2012) found. However, this is only true for disclosing profile information on Facebook. Adolescents with a AVPS parents are less likely to disclose profile information to strangers or people they hardly know on Facebook than children with a LFS

parents. We can conclude that parents invest more in the SNS behaviour of their children if the SNS is easy to use and if it is mainstream, and therefore receives a lot of media coverage. In addition, if the architectural features of an SNS make it very difficult for parents to check their children's profile, which is certainly the case with Facebook, it is less efficient to rely on control and rule strategies. Parents then have to communicate with their children and ask questions regarding what they are doing on these SNSs.

Our data also reveal that intense SNS users are more inclined to reveal personal information. To whom this information is visible, depends on the culture and architectural features of the platform. In this case study, heavy Facebook users disclose profile information to friends and contact information to people they do not or hardly know. In contrast, heavy Netlog users disclose more profile information to non-specified people. A possible explanation is that young people using SNSs are very frequently more tempted to develop an online identity that matches their offline identity to get social rewards. Netlog users must reveal enough profile information in order to optimize their chances of being added by unknown others with similar interests.

In accordance with previous research, our study also learned that gender and age are predictors for the revelation of contact but not of profile information on SNSs, despite differences in architectural features. Female and older adolescents are less inclined to disclose contact data than boys and younger adolescents. It is possible that boys use both sites to meet new people and/or engage in new romantic relationships, while girls use online social networking to consolidate existing relationships with friends (Tufekci, 2008). Children's development during adolescence can explain the result about age. Throughout this period, young people find it increasingly important to be in touch with their friends and meet new people (Brown & Klute, 2003).

This study indicates that the culture and architectural features of an SNS explain differences in adolescents' PPB. However, with the exception of parental mediation, the factors that predict adolescents' PPB do not differ according to culture and the architectural features of the SNS platforms. Since only a few studies have compared PPB on different SNS platforms, this case study is highly relevant for the debate about privacy and social media literacy. If users are aware that their PPB differs according to the culture and architectural features of an SNS, they can anticipate this and consequently use SNSs in a more critical and social media literate manner.

5.2.6. Future research directions

We acknowledge that the social media landscape is changing rapidly. For this reason, follow-up studies on the SNS platforms that are currently the most popular are recommended. Culture and architectural features especially need to be scrutinized, preferably via comparative case studies.

A limitation of our study is that we did not determine whether the personal information revealed by users on SNSs, was accurate. It is possible that users give false information. However, the latter is extremely difficult to determine in the case of Facebook, because people

are obliged to use their real identities. Moreover, we also advise further research to improve understanding of the division between disclosing to friends and non-specified people, as adolescents tend to accept complete strangers as their friends on SNSs (Livingstone, 2008). Accordingly, disclosing profile and contact information to friends on SNSs is just as risky as not protecting this information. Due to the limitations of a quantitative approach, a substantial amount of variance in adolescents' disclosure of personal information on SNSs also remains unexplained. In addition, surveys also measure self-reporting behaviour.

Notwithstanding the limitations, this study makes a clear contribution to inspiring privacy awareness-raising strategies directed towards SNS users. This study posits that the architectural features of an SNS play an important role in adolescents' PPB. Therefore, SNS providers can change a lot to enhance adolescents' PPB. Given the target group, adolescents between 12 and 18 years old, their strong attraction to SNSs and the possible (mis)use of personal information, cyber bullying, harassment, gossip, phishing, and data mining in SNSs are a fact, this paper also illustrates that young adolescents need to be educated about possible risks related to SNS use in such a way that it actually alters their behaviour. Awareness raising campaigns, parental mediation, and educational programs must then consider the differences in purpose and the architectural features of SNSs.

5.3. Paper 3 - Experts as facilitators for the implementation of social media in the library? A social network approach

Full reference: Vanwynsberghe, H., Boudry, E., Vanderlinde, R., & Verdegem, P. (2014). Experts as Facilitators for the Implementation of Social Media in the Library? A Social Network Approach. *Library Hi Tech*, 32(3), 529–545.

As it is a modern librarian's task is to be able to use and distribute information in all media formats, social media become more important in libraries. To accomplish such knowledge provision, librarians must be proficient with social media. Based on the social network theory and the social capital theory, we assume that social media expertise is increasingly relevant to people's competence development. In this third paper, we concentrate on the role of experts in social media in knowledge diffusion and literacy development of library workers.

We draw on social network theory and analysis as a framework to study the dissemination of social media knowledge and information within the library. For this study, we focused on three public libraries located in Belgium. The findings of this social network analysis²¹ suggest that social media experts in a library, being central actors, play a significant role in either supporting or constraining the distribution of information on social media. The presence of a social media expert facilitates the information flow about social media to other librarians, as he/she is the most important source for information about social media. However, at the same time, the expert impedes the information flow to all librarians as he/she gives most information to librarians who are already conversant with social media and/or with whom he/she shares a more close relationship.

Attending to the effects of social capital (more specifically in colleague networks) in knowledge diffusion of social media, generated important theoretical insights that were supported by our data. Social capital theory and social network analysis help us understand how organizations can coordinate knowledge transfers without relying on formal training. Thus, evidence of social media experts as an important factor in social media literacy development within an organization has implications for those who hope to facilitate the diffusion of knowledge about social media within organizations. The understanding of how this knowledge flows (or does not flow) within an organization can yield critical insights into where management should target efforts to promote more collaboration. Typical domains yielding benefit from this information include management networks of organizations that want to implement social media, establish a social media policy and/or provide social media training.

5.3.1. Introduction

Digital activities such as engaging in online communities, social networking, and user-generated content (UGC) production are a growing part of many people's private and professional lives. Social media is the unifying term for these kinds of 'new digital media phenomena (...) in which ordinary users (i.e. not only media professionals) can communicate with each other and create

²¹ Social network analysis (SNA) was not explained in Chapter 4 of this dissertation, for the reason that SNA is not an appropriate method to measure social media literacy as such but rather to measure the factors that have an impact on people's development of social media literacy.

and share content with others online through their personal networked computers and digital mobile devices' (Bechmann & Lomborg, 2013, p. 767).

Since public libraries have always connected people with information, social media urge them to reconsider their position as public knowledge providers (Anttiroiko & Savolainen, 2007). As a modern librarian's task is to be able to use and distribute information in many formats other than print, he/she must be able to use all media, including digital and social media. Similarly, librarians are also increasingly responsible for bridging the gap between social media and end-users to enable them to effectively and efficiently use these media sources (Callahan, 1991). In this context, the debate of media literacy comes at stake, and given our specific focus, we term this as 'social media literacy'. Social media literacy can be defined as the set of technical, cognitive, and emotional competencies required when using social media to search for information, for communication, content creation, and problem-avoiding and problem-solving, both in a professional and a social context. To accomplish such knowledge provision, librarians must be proficient with social media.

Although much literature already exists concerning social media use in a library context – mostly referred to as library 2.0 (Casey & Sevastinuk, 2006), it is still in its infancy (Anttiroiko and Savolainen, 2011). Thus far, most of the existing literature focuses on the potential use of social media in the library, 'how-to guides' for libraries to implement social media (Linh, 2008), and about competencies of which librarians perceived they need them (Huvila, Holmberg, Kronqvist-Berg, Nivakoski, & Widén, 2013). Empirical data on social media implementation in libraries is rare. Therefore, this paper contributes to this under-researched field by inquiring the actual implementation of social media in libraries, hereby specifically focusing on the development of social media literacy of librarians.

The functioning of organizations such as libraries is built upon social processes, or relations and interactions, between the employees (Tichy, Tushman, & Fombrun, 1979). As such, libraries start using new technologies, such as social media, through localized social processes (Valente, 1996). Actual implementation and use of a new technology within the library depends on the individual members of the organization and the relations and interactions between them. Rogers (1995) and Haythornthwaite (2005) present social network theory and analysis to involve these social processes into the diffusion of innovation research. The social network approach posits that social interactions may have an impact on people's knowledge development about a new technology, which leads to awareness, and consequently has an impact on the implementation (or rejection) of that technology. Moreover, Frambach and Schillewaert (2002) and Haythornthwaite (1996) indicate that information about an innovation is mostly introduced by experts who have the most knowledge, skills, or expertise within the organization and often work on or near the core of the innovation within the organization.

Therefore, the aim of this study is to empirically assess how a social media expert, or the employee with the most knowledge and skills concerning social media, in the library facilitates, or impedes, the information flow and implementation of social media in the library. Thus far, empirical studies on the implementation of innovations within organizations were mainly conducted in the health care industry (e.g. Atun, Kyratsis, Jelic, Rados-Malicbegovic, & Guroł-

Urganci, 2007) and the educational field (e.g. Damanpour, 1987; Frank, Zhao, & Borman, 2004). Fewer empirical studies were conducted on social media implementation in libraries (e.g. Neo & Calvert, 2012). This empirical base needs to be expanded to cover more diverse organizations and to allow for more generalizable findings. As public (non-profit) organizations, libraries have many characteristics analogous to hospitals and schools; however, they are sufficiently different in their impact on individual's life chances in order to permit credible generalization of findings of previous research within other organizations.

This paper first provides a theoretical framework, in which we integrate social network theory into a theoretical model of diffusion of innovation within organizations. We then use social network analysis (SNA) to empirically assess how a social media expert in the library facilitates, or impedes, the information flow and implementation of social media. In the discussion, we review the findings, draw implications for social media experts in libraries, and identify limitations.

5.3.2. Social network theory and the diffusion of innovations within the library

According to Rogers (1995, 137), the four elements in any diffusion event are, *'(1) an innovation, idea perceived as new by the potential adopting unit, (2) which is communicated through channels, (3) over time, (4) among members of a social system.'* This diffusion process involves a few members' individual knowledge of an innovation and their decision to adopt (or reject) this innovation, thus over time more individuals adopt the innovation until it is implemented into the organization (Valente, 1996). Nevertheless, the question remains how this idea of diffusion of innovation can be applied to organizations such as a library.

Initially, research on the diffusion of innovations focused on the individual as the unit of analysis (Rogers, 1995). It was assumed that if the individual is the unit who adopts or rejects the innovation, he/she must also be the unit of analysis (Coleman, 1958). This approach can easily be applied to strict hierarchical manufacturing organizations, but not to libraries where the decision-making process is more complex. In libraries, every individual has the autonomy to decide whether to adopt or reject an innovation, partly based on the knowledge they retrieve through contacts with others. Rogers (1995) suggests a social network approach to study the diffusion of innovations, which focuses on the unique interactions and exchange of resources between individuals. Wellman and Berkowitz (1988) argue that behaviour is more affected by the kinds of relationships between people and the resources that are exchanged in the relationships than by the norms and attributes of individuals. In this study, we focus on social media information exchange as a resource.

Frank et al. (2004) have modified the social network approach to social processes that apply to members of an organization, which emphasizes two characteristics of an organization: social pressure and informal help. Organizations provide important advantages to their members regarding knowledge, social and psychological rewards, access to resources, and in some cases, even status. Therefore, it is possible that individuals within an organization apply social pressure to reward appropriate and punish inappropriate behaviour. Thus, members of an organization can use social pressure to direct other members to support, or reject, an innovation, and to motivate them to achieve a common goal. Nevertheless, the management is

of course expected to build an organizational strategy and common goal for using a new technology. However, much input still comes from informal interactions between team members (Frank et al., 2004). Explicitly on the implementation of a new technology within an organization, Gallivan, Spitler, and Koufaris (2005) found that informal information sharing of co-workers has an important influence on employee's IT usage, while training organized by the management exhibits more modest effects.

Social pressure and the exchange of informal help between members of an organization can be combined under the general theoretical framework of 'social capital'. This elastic term is used in multiple fields, each foregrounding a different aspect of the concept and offering a nuanced understanding of the idea (Bourdieu, 1986; Putnam, 1993). According to Lin (2001, p. 24), the common element between all theorists includes the understanding of social capital as: *'the resources embedded in social relations and social structure, which can be mobilized when an actor wishes to increase likelihood of success in purposive action.'* Social capital has also been recognized as an important factor in the acceptance and use of information and communication technologies (ICT) (Korupp & Szydlik, 2005; van Dijk, 2005). On the individual level, social capital can be thought of as 'local experts' or *'individuals who play a key role in the support of ICT adoption and use within a heterogeneous social network'* (Stewart 2007, 551). More concretely, Bakardijeva (2005, 99) refers to them as 'warm experts' or an *'Internet/computer technology expert in the professional sense or simply in a relative sense compared with the less knowledgeable other.'*

In the network literature, experts are referred to as the persons who are able to maintain, create or prevent the information flow (Frambach & Schillewaert, 2002; Haythornthwaite, 1996). Hence, we expect that social media experts (cf. informal help) in the library as an organization can stimulate (cf. social pressure), or impede, the exchange of information about social media between colleagues. Previous studies point out a number of indicators that can facilitate or impede the exchange of information from an expert within an organization, including the place of the expert within the network and the quality of ties between the expert and other members of the organization.

In addition to the presence of an expert, network structures may also support the exchange of information if the necessary relations or ties exist, but they may also limit resource transfers if the network does not hold sufficient or 'right' ties (Daly & Finnigan, 2010). Previous research indicates that if the actor in the information exchange network takes a central position, the more he/she can control the information exchange and consequently the implementation of an innovation (Haythornthwaite, 1996; Scott & Carrington, 2012). The people most central in an information exchange network are the experts or the ones who have the most knowledge and skills to be working on or near the core of the innovation within the organization (Frambach & Schillewaert, 2002). Hence, we wonder if the social media expert in the library takes the most central position in the information exchange network about social media, and consequently, gives the most information to other colleagues.

Although, the focus is on the role and position of a social media expert within the library as an organization, it is also important to include the quality of ties that exists between the expert and the other colleagues (Putnam, 1993). The quality of ties can be compared with the

concept of 'tie strength' of Haythornthwaite (1996), which is considered as closeness between ties. The closer the actors are and the more reciprocal the relations are, the stronger the ties between the actors. Strong social ties have long been considered the most beneficial for information exchange (Festinger, Schacter, & Back, 1950). Individuals who are more closely tied to each other have a more intimate relationship, which makes it easier to exchange information.

However, Granovetter (1973) and Hansen (1999) challenged the notion that only strong ties are valuable for information exchange by indicating that strong social ties provide the transfer of tacit or complex knowledge, while weak social ties are better suited to transport simple or routine information. Within an organization, such as the library, individuals have more intense relations with some members of the organization and less intense relations with other members. Rainie and Wellman (2012) argue that this variation in relations leads to a different scope and depth, which makes the combination of strong and weak ties valuable for the decision to adopt or reject an innovation. For the implementation of social media in the library, both strong and weak ties are necessary as they facilitate access to the more basic technological information, or the so-called 'button knowledge' (van Deursen & van Dijk, 2010), and to the more advanced knowledge about, for example, the business models of certain social media (Share et al., 2004). Hence, we wonder if the social media expert within the library gives more complex and advanced information to colleagues with whom he/she shares a more intense relationship (e.g. strong ties) than with whom he/she shares a less intense relationship (e.g. weak ties)?

5.3.3. Methodology

Context

This study is part of a research project funded by the Flemish government that offers a social media training program with the goal of increasing the social media knowledge and skills of librarians. From each public library in Flanders (Belgium's northern Dutch-speaking region), one or two librarians were invited to attend the intensive social media courses, after which they function as a social media expert within their organization. This study focuses on libraries because they were believed, through other research, to be attempting to implement social media (e.g. Casey & Sevastinuk, 2006; Linh, 2008) The study was conducted in three public libraries located in Flanders, which contributed to the social media program. These libraries were selected for their almost equal distribution of library staff and their urban area locations, which allow for some comparison. Using mixed-method design with a combination of social network analysis and face-to-face interviews, this study aims to better understand how a social media expert could support or impede the information flow and implementation of social media in the library.

Data collection and analysis

Social network data collection

The survey for the social network analysis was constructed to examine five types of social relations regarding information exchange about social media in the library: [1] discussing work;

[2] personal advice; [3] discussing work related use of social media; [4] discussing personal related use of social media; and [5] giving information about social media.

Discussing work contains the circulation of information and resources pertaining to the organizational goals. We asked the librarians with whom of their colleagues they discuss work related issues. Based on Ibarra (1993), we refer to this relation as the 'instrumental network'. *Personal advice* contains more affective emotions and implies a certain level of trust between the people involved in the relationship. Such a strong bond between colleagues is believed to facilitate information exchange (Granovetter, 1973). This relation is defined as the 'expressive network' (Ibarra, 1993) and was measured by asking the following question: 'Who do you go to for guidance or advice on more personal matters?' To measure *instrumental and expressive networks for social media related issues* specifically, we respectively asked 'To whom do you go to discuss your work related use of social media?' and, 'To whom do you go to discuss your personal use of social media?' Central to this study is *information sharing about social media* between library staff. Giving information addresses the issue of 'who seeks out to whom' for advice and thereby, in contrast to the previous types of instrumental and expressive networks related to social media issues, implies the exchange of knowledge, information, competencies, or expertise between the expert and the novice. We assessed this relationship by asking the respondents to whom they give information about social media.

These five questions were included in the survey to assess social relationships and to map the social network between librarians. All these social networks are directed: either a relationship exists between two colleagues '1' or not '0'. Respondents were provided with a library specific appendix that contained the names of the librarians and answered each social network question by indicating which coworker(s) they consider being part of their social network as specified by the question. The respondents could answer with an unlimited number of colleagues. All library staff of the three libraries were asked to participate in the social network question in the survey. In library 1, 77 of the 121 employees (64%) responded, 66 librarians (82%) of library 2 participated in the survey, and in library 3, 45 of the 49 librarians (92%) responded to the survey. The librarian samples consisted of more than double females than males with an average age between 44 and 49 years (library 1: Mage= 49.01 SDage= 8.72, 69% female 31% male; library 2: Mage= 47.45 SDage= 16.22, 76% female 24% male; library 3: Mage= 44.74 SDage= 9.31, 77% female 33% male).

The survey also included social media literacy questions. To explore how well the library staff deals with social media, we conducted a cluster analysis on these questions. A magnification of the sample from three to six libraries was necessary to adequately perform this analysis. In total, 220 librarians participated in the survey, which is a response rate of 77%. The social media literacy survey contains questions to librarians' regarding, [1] social media use, [2] social media knowledge, and [3] technical, [4] cognitive, and [5] emotional competencies.

Social media use was measured by asking the respondents how often they connect to social media during their work and leisure time. Responses were measured using a 5-point scale ranging from 'never' to 'several times a day'. *Technical and cognitive competencies* were determined by how well the respondents evaluated their performance of social media activities.

Simultaneously, we took into account the frequency of use of these activities. Hence, higher self-efficacy in performing these activities and more frequent usage was correlated to more advanced technical and cognitive competencies. We multiplied the self-efficacy measure with the frequency measure and treated the outcome as one variable²². Exploratory factor analysis (maximum-likelihood estimation with varimax rotation) revealed two factors, which we labeled as 'technical competencies' on the one hand, and 'cognitive competencies' on the other hand. The technical competence scale consists of nine items ($\alpha = 0.94$). With these technical competencies, we refer to, for instance, being able to upload pictures, tagging photos, and making comments on social media. The cognitive competence scale contains four items ($\alpha = 0.91$) related to, for instance, checking if the information in a social media message is still up-to-date, thinking about the context wherein content on social media is produced and evaluating whether the information on social media is correct or useful. Related to these technical competencies and cognitive competencies, which focus on skills, we also considered a measure of *social media knowledge*²³. Based on the work of Hargittai (2009), we asked the respondents about their familiarity with certain terms related to social media use such as tagging, cookies, and social bookmarking. Responses were measured using 'yes' or 'no' answers. Raw scores consisting of higher values were taken to indicate a higher level of social media knowledge. We also measured *emotional competencies* or attitudes based on a series of six items proposed by Bruner et al. (2001). The measure of attitudes contains an established six-item, seven-point semantic differential scale (bad/good, foolish/clever, unpleasant/pleasant, useless/useful, boring/interesting, and negative/positive). Factor analysis (varimax rotation) revealed a single factor, which we named social media attitudes ($\alpha = 0.94$). Raw scores consisting of higher values were taken to indicate positive attitudes towards social media.

Social network data analysis

Network analysis identifies the communication structure, in this case, the information flow around social media in an organization (Rogers, 1995). These communication flows were analyzed using the above-mentioned interpersonal relationships as the units of analysis. A member of an organization is likely to communicate, in this case about social media, with certain other members and not to others. Social network analysis describes these linkages between individuals by plotting them in a 'whom-to-whom' communication matrix (Scott & Carrington, 2012). The matrix is constructed following the same procedure; if person A selected person B as a person to whom he/she gives social media information, for example, a 1 was entered in cell AB. A symmetric matrix contains data for an undirected network, while an asymmetric matrix records the direction of ties. In this study, we use an asymmetric matrix because giving social media information to another person does not automatically mean that information is also received.

²² The methodology section of this dissertation shows that it is more ideal to measure technical social media competencies with the survey familiarity question. After comparing the combination of the survey frequency and self-efficacy questions with the performance tests, we can conclude that this is also a relatively good survey proxy measure for technical competencies.

²³ From Section 4.3. in the methodology chapter we can conclude that the knowledge question of Hargittai can serve as a proxy measure of technical competencies. In this paper we treat the information of this question as knowledge about social media.

To better understand the role of a social media expert in the information network about social media, we calculated several social network properties at both organizational and individual levels using the UCINET 6.0 software package (Borgatti, Everett, & Freeman, 2002). For this study, we focus on the social network properties listed below in this section, as they are the most relevant and explicit regarding how social media information circulates between librarians.

Organizational level measures include density, reciprocity, and mean degree centrality. *Density* can be interpreted as the concentration of relationships in a network and is calculated by dividing the number of actual relationships by the number of total possible relationships (Hanneman and Riddle, 2005). For example, the more relationships exist between the librarians concerning exchanging social media information, the more dense the social network will be. The density scores range from 0 (no relationship exists) to 1 (all members are connected to all other members). A dense network allows information to flow more quickly and freely than a network with fewer ties (Scott & Carrington, 2012).

Reciprocity examines the extent to which the relationships in a social network are reciprocal. For example, A nominates B as a person to whom he/she gives social media information and B nominates A. This property is calculated by dividing the actual number of reciprocal relationships by the total possible number of reciprocal relationships (Hanneman & Riddle, 2005). Previous research indicated that higher levels of network reciprocity are linked with a higher level of complex information exchange (Kilduff & Tsai, 2003). This reciprocity measure ranges from 0 (none of the relations are reciprocal) to 1 (all of the relations are reciprocal).

The *mean degree centrality* of the network is calculated by dividing the sum of the degree centrality of all the nodes in the network by the total number of nodes (Kretschmer & Aguillo, 2004). Although density is a better measure for understanding communication in a network as a whole, the measure of the mean degree centrality can compare individual scores of actors in relation to the network. This score can be compared with the in- and out-degree (see below) scores at the individual level.

At the individual level, we calculated the raw and normalized scores for in-degree and out-degree (Hanneman & Riddle, 2005). *In-degree* reflects the number of people by whom a respondent was nominated and can consequently be interpreted as a measure for individual popularity. *Out-degree* represents the number of people nominated by the respondent and can therefore be seen as a measure of individual activity. While raw scores encompassed the actual numbers of respondents that were selected, normalized scores present the percentage of relationships of the whole network that respondents maintain.

We also estimated a series of *ANOVA Density Models* (Hanneman & Riddle, 2005) to examine how members of a group relate to members of other groups. In our study, groups are defined according to individuals' social media expertise within the group. It is possible that social media experts prefer to have ties either with other experts in the library or with people who use social media less often. The ANOVA Density Models enable detection of differences

within and between group ties. This measure gives the probability that a group is tied to another group; however, it does not specify in what way they differ.

To examine whether social media experts give more or less information about social media to people with whom they share a more or less intensive relationship (e.g. strong ties versus weak ties), a series of *Quadratic Assignment Procedure* (QAP) correlations in UCINET were estimated (Borgatti et al., 2002). The statistical technique of Pearson correlation is not relevant in this study because social relations between people are nested and embedded within the same network, which therefore violates the assumption of interdependence, whereas the QAP is designed for correlational analysis for social network data. A low proportion ($p < 0,05$) indicates a strong correlation between the different kinds of social relations that are unlikely to have occurred by chance (Baker & Hubert, 1981).

Collection of interview data

The aim of the qualitative stage was to gather richer data to allow deeper insights into how social media experts reflect on the information flow of social media in the library. We conducted two hour-long face-to-face interviews with five social media experts, i.e. Elena (library 1, age= 31, profile= social media literate), Lisa (library 1, 38, social media literate), Sophie (library 2, 35, social media worker), Paul (library 3, 32, social media literate), and Nina (library 3, 43, social media literate). As the interviewees were recruited out of the respondents who participated in the survey, we already had much (descriptive) knowledge about them. Furthermore, the respondents for this qualitative stage were 'purposefully' sampled based on the criteria of having social media expertise and their participation in the workshops. The interviews were audio-recorded and transcribed, and the data analyzed using the constant comparison technique with the help of NVivo 10. To obtain an overall sense of the interview data, we first read the full interview transcriptions. Next, we analyzed the data using an open coding procedure to realize a code list focused on giving social media information and the social media experts' role and position in the library. Then, we recoded the data in terms of categories provided by the literature review. For the data analysis, the real names of the interviewees were replaced with pseudonyms.

5.3.4. Results: Access to expertise through help and talk.

Social media literacy profiles

To detect social media literacy profiles, a k-means cluster analysis was conducted on the five social media literacy questions, and to identify the appropriate number of clusters (k), we first conducted a hierarchical cluster analysis on the social media literacy factors. Examination of the dendrogram revealed peaks at four and five clusters. A k-means cluster analysis was then conducted, examining four and five cluster solutions. Our typology containing four clusters was the most information-rich and interpretable. Table 33 provides an overview of these four clusters and their main characteristics.

The first profile, namely the 'Social media workers', contains those librarians who use social media the most in the library and have a relatively a more advanced level of social media literacy. 'Social media laggards' do not frequently use social media either at home or at work

and have a low level of social media literacy. The 'social media literates' are the librarians who frequently use social media both at home and at work and have an advanced level of social media literacy. Finally, the 'social media spare time users' are the librarians, who frequently use social media at home, but not in the library, and have an average level of social media literacy. As expected, the social media experts belong to the group of social media literates and social media workers, who serve as facilitators or agents and can guide and support other librarians during the process of implementing social media in their organizations.

Table 33 K-means cluster analysis on centered variables [$*p<0.05$, $***<0.001$]

Social media literacy profiles	Worker (23.37%)	Laggard (23.91%)	Literate (28.26%)	Spare time user (24.46%)		
					F	MSQ
Attitudes	3.52	2.86	4.18	3.65	44.47***	13.97
Knowledge	2.27	2.03	3.54	2.76	37.91***	21.67
Use of social media: at home	3.49	1.43	4.83	4.33	187.79***	103.26
Use of social media: at work	3.77	1.23	4.56	1.42	375.09***	131.71
Technical competencies	0.12	0.00	0.83	0.38	29.51***	6.63
Cognitive competence	0.16	0.02	0.92	0.29	37.91***	7.78

^aMSQ = Mean square clusters

The library and the information network about social media

Table 34 indicates that all three libraries had a low network density score for sharing social media information. In other words, in these libraries 4% or less of all possible relationships formed around giving social media information are actually reported to exist. Nina (Library 3) gives the following reason for this low-density score:

'For only a limited group of librarians, using social media is part of their job description. The other librarians do not have enough time or are not interested enough in social media to think or talk about social media in the library.'

Library network level reciprocity of the information flow about social media varies among the libraries between 0.15 and 0.40. This means that 40% and 15% of all relationships in libraries 2 and 3, respectively, are reportedly based on sharing mutual social media information. In library 1 27% of all relationships are reciprocal. Since previous research already indicated that higher levels of network reciprocity are linked with higher levels of complex information exchange (Kilduff & Tsai, 2003), we can assume that library 2 is the most effective and efficient library at transmitting complex social media information. In contrast to the other libraries, librarians in library 2, who professionally work with social media, sit on the same floor, and share much social media information; consequently, other librarians who sit on this floor

but do not professionally work with social media are also stimulated to discuss social media use.

In libraries 1 and 3, social media information mostly stays within the group of the social media literates; therefore, we wondered whether we would also see this trend in the centrality measures. First, we discuss the distribution of the actor's degree centrality. On average, library 1, 2 and 3 have a degree of respectively 1.90, 1.81, and 1.78, which is quite low, given that there are 45 people or more in the libraries. We notice that the variation of out-degree is larger than that of in-degree suggesting that the population is more homogeneous with regard to in-degree than out-degree. This result is supported by the statements of Lisa, Elena, Sophie, and Paul in the interviews, who indicate that information about social media is mostly exchanged and discussed with people who are also skilled in social media. Lisa and Elena specify that in library 1:

'There is a social media working group, which consists of people who have the knowledge and skills to deal with social media and who are highly engaged with social media in their private lives. Information about social media is mostly exchanged within this working group.'

Table 34 Descriptive statistics of libraries 1, 2, and 3

	Library 1		Library 2		Library 3	
Mean Density (SD)	0.02 (0.16)		0.03 (0.16)		0.04 (0.20)	
Reciprocity (arc-based)	0.27		0.40		0.15	
	Raw	Normalized	Raw	Normalized	Raw	Normalized
Mean Degree Centrality (SD-Out; SD-In)	1.90 (5.44; 1.85)	2.50 (7.16; 2.43)	1.81 (3.04; 2.00)	2.74 (4.61; 3.03)	1.78 (2.82;1.91)	4.04 (6.41;4.34)

Social media experts as central actors

We used Freeman's approach to measure the centrality of the social media expert(s) in the library network of giving social media information (Hanneman & Riddle, 2005). This approach measures the centrality of actors based on their out-degree and in-degree. Findings indicate that social media experts' have a similar position in all libraries; they are nominated as the person who gives the most information about social media and is consequently the most central; furthermore, they usually give more information about social media than they receive. Table 35 indicates that the social media expert with the highest out-degree gives social media information to 44% of her colleagues and receives information from only 5% of her colleagues. The normalized scores of the other social media experts reflect this pattern. Except for Sophie and Nina, these social media experts have the lowest out-degree centrality, and give and receive social media information to only 9% and 11% of the colleagues, respectively. Both Sophie and Nina indicated in the interviews that social media does not belong to their job description and some of their colleagues have more knowledge and skills to deal with social

media. Hence, Sophie and Nina also receive social media information from other social media literates in the library. This result is closely linked to the high score of library 2 on reciprocity. At library 3, the score on reciprocity is compensated by the low score on in-degree of the other expert in this library, namely Paul.

In contrast, as Elena and Paul have the greatest out-degrees, they might be regarded as the most powerful and influential concerning giving social media information. Both Elena and Paul explain this by the fact that colleagues not only ask them questions, but they sometimes also interfere when they hear someone talking to others about social media.

During the interviews, all social media experts revealed that they are the central point for questions on social media. Elena gives the following reasons for this social media responsibility:

'Because I use a lot of social media in my private life and consequently have the knowledge and skills. Probably also because I have participated in the workshops about social media. Because of these workshops, a lot of colleagues know that I have enough expertise about social media.'

These reasons mirror responses by the other social media experts regarding their central position in the social media information network.

Table 35 Descriptive statistics of the individual level network properties

		Raw		Normalized	
		Out-Degree	In-Degree	Out-Degree	In-Degree
Library 1	Elena	34	4	44.737	5.263
	Lisa	15	7	19.737	9.211
Library 2	Sophie	6	6	9.091	9.091
Library 3	Nina	5	5	11.364	11.364
	Paul	14	4	31.818	9.091

The information flow about social media

Social media experts are the primary conduits through which social media information is being diffused. However, as it is not yet clear to whom they give information, we investigated who of the four social media literacy profiles give social media information to each other using the ANOVA Density models.

In library 1, the differences between the four profiles explain 10% of the variance in giving social media information. The ANOVA density models show that in library 1, social media literates give most information to other social media literates, who give less or no information to other profiles. In the interviews, the social media experts indicated that they tried to engage the less advanced social media users through workshops and courses. However, only colleagues interested in social media participated to these courses. No other profiles give social media information to social media literates. In library 1, social media information remains within the group of social media literates, despite the numerous attempts of the social media experts to share information. This is confirmed by the statements of Elena and Lisa indicating that social media is mainly discussed in the social media working group.

For library 2, only 2% of the variance in sharing social media information is explained by the differences between social media literacy profiles despite all profiles in library 2 giving information to almost all other profiles. In the interviews, Sophie highlights that all librarians, not only those with more expertise, are responsible for exchanging social media information with the youth section in the library. However, she admits that:

'It is easier to talk to people who know a lot about social media or frequently use social media in their private lives.'

In library 2, information does not remain within the social media literates group; however, most social media information is exchanged between social media literates and social media workers because the social media expert in this library belongs to the profile of social media workers.

In library 3, almost 11% of the variance in sharing social media information is explained by the variations in social media literacy profiles. Again, because social media literates give most information to other social media literates, most social media information remains within the group. However, they also give social media information to social media spare time users and workers and to a lesser extent to social media laggards, because of the disinterest or negative attitudes of the latter group towards social media.

Overall, social media laggards do not receive much social media information in the libraries despite their need for more information, because of their low level of knowledge and skills to deal with social media and their disinterest or negative attitude towards it. Social media experts, such as Lisa and Sophie, found it particularly difficult to give social media information to colleagues who do not use and/or are not interested in social media. In all three libraries, social media literates give most information to other social media literates. In library 1, social media information is usually limited to the groups of social media literates or the experts, while in the other two libraries the information is also transmitted to other social media literacy profiles. This finding about libraries 2 and 3 is congruent with the out-degree measures of the social media experts in these libraries.

Social capital and librarians' development of social media literacy

To understand whether social media experts only give advice about social media to the people they share an affective relation (i.e. expressive network) with or only give advice with whom they share a professional-related relationship (i.e. instrumental network), we made use of a QAP analysis.

Table 36 summarizes the QAP correlations between the instrumental and expressive social networks and the network of giving social media information. Overall, the results indicate that these networks weakly to moderately correlate in all libraries. Hence, librarians tend to maintain different networks for different purposes.

The correlations between giving social media information and the instrumental and expressive networks for social media are higher than those with the instrumental and expressive network in general. Paul, for example, indicated in the interviews that if colleagues discuss social media use for professional purposes in a meeting, social media experts are asked for advice. However, the correlations between giving social media information and the

expressive social networks for social media are higher than the correlation between giving information and instrumental social networks for social media. This may be a first indication of a distinction between social networks that are specifically aimed at work (instrumental social networks) and social networks with a more affective connotation (expressive social networks). Librarians who discuss their private social media use are also more likely to share social media information with each other.

Table 36 Average QAP correlations between instrumental and expressive networks and the network of giving social media information (* $p < 0.05$, *** $p < 0.001$)

Giving information about social media correlated with ...				
	Expressive social network	Expressive social network for social media	Instrumental social network	Instrumental social network for social media
Library 1	0.12***	0.40***	0.22***	0.28***
Library 2	0.18***	0.28***	0.16***	0.23***
Library 3	0.17***	0.21***	0.19***	0.16***

5.3.5. Conclusion and discussion

This paper examined how social media experts in libraries can support or impede the information flow and implementation of social media in a library context. The findings suggest that such social media experts play a significant role in either supporting or constraining the information flow and implementation of social media.

In libraries, there is (still) little communication about social media

A few librarians share social media information with other librarians, but receive little information in return. Moreover, people who are already skilled in social media use mostly discuss social media information, except for library 2, where 40% of the relations are reciprocal. The more relations the actors maintain and the more reciprocal these relations are, the stronger the ties between actors and the better the transfer of complex social media information (Haythornthwaite, 1996). Individuals in libraries 1 and 3 demonstrated relatively weak ties concerning social media information exchange, meaning that only basic information about social media (i.e. button knowledge) is exchanged. A possible explanation is that social media use only represents a small part of the library operation and consequently not all librarians are interested in using, or have enough time to use, social media in the library. Working in the same office can stimulate the information flow on social media (see library 2), but is not the only explanation. Furthermore, as social media is only recently being introduced in the library, it is only discussed in-depth by a selected group of advanced users.

A social media expert plays an important role in the library for spreading information

Unsurprisingly, social media experts are the most central actors for giving social media information; they share more social media information with other librarians and rarely receive information in return. Any information they do receive mostly comes from a person skilled in social media use. The social media expert as the central actor in the information network has

the power to facilitate or prevent information exchange about social media (Scott & Carrington, 2012).

Information about social media stays in the group of advanced social media users

As mentioned above, the social media expert gives the most social media information to other colleagues. However, in most cases this information is given to colleagues who are already conversant with social media, with the least amount of social media information given to social media laggards or people who are not skilled at using social media. Therefore, social media information spread by social media experts usually remains within a group of skilled users. The latter is certainly the case when advanced users create a social media working group. This finding supports the Matthew effect, whereby the 'rich get richer' (Helsper, 2012; van Dijk, 2005). This is problematic because implementation of social media in the library is only successful if the laggards are also able to use social media to perform their professional responsibilities of providing information services such as teaching library customers to read and write, providing digital media training, and coordinating public programs. We might expect that support from a social media expert would enhance all librarians' social media literacy. However, access, skills, interests, and infrastructure represent costs and barriers; therefore, greater usage, activities, and benefits flow to those with greater resources and abilities (DiMaggio, Hargittai, Celeste, & Shafer, 2004). In this respect, the social media expert constrains the information flow about social media to librarians who are not or less conversant with social media. Libraries need to bring the social media laggards to the center of the social media information flow by, for example, involving them in the formation of a social media policy and/or a working group on social media.

Validation of the instrumental vs. expressive distinction

In general, both instrumental and expressive networks specifically for social media tend to show a small to moderate overlap regarding the relationships of giving social media information. The private and professional discussion of social media stimulates the exchange of information about social media more than instrumental and expressive networks overall. In other words, social media information is most often exchanged between librarians who also discuss their private use of social media. This finding confirms the hypothesis that a friendship relationship between colleagues is believed to facilitate information exchange (Granovetter, 1973).

Relevance, limitations, and areas for further research

This study contributes to media literacy and library literature by drawing on social network theory and social capital theory to understand how the position of a social media expert in the library facilitates or impedes the distribution of social media information. The presence of a social media expert facilitates the information flow about social media to other librarians, as he/she is the most important source for information about social media. However, at the same time, the expert impedes the information flow to all librarians as he/she gives most information to librarians who are already conversant with social media and/or with whom he/she shares a more close relationship (e.g. friendship).

The findings from this research can be used to establish a social media policy or to provide social media training. In addition, longitudinal research could also follow up on these findings to inquire if the social media expert evolves when social media is successfully implemented in the library. Such data is useful for library policymakers.

While the sample size was chosen to conduct a mixed-method study that would explore how the position of a social media expert in an organization such as the library facilitates or prevents the exchange of social media information, we acknowledge the need for large-scale empirical studies that can substantiate our findings in larger and more diverse samples. In addition, despite selecting the five social media experts we interviewed from a range of degrees of centrality, it would be better to select a representative sample of librarians for each library to obtain opinions from other librarians on the role and position of the social media expert, not only that of the social media expert him/herself. By focusing the scope of this study on librarians, we may have under-represented the connections between the head of the library, the librarians, and policymakers or employees of the local government where the library is situated. This could provide us with information about the wider context in which the implementation of innovation in a library happens.

This study demonstrates the importance but also the limitations of a social media expert in a library. If scholars, practitioners, and policymakers are to embrace social networks as a valuable lens to uncover the potential of social media experts for the implementation of social media in the library, deepened insights into the elements that shape social relationships among librarians are needed. This paper takes the first step to understand the role and position of a social media expert in the library. Follow-up research should scrutinize the circumstances that affect the pattern of exchanging social media information in libraries and its potential to successfully implement social media in libraries.

5.4. Paper 4 - The necessity of Twitteracy: How and why civil servants employ Twitter for government communication

Full reference: Vanwynsberghe, H., Boudry, E., & Verdegem, P. (under review). The necessity of Twitteracy: How and why civil servants employ Twitter for government communication.

The last paper includes a case study of Flemish civil servants, and investigates which professional context factors influence their social media literacy concerning Twitter. We focus on Twitter, as it is claimed that the use of Twitter by governments may facilitate transparency, openness and democratization. However, there are also many risks related to governmental use of social media, linked to accuracy of information, administrative requirements, privacy, and security issues. Hence, being able to deal with these media in an efficient and effective way, or being 'social media literate', is becoming a necessary skill certainly for people holding a public position.

The aim of this paper is investigating how civil servants deal with social media, more specifically Twitter, and which professional context factors could stimulate (or prevent) them to use social media in a social media literate way. In order to investigate these factors, we elaborate on the Unified Theory of Acceptance and Use of Technology (UTAUT), supplemented with other professional variables.

To answer the two-fold centra research question, an online questionnaire was developed and administered to a sample of 314 public servants. The results reveal the existence of three distinctive social media literacy profiles concerning Twitter: (1) amateur tweeter; (2) novice tweeter; and (3) professional tweeter. Concerning the influence of professional factors, our study does not support the UTAUT model. Only one UTAUT variable, namely effort expectancy, has an effect on civil servants' use of Twitter. Other personal and professional factors that have an impact on civil servants' use of Twitter are: frequency of use, the existence of a social media policy and willingness to use

The importance of this paper is that it clarifies issues surrounding the adoption and implementation of Twitter in government communication. These insights are not only important for academics, but also for government organisations themselves. The findings of this study can be used in organizing social media training in governmental context as well as in the development of a social media policy in other organizations.

5.4.1. Introduction

Government 2.0, or the wider trend of using social media in the public sector, has a substantial impact on power relations and communication between citizens and government at different levels (Bertot et al., 2010; Chun, Shulman, Sandoval, & Hovy, 2010). Social media, as the 'new digital media phenomena [...] in which ordinary users (i.e. not only media professionals) can communicate with each other and create and share content with others online through their personal networked computers and digital mobile devices' (Bechmann & Lomborg, 2013, p. 767), provide opportunities for citizens to retrieve governmental information in a quick and easy way (Kuzma, 2010). In addition, social media can enhance citizen involvement by

increasing opportunities to participate in and give feedback on governmental actions. Therefore, the use of social media by governments may facilitate transparency, openness and democratization (Chun et al., 2010; Lathrop & Ruma, 2010; Noveck, 2009).

While social media have many benefits, there are also several risks related to the accuracy of information, administrative requirements, privacy, and security issues associated with their use (Bertot, Jaeger, & Hansen, 2012). Consequently, social media offer new challenges to civil servants both professionally and privately. Being able to deal with these media efficiently and effectively, or being 'media literate', is becoming an essential skill, certainly for people holding a public position. They must know how, when, and for what purpose to use of certain social media (Coiro, Knobel, Lankshear, & Leu, 2008).

There is a growing amount of scholarly literature concerned with the use of social media in public services, which focuses on the opportunities and challenges of social media presence within the public sector, social media communication by the government and the presence of social media strategies (e.g. Bonsón et al., 2012; Chun et al., 2010; Picazo-Vela, Gutiérrez-Martínez, & Luna-Reyes, 2012). Nonetheless, empirical data on how public sector employees deal with social media, for professional purposes as well as private purposes, remains scarce. This article advances a step in this direction by focusing on how civil servants are able to deal with Twitter. We focus on Twitter as, given its public character, it is a tool that has the possibilities to reinvent the government-citizen relationship (Picazo-Vela et al., 2012). Nevertheless, it also contains numerous risks, as civil servants can post, both for professional and personal purposes, secret, incorrect, or offensive contents that can be (mis)used by other persons or organisations. To assess how civil servants deal with Twitter for both professional and private purposes, we use the term 'Twitteracy' (Greenhow & Gleason, 2012), which we understand as not only the practical and cognitive skills that Twitter users must have but also the necessary affective skills to employ Twitter effectively and appropriately for social interaction and communication²⁴.

In this study, we examine the Twitteracy profiles of civil servants and the professional context that influences their Twitter behaviour. This paper is organized as follows: first, we outline the distinguishing features and common uses of Twitter. Next, we conceptualize Twitteracy as a new literacy practice, comprising both traditional and digital media literacies. Third, we elaborate on the possible insights that the Unified Theory of Acceptance and Use of Technology (UTAUT) offers for the understanding of Twitter use, but we also take into account other professional factors that could facilitate or impede the Twitter usage of civil servants. In the following section on research methodology, we describe the sample used, and data collection methods. Finally, we present our results, a discussion, and our concluding remarks.

5.4.2. Literature

Twitter, a microblogging platform

Twitter was originally developed as a tool for mobile phones. It allows people to post short messages (tweets), consisting of a maximum of 140 characters, to a network of primarily

²⁴ The terms 'practical skills', 'cognitive skills' and 'affective skills' are used in this paper as a synonym for respectively 'technical competencies', 'cognitive competencies', and 'emotional competencies'.

unknown others. Twitter asks their users to answer the question 'What are you doing?', which results in a regularly updated timeline or stream of tweets that bring information on users' interests, professional affiliations, and breaking news (Marwick & boyd, 2011).

Similar to Facebook and other social media, Twitter has a directed friendship model, which means that followers are participants who are chosen by other users to 'follow' their stream of tweets and each user also has his/her own group of followers or subscribers (Greenhow & Gleason, 2012; Marwick & boyd, 2011). Unlike most other social media platforms, such as Facebook or MySpace, Twitter has a more public character and requires no reciprocation. It is possible to read tweets from any public account.

Twitter also has its own particular terminology, which includes, for example, concepts as 'hashtags' (a kind of metadata tags that groups tweets), 'tweets' (text messages limited to 140 characters), and 'RT' (retweeting or reposting the tweet of someone else), as well as its own specific user practices, such as link-sharing (e.g. an automatic shortened version of the original link) and real-time searching (e.g. searching what's happening right now), which distinguishes it from other social media (Kwak, Lee, Park, & Moon, 2010; Vieweg, Hughes, Starbird, & Palen, 2010).

To employ Twitter effectively and appropriately for social interaction and communication, these socio-technical affordances require certain user skills. Twitter users may experience problems as they, for example, do not know how to address a tweet to someone else or do not know how to send a private message. The latter could lead to confusing and embarrassing situations. This is also the case if Twitter users are not aware that their tweets are publicly available, unless their account is set to private. With that in mind, it is not surprising that the use of correct language is also important. This is certainly the case if the tweet is sent from someone who holds a public position.

A conceptual framework for understanding Twitteracy

Since individual engagement with Twitter requires a range of skills similar to those needed to manage print, audiovisual, broadcast and computing media, we draw on traditional print, information and media literacy theories to gain insight into people's Twitteracy (for new media in general see e.g. Coiro et al., 2008, p. 5; Livingstone, Van Couvering, & Thumin, 2008).

Based on the media and information literacy tradition that acknowledges people's access to media technologies and content as a key dimension of literacy, we include practical skills in the conceptual framework for Twitteracy. Practical skills, or so-called 'button knowledge' (van Deursen & van Dijk, 2010), involve handling access to and the operation of Twitter and its content. Since social media, such as Twitter, make it easier for users to create and share content, practical skills also involve the ability to create content (Livingstone et al., 2008). Therefore, practical skills extend beyond basic functional ability to access Twitter, login, respond to a tweet or scroll through text. As with the expansion of media literacy theories with digital media, Twitteracy also entails the ability to control interactive and creative services on the microblogging platform, including advanced usage, such as creating and exchanging user generated content (UGC), such as text, pictures, and videos (Livingstone et al., 2008).

As many media and information literacy traditions have claimed, empowered media users must also acquire cognitive skills to analyze and evaluate the reasons and goals that shape the content they consume, the language of the messages and the context in which content is produced (Potter, 2004). Those literacy traditions recognize that these cognitive skills are also crucially linked to the online atmosphere. Print and audiovisual media content is produced in a context where only a few people have access to the systems of production and distribution. This pre-filtering, in accordance with political criteria, market pressure, and generally accepted norms and values, places fewer demands on the individuals' cognitive skills for understanding and analyzing the creation and consequences of media content. In the online world, especially in social media, this distinction between producers and consumers is blurred (Bruns, 2008). On social media, such as Facebook or Twitter, anyone can produce and share content with fewer and different kinds of filters. Hence, the cognitive skills stressed by both media and information literacy traditions are an important part of Twitteracy. Twitter users must be able to analyze and understand the audience of their tweets and the consequences of making their content public.

Contrary to media and information literacy research, which has paid attention to questions of access, understanding, and creation, Twitteracy also includes affective skills (Fishbein & Ajzen, 1975; Taylor & Todd, 1995). Both traditions of media and information literacy risk positioning the users as a person without emotions. How people apply practical and cognitive skills depends on their feelings towards Twitter and how they value their own behaviour. We term this valuing process 'affective skills'. These can also be either a stimulus or a barrier to using certain media efficiently and effectively (Buckingham, 2005). Arguing that attitudes can be seen as an internal emotional state that influences the choice of actual behaviour, we include attitudes as affective skills (Gagne, 1984). It is, for example, possible that some users have negative attitudes towards the public character of Twitter and, consequently, use it more critically than other users do.

Each competence supports the others as part of a non-linear, dynamic learning process. The cognitive skill set needed to analyze and evaluate the content on Twitter rests on the practical skill set needed to open and read the content and having a positive attitude towards this behaviour. Consequently, Twitteracy profiling must be based on a combination of practical, cognitive, and affective skill sets.

Hence, we need a conceptual framework spanning all of these types of skill sets. The concept of Twitteracy seems to fulfil this need, as it uses the name of the microblogging platform itself to refer to a new kind of technology dependent literacy and suggests the original sense of literacy as a skill set related to information and media use. We simultaneously reject existing literacy concepts or synonyms, as they have historically been associated with a particular media form or technology and thus do not encompass all of the skills needed to deal with Twitter.

Extending the UTAUT framework

We build on the UTAUT model to explain the use of Twitter by civil servants. Formulating their unified technology acceptance model, Venkatesh, Morris, Davis, and Davis (2003) distinguish four key determinants to explain a user's intention to use a certain technology and the subsequent behaviour of individual users. These four determinants include performance expectancy, effort expectancy, social influence, and facilitating conditions. *Performance expectancy* is defined by Venkatesh et al. (2003, p. 447) as *'the degree to which an individual believes that using the system will help him or her to attain gains in job performance'* and is the result of the usefulness public servants experience and the relative advantage and outcome of using this technology in terms of their job. 'Effort expectancy' is the belief in how easy and effortless using the technology will be. 'Social influence' considers the influence of others, such as colleagues, and is about trying to meet the expectations of others when using new technology. Finally, the 'facilitating conditions' stress the role of the organizational and the technological environment as well as the extent to which this environment will support the adoption of the new technology. The first three determinants are considered direct determinants of use intention and use behaviour, while facilitating conditions are a direct determinant of use behaviour.

In addition to the UTAUT determinants, we include three additional constructs to consider the professional context in which the civil servants work. We do this because we do not want to ignore *'the interaction between people and technology as part of a larger social and technical mosaic in which the development and use of the focal technology is embedded'* (Kling & Scacchi, 1982). We build on Oliveira and Welch's (2013) 'web model theory', which considers both the technical aspects and the underlying social and political factors of the organization. This model recognizes that the underlying social context of work practices and the organization of labour within the organization may affect use as well. Government organizations at different levels need to develop a vision for their use of and communication through social media. Therefore, we expect that the existence of a 'social media policy' or guidelines of the management on how to use Twitter from a professional perspective to be a direct determinant of the actual use. We also expect their 'professional role' will affect the civil servants' use of Twitter, more specifically, whether they perform a communication function or not. Overall, there is widespread recognition of the potential benefits of social media for government organizations (Oliveira & Welch, 2013). It is important for civil servants to grasp how significant social media can be in achieving desired outcomes. Despite these implied benefits, public servants may be reluctant to use social media and their opinion of adopting and using new technology is an important factor in assessing their Twitteracy (Moore & Bensabat, 1991). Therefore, we also consider 'willingness to use', because whether they use technology because their organization requires them to do so or because they want to, affects their use of Twitter. To summarize, the three additional professional context constructs are social media policy, professional role, and willingness to use.

Government social media usage

Previous studies have already looked at how specific social media tools, such as Twitter, are being used by the government (Unsworth & Townes, 2013; Waters & Williams, 2011).

However, they have neglected to examine individual staff members' ability to deal with social media and Twitter in particular. Several studies already examined the media and information literacy levels of different social groups such as scholars, students, teachers and professionals (Majid & Abazova, 1999). Moreover, some studies have already described media and information literacy profiles. Paulussen, Courtois, Vanwynsberghe, and Verdegem (2011), for instance, distinguished three digital media profiles in the overall Flemish population: (1) advanced; (2) skilled, and (3) limited digital media users. This division was based on whether members of the population were able to use search engines, copy files and install computer programs. Concerning information literacy, Kiili, Laurinen and Marttunen (2008) identified five profiles based on students' evaluation of Internet sources: (1) versatile evaluators, (2) relevance-orientated evaluators, (3) limited evaluators, (4) disorientated readers, and (5) uncritical readers. The students in this study were asked to write an essay and verbalize their thoughts during the material-gathering process on the Internet.

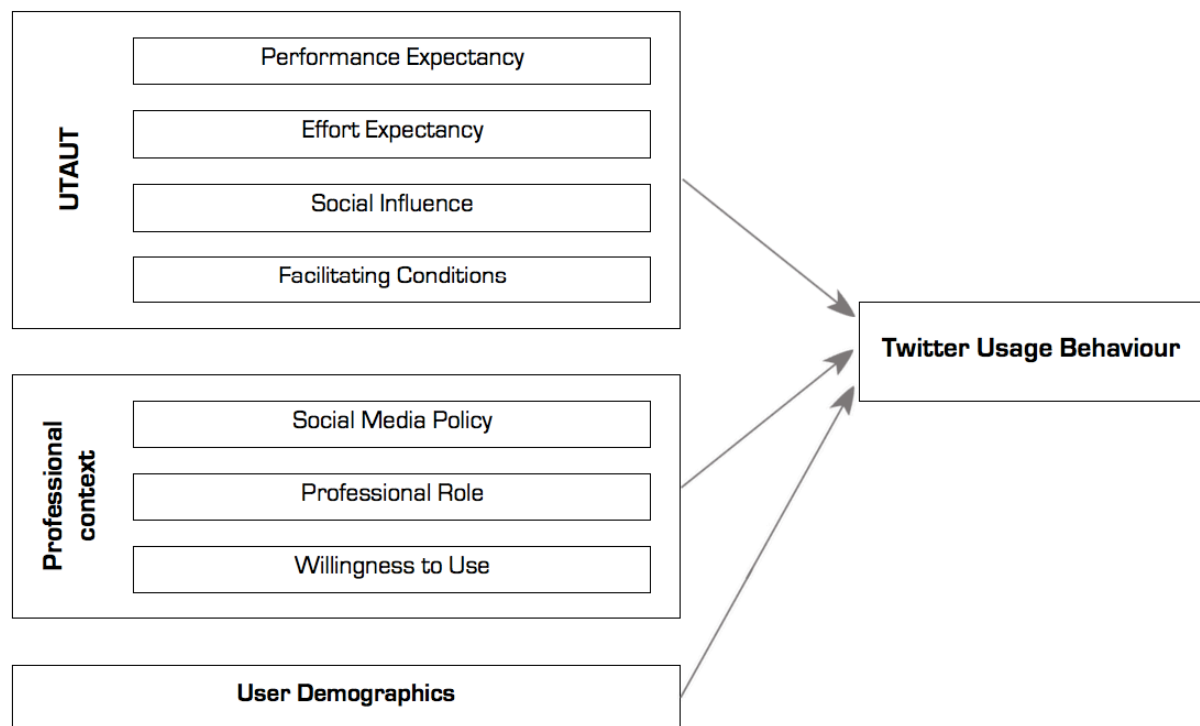
However, research investigating public servants' Twitteracy and their related profiles remains scarce. To our knowledge, research on the factors that influence civil servants' Twitter usage is non-existent. Prior research mainly focuses on e-government adoption of ICT from the perspective of citizens (Carter & Bélanger, 2005; Colesca & Dobrica, 2008; van Dijk, Peters, & Ebbers, 2008), and little research has been conducted from an organizational or government employee perspective. Based on the UTAUT model, Gupta, Dasgupta and Gupta (2008) and Zhan, Wang, and Xia (2011) found that performance, effort expectancy, social influence, and facilitating conditions all positively impact the use of ICT by government employees. However, there is no insight into how other professional context variables could influence public servants' social media use. We seek to bridge this gap by looking into the use of Twitter as a social media communication platform by civil servants.

Research model and hypotheses

In the previous sections, we provided a justification for research into civil servants' Twitter use, and we reviewed the literature on theories and models that are interesting for investigating the use of Twitter. We utilize the UTAUT model and other relevant professional context factors to explain public servants' Twitter usage behaviour.

Figure 11 depicts our research model. In this study, gender and age are also identified as relevant factors in the Twitter usage of civil servants. We argue that information systems are adopted and accepted more easily by men because they have more positive attitudes to and are more self-confident in their use of information systems (e.g. Corston & Coleman, 1996). This is also the case for younger individuals because they have been exposed to digital media at an early age (e.g. Morris & Venkatesh, 2000). We expect that both statements also apply to the government sector.

Figure 11 Research model



Our research questions are as follows:

RQ1: How can civil servants be classified with regard to their Twitteracy ?

RQ2: Which of the UTAUT variables have an (positive) influence on how civil servants use Twitter?

RQ3: Which of the other professional context variables have an (positive) influence on how civil servants use Twitter?

RQ4: Do gender and age play a role in how civil servants use Twitter?

5.4.3. Methodology

This study comprises a large-scale quantitative survey for which 11 Flemish (Belgium's northern Dutch-speaking region) government entities agreed to cooperate. Prior to each survey, a consent form was delivered to the government entities' management. An e-mail with management approval and the link to the (online) survey was sent to 9,274 Flemish civil servants. Before conducting the survey, we also explained to the respondents that their responses would be dealt with anonymously. In total, 1,298 officials filled out the questionnaire, yielding a response rate of 14%. Since we only included Twitter users in this study, only the answers of 314 respondents (Mage= 40.15, SDage= 9.66; 57.6% Female, 42.4% Male) could be retained for our research. The survey data were analyzed using SPSS 15 and Latent Gold 4.5 software. A latent cluster analysis was performed on the Twitteracy variables to determine the civil servants' Twitteracy profiles. To identify which professional context factors

influence the Twitteracy behaviour of civil servants, we performed a multinomial regression model with the Twitteracy profiles as dependent variables.

Measurements

Twitteracy

Practical skills were determined based on how well the respondents evaluated their performance of Twitter activities. We simultaneously considered the frequency of use of these activities. We multiplied the self-efficacy measure with the frequency measure and treated the outcome as one variable²⁵. Exploratory factor analysis (maximum-likelihood estimation with varimax rotation) revealed one factor, which we labelled practical skills. Our practical competence scale consists of 10 items ($\alpha = 0.95$). With these practical skills, we refer to the following: being able to disable retweets from others; adding an image to a tweet; adding tweets to favourites; responding to tweets of others via @replies; addressing a message to someone via @mentions; using Twitter lists; *unfollowing* someone; spreading others' tweets through retweet, using hashtags, and deleting own tweets. Raw scores consisting of higher values indicated higher competency levels and an active Twitter usage.

Related to these practical skills, we also considered a measure of *knowledge*. Based on Hargittai (2009), we asked respondents about their familiarity with 11 terms related to Twitter use: hashtag, Hootsuite, MT, follower, bot, @mention, RT, tweets, unfollow and tweeps. Responses were measured using a 5-point scale ranging from 'I do not know at all' to 'I know this term very well'. Factor analysis (varimax rotation) revealed a single factor, which we named knowledge ($\alpha = 0.89$). Raw scores consisting of higher values indicated higher knowledge levels.

The question related to *cognitive skills* concerns knowing who is the audience of a tweet, @mention, or retweet. However, this question was not included in the analysis because of an error in validity.

Twitteracy also contains *affective skills*, which we measured as attitudes based on a series of items proposed by Bruner, James, and Hensel (2001). The measure of attitudes contains an established 7-item, 5-point semantic differential scale (bad/good, foolish/clever, unpleasant/pleasant, useless/useful, boring/interesting and negative/positive). This way, we can take into account respondents' attitudes towards Twitter. Factor analysis (varimax rotation) revealed a single factor, which we named attitudes ($\alpha = 0.92$). Raw scores consisting of higher values indicated positive attitudes towards social media.

Use of Twitter was measured by asking the respondents how often they connected to Twitter for private and professional purposes. Responses were measured using a 5-point scale ranging from 'less than weekly' to 'several times a day'.

UTAUT variables

Earlier research by Venkatesh et al. (2003) validated measures for each of the constructs and

²⁵ The methodology section of this dissertation shows that it is more ideal to measure technical social media competencies with the survey familiarity question. However, this information was not yet available at the time of the research of this paper. After comparing the combination of the survey frequency and self-efficacy questions with the performance tests, we can conclude that this is also a relatively good survey proxy measure for technical competencies.

we decided to include those validated items, with slight modifications, in our questionnaire. *Performance expectancy* was measured using a 5-point scale, asking respondents if they agree that Twitter is useful for their job, if they agree that using Twitter enables them to accomplish tasks at work quickly and if using Twitter increases their productivity. Factor analysis (varimax rotation) revealed a single factor, which we named performance expectancy ($\alpha = 0.88$). Raw scores consisting of higher values indicated a higher performance expectancy.

Effort expectancy was measured on a 5-point scale by asking users if they agree that Twitter is easy to use and if they agree that learning to use Twitter is easy for them. Raw scores were summed with higher values indicating a higher level of effort expectancy.

To obtain data about *social influence*, we asked the respondents if they agree with the following statements: 'People who are important to me think that I should use Twitter'; 'People who influence my behaviour think that I should use Twitter'; 'I use Twitter, because many of colleagues use Twitter'; 'I use Twitter because many of my friends use Twitter'; 'The staff of my organization have been helpful in my professional use of Twitter'; 'The staff of my organization accept my professional use of Twitter'; 'My organization has accepted the private use of Twitter'; and 'My organization has been helpful in the professional use of Twitter'. Responses were measured using a 5-point Likert scale ranging from 1 ('totally disagree') to 5 ('totally agree'). Factor analysis (varimax rotation) revealed a single factor, which we named social media attitudes ($\alpha = 0.87$). Raw scores consisting of higher values indicated a higher level of social influence.

Facilitating conditions were measured by asking the respondents if they agree with the following two statements: 'A specific person (or group) is available to help me with Twitter in my private life'. We rephrased this statement for professional life. In contrast to most UTAUT studies, we did not ask the respondents if they agree that they have enough knowledge and skills to deal with Twitter, as this overlaps with the Twitteracy variable. Raw scores were summed with higher values indicating a higher level of facilitating conditions.

Other professional context factors

We asked the respondents if they are aware of a social media policy²⁶ to assess whether job factors play a role in their Twitteracy. In addition, we asked the respondents if they are responsible for the communication in their department. Both responses were measured using 'yes' or 'no' answers.

We also asked questions about their willingness to use Twitter in a professional context. Willingness to use was measured by asking the respondents if they agree with the following statements: 'Although it might be helpful, using Twitter is certainly not compulsory in my job'; 'My boss does not require me to use Twitter'; 'My superiors expect me to use Twitter'; and 'My use of Twitter is voluntary'.

²⁶ We measured social media policy by asking the respondents whether they are aware of the existence of a social media policy. This provides information about their perception of a social media policy, not the actual implementation of a social media policy. We feel that this perception is more important than actual implementation, because there can be an actual social media policy that people do not notice and vice versa. What people perceive has an influence on their behaviour.

5.4.4. Results

Civil servants 2.0? Respondents' characteristics

The sample of public servants consisted of 133 males (42.4%) and 181 females (57.6%) with a mean age of 40.15 years [ranging from 21 to 62 years; SD = 9.66]. Of the respondents, 37.30% use Twitter on a daily basis, 46.80% weekly, and 15.90% less than weekly. The proportion of public servants who use Twitter for professional purposes (18.50%) is lower than the public servants who use Twitter for personal purposes (51.50%), while 30% of the respondents use Twitter for both professional and personal purposes.

Almost nine out of ten public servants (86.40%) reported that they are aware of a social media policy in their department. Of all the public servants who use Twitter for professional purposes, 80.60% use it voluntarily. About 20% of the respondents are officially responsible for the communication in the department. The mean score of civil servants' performance expectancy is 2.24 on a 5-point scale. This means that the public servants do not find Twitter particularly useful in performing their job. Their average effort expectancy is 3.57 (SD effort expectancy: 1.05) on a 5-point scale. Hence, civil servants believe that Twitter is relatively easy to use. The mean score of public servants' social influence is 2.74 (SD social influence: 0.77). The respondents' mean score on facilitating conditions is 3.16 (SD facilitating conditions: 0.90) on a 5-point scale. This means that civil servants can count on people, both professional and private contacts, for help and support concerning Twitter. The public servants' mean score on affective competencies was 3.63 (SD affective competencies: 0.77) on a 5-point scale.

On average, the respondents have positive attitudes towards the use of Twitter, although, they score low in Twitter knowledge and practical skills. The respondents' average score on the knowledge variable was a bit higher than the average score on practical skills; the average scores are respectively 2.98 (SD knowledge: 0.99) and 2.41 (SD practical competencies: 1.01) on a 5-point scale. Although they indeed know certain terms, they are not very skilled and active in the use of Twitter.

Three Twitteracy profiles

To capture the heterogeneity in the Twitter profiles of Flemish public servants, we performed a latent class analysis (LCA) on the Twitteracy variables. LCA helps to discover unobserved subgroups within a given set of categorical variables (Vermunt & Magidson, 2006). Such an approach offers insight into the latent structure of Twitter usage and context, in comparison to analyzing the data with manifest dependent variables about the different usage variables separately.

In this study, a three-cluster model yields a good fit ($L^2(237) = 119.48$, $p = 1$, $Npar = 25$, $BIC = -1200.22$). In the following paragraphs, we briefly describe these groups, which significantly differ for age ($F(2, 262) = 5.66$, $p < 0,01$) and gender ($X^2(2) = 13.05$, $p < 0,001$). Table 37 provides an overview of these three profiles and their main characteristics. The R-square indices in the table indicate the individual contribution of each indicator in distinguishing between the discerned clusters.

The first cluster consists of respondents who correspond to the 'amateur tweeters' profile. A medium level of attitudes, knowledge, and practical skills concerning the usage of

Twitter characterizes the members of this cluster. They use Twitter in an amateurish manner. Likewise, they use Twitter primarily for private purposes and to a lesser extent for professional purposes. With 45% of the respondents falling into this category, this is the most dominant profile in the sample. In Table 37, we can see that the amateur tweeter is most likely to be female and has an average age of 40.28 years.

The second cluster contains respondents who have a relatively low level of Twitter practical skills and knowledge. In contrast to their rather modest level of skills and knowledge, the people in this cluster have rather positive attitudes towards Twitter. Therefore, we label them 'novice tweeters'. These novice tweeters are more likely to use Twitter for personal use and 28% of the respondents in the survey fit this profile. The respondents who are novice tweeters have high probabilities of being female and predominantly belong to the oldest age group.

The smallest group is the third cluster or the respondents who are 'professional tweeters', with 27% of the respondents belonging to this cluster. They have relatively positive attitudes towards Twitter, high practical skills and knowledge and use Twitter for both private and professional purposes. These professional tweeters are predominantly male and belong to the youngest age group of all three clusters.

Table 37 Latent cluster analysis: Three Twitteracy profiles ($*p < 0,05$, $*** < 0,001$)

Twitteracy profiles		Amateur Tweeters (45%)	Novice Tweeters (28%)	Professional Tweeters (27%)	Wald	R ²
Affective skills		3.70	3.10	4.19	107.78***	0.29
Practical skills		2,44	1.25	3.55	21.49***	0.71
Knowledge		2.94	1.96	4.15	65.54***	0.67
Purpose of Use	Professional	0.17	0.27	0.10	33.57***	0.09
	Private	0.49	0.68	0.34		
	Professional and Private	0.34	0.05	0.57		
Gender^a	Male	0.39	0.28	0.57		
	Female	0.61	0.72	0.43		
Average age^a		40.28 (8.84)	43.03 (10.79)	37.82 (8.59)		

^aDescriptive socio-demographic statistics of respondents corresponding to the three twitteracy profiles

Multinomial regression model

The Twitter profiles were regressed on a set of covariates using a multinomial regression model. From Table 38, we conclude that most UTAUT variables have no effect on the way public servants use Twitter. Only the variable 'effort expectancy' provides a significant difference in the Twitteracy profiles. In Table 38, we find that the novice tweeter scores lower on effort expectancy than the amateur and professional tweeters. The amateur tweeter has a higher level of effort expectancy than the novice tweeter has and a lower level than the professional tweeter has. Consequently, the professional tweeter has the highest level of effort expectancy.

It is relatively logical that less frequent Twitter users are more likely to belong to the group of novice tweeters. Amateur tweeters use Twitter more frequently than novice tweeters, but less frequently than professional tweeters.

We also notice that the variable social media policy plays a significant role in the difference between amateur and professional tweeters, but not in the differences between the other profiles. The results show that people who are aware of a social media policy are more likely to belong to the amateur tweeters group than the professional tweeter group and vice versa. In concurrence with these results, we find that there is a significant relationship between willingness to use and belonging to the amateur or professional tweeter profile. Respondents who use Twitter voluntarily are more likely to belong to the professional profile than to the amateur profile. Willingness to use plays no significant role in the differences between other profiles.

Concerning socio-demographic variables as predictors for belonging to a specific Twitter profile, we only found significant results for age. Respondents from older age groups are more likely to be novice tweeters than professional tweeters. Concerning age, we found no significant difference between novice or professional tweeters and amateur tweeters.

Table 38 Multinomial regression model with UTAUT and professional context factors as independent variables and Twitteracy usage behaviour as dependent variable [$*p<0,05$, $***<0,001$]

		Amateur Tweeters	Novice Tweeters	Professional Tweeters
Ref: Amateur Tweeters	Intercept		2.57	-9.66***
	Gender		0.43	-0.53
	Age		0.04	-0.04
	Frequency of Use		-0.68**	0.67***
	Performance Expectancy		-0.07	0.45
	Effort Expectancy		-1.16***	1.19***
	Social Influence		-0.15	0.29
	Facilitating Conditions		0.02	0.41
	Social Media Policy		0.07	-1.43*
	Professional Role		-1.04	0.43
	Voluntariness of Use		0.08	0.58*
Ref: Novice Tweeters	Intercept	-2.57		-12.23***
	Gender	-0.43		-0.96
	Age	-0.04		-0.08*
	Frequency of Use	0.68**		1.34***
	Performance Expectancy	0.07		0.53
	Effort Expectancy	1.16***		2.34***
	Social Influence	0.15		0.44
	Facilitating Conditions	-0.02		0.39
	Social Media Policy	-0.07		-1.50
	Professional Role	1.04		1.47
	Voluntariness of Use	-0.08		0.50
Ref: Professional Tweeters	Intercept	9.66***	12.23***	
	Gender	0.53	0.96	
	Age	0.04	0.08*	
	Frequency of Use	-0.67***	-1.34***	
	Performance Expectancy	-0.45	-0.53	
	Effort Expectancy	-1.19***	-2.34***	
	Social Influence	-0.29	-0.44	
	Facilitating Conditions	-0.41	-0.39	
	Social Media Policy	1.43*	1.50	
	Professional Role	-0.43	-1.47	
	Voluntariness of use	-0.58*	-0.50	
Nagelkerke R ²		0.66		

5.4.5. Discussion and conclusion

Social media play an increasingly important role in society at large as well as in organizations. This is not different for governments and therefore it is important that government employees are able to deal with social media platforms, such as Twitter, in an efficient and effective way (i.e. Twitteracy). The aim of this study was to investigate how civil servants use Twitter, in both a professional and a private setting, and to understand which professional context factors have an influence on their behaviour.

To answer RQ1, we identify three Twitteracy profiles based on the above-described Twitteracy competencies. They are the amateur tweeter, the novice tweeter, and the professional tweeter. The amateur tweeters contain public servants who use Twitter mainly for private purposes and who have a medium level of practical skills, knowledge of and attitudes towards Twitter usage. The novice tweeters are certainly willing to use Twitter, which can be deduced from their relatively positive attitudes towards Twitter, however, they do not yet have sufficient practical skills and knowledge to use Twitter effectively and efficiently. They do not use social media frequently and if they do use it, it is primarily for private purposes. Finally, the professional tweeter contains public servants who, in contrast to the other Twitteracy profiles, use Twitter for both professional and private purposes. They also have the highest level of practical skills and knowledge. Public servants who use Twitter professionally are also the most intensive private users, which can serve as an explanation for the high level of knowledge and practical skills. It is possible that the civil servants who already had sufficient knowledge and practical skills became professionally responsible for the Twitter usage. This finding supports the Matthew effect, whereby the 'rich get richer' (Helsper, 2012); the more public servants use Twitter for professional purposes, the more they are able to improve their skills and knowledge about Twitter. Access, skills, interests, and infrastructure represent costs and barriers; therefore, usage of Twitter, activities and benefits flow to those with already greater resources and abilities (DiMaggio et al., 2004). This division of Twitteracy profiles is almost parallel with previous research on ICT profiles (Adeyoyin, 2006; Paulussen et al., 2011). Each of these studies found a group of advanced users, or literates, and a group of non-users, or illiterates. By adding Twitter usage to this context, we were able to identify more profiles and provide an important nuance regarding Twitter implementation by public servants in Flanders.

This typology provides insight into the levels of Twitteracy among civil servants. The amateur tweeter is the dominant group, followed by the professional tweeter. The smallest group is the cluster of novice tweeters. This finding indicates that Twitter is becoming more relevant and popular in both the everyday life and in the work context of public servants. This concurs with previous research in Europe (Bonsón et al., 2012; Bridges, Appel, & Grossklags, 2012; Kavanaugh et al., 2012; Snead, 2013). Our research shows that professional tweeters effectively and efficiently use Twitter in the completion of their professional tasks. Previous studies found that the successful implementation of ICT mainly depends on the employees' ability to use the technology (Krissoff & Konrad, 1998). Likewise, we believe that civil servants who fit the professional tweeter profile can serve as facilitators or agents to guide and support their colleagues in using Twitter.

With the help of a multinomial regression model, we were able to answer RQ2 and RQ3 about what professional context factors can predict how civil servants use Twitter. Our results do not support the UTAUT model. Only one UTAUT variable, namely effort expectancy, had an effect on public servants' use of Twitter. Officials who find it easy to learn how to use Twitter are more likely to belong to professional tweeters, followed by amateur tweeters and finally the novice tweeter profile. Frequency of use also appears to be relevant, as follows: civil servants who use Twitter less frequently are less likely to use it for professional purposes. In addition, the perception of a social media policy is significant in the difference between an amateur and a professional tweeter in that civil servants who perceive a social media policy are more likely to belong to the amateur profile. The perception that a social media policy exists can prevent public servants from using Twitter for professional purposes. In addition, we found that the civil servants who use Twitter voluntarily for professional purposes are more likely to belong to the professional tweeter profile. Therefore, we suggest public managers to adopt an open and constructive attitude towards the use of Twitter within their organization and formulate empowering guidelines so their officials can acquire adequate skill sets. The multinomial regression model also clarified that gender is not a significant predictor of belonging to a specific Twitteracy profile. Age, on the other hand, indeed plays a part, but only between the novice and professional tweeter profiles. The novice tweeters belong to the oldest age group, which serves as an answer to RQ4.

Further research could use the measurement tools constructed in the present study to validate Twitteracy profiles in other organizations. The profiling could also be used in social media training to identify the strengths and weaknesses of different government entities. A civil servant could be provided with specific training based on his/her corresponding Twitteracy profile. For example, the novice tweeter already has a positive attitude and consequently only needs support in enhancing his/her practical skills. The professional tweeters, in turn, can give training and/or support on how to use Twitter in a professional context. In future research, it may also be useful to take into account non-users. For example, it may be that some non-users have a more positive attitude towards Twitter in a private context, while others have negative attitudes towards its use in any setting. This, in turn, could provide significant input for social media training and policy development.

The results from the multinomial regression model could also be used in organizing social media training in government offices and even in the development of a social media policy. If government managers want to have employees who are able to use Twitter efficiently and effectively, they must offer them a considerable amount of freedom to do so. Having too many guidelines that control the use of Twitter is counterproductive and has a negative impact on the development of technical and cognitive skills. Following Bertot, Jaeger, and Hansen (2012), we argue that further research should also determine how many departments have a social media policy and investigate its content and guidelines. For example, we think it is possible that the employees who experience partial or complete bans on the use of Twitter in the workplace indicate that they are aware of a social media policy. Civil servants possibly do not recognize less restrictive and more empowering guidelines as a social media policy.

The typology of Twitter users as presented in this study needs further refinement and evaluation. We measured social media policy by asking the respondents if they are aware of such a policy; however, it would also be useful to consider the actual implementation of a social media policy. In addition, we measured respondents' actual skills by asking about their self-perceived skills. This method allowed us to present a large number of respondents in a short time. However, self-perceived skills are always perspective and context-dependent (Talja, 2005). Hence, it would be useful in further research to use a performance test to identify the actual skills of public servants (van Deursen & van Dijk, 2010) and to compare the results of that test with the self-perceived skills measured in this study. Findings should also be validated within government organizations and samples other than Flanders. Notwithstanding these limitations, we believe that the results of this study could be used to further clarify issues surrounding the adoption and implementation of Twitter in government offices.



CONCLUSION
AND DISCUSSION

6

CONCLUSION AND DISCUSSION

Chapter 6 summarizes and evaluates the situation concerning social media literacy in Flanders, based on the conceptual exploration, the construction of measurements and the empirical validation of them. After a short introduction, the theoretical, methodological, and empirical insights and reflections are presented. The findings of the studies are subsequently translated into recommendations to expand people's social media literacy.

In this dissertation, we have focused on how to conceptualize and measure social media literacy. In answering this two-fold question, this dissertation defined four objectives: (1) to raise awareness of the concept of social media literacy; (2) to propose measurement tools for assessing people's social media literacy; (3) to gather empirical data about people's social media literacy and; (4) to identify and explain the factors that can improve (or form a barrier to) people's social media literacy. The previous chapters have addressed each of these four objectives and provided insights into how people acquire social media literacy. This final chapter situates these conclusions in a broader context and then offers a set of recommendations to enhance people's social media literacy.

6.1. General conclusions

With the opportunities and risks social media placing greater demands on people, the stakes for not being able to deal with these media in an operational and critical way have never been higher. Failing to deal with social media effectively and efficiently is increasingly likely to result in serious disadvantages, both socially and economically. Since social media and its discourses play an increasingly important role in the social, cultural, political, and economic lives of many people, social media literacy should be considered as a vital asset for social media users.

Drawing on the insights of the actor-network theory (ANT), domestication theory and social cognitive theory (SCT), we interpret social media literacy not as something objective that we can impose on people, but rather as an individual set of competencies that will vary according different technologies, social contexts and users. Social media literacy can, however, only be fully understood if we have a common understanding of the underlying concepts of 'social media' and 'media literacy'.

In combining the concepts 'social media' and 'media literacy', each of which contains a deep and diverse history of theories and research literature, we have drawn on a rich and extensive literature study. From the start, instead of selecting just one perspective, our initial ambition was to define the contribution of the most prominent theoretical perspectives on social media and media literacy and combine them. By including different perspectives, we noticed patterns of overlap and consequently attempted to develop a broad conceptual framework of social media literacy and employ a flexible multi-method research design. By carefully taking the specificities of each theoretical perspective into consideration, this framework and research design resulted in a comprehensive but nuanced perspective on what social media literacy is, how it can be measured.

In this dissertation we are particularly interested in young people's and employees' social media literacy. Young people are addressed because they are the generation of the future and will consequently determine how social media are used in the future (Rheingold, 2012). They are simultaneously seen as so-called 'digital natives', people who are growing up digitally, and thus also as the generation who is immersed in social media (Prensky, 2001). However because of their intense use of social media, they are also seen as the most vulnerable group, at greatest risk. We also pay attention to employees because we are interested in how their

social media literacy can be improved from the use of social media in professional contexts. When measuring social media literacy among adolescents and employees, we encountered a rather uninterested or uninformed use of social media by the older generation of employees, characterized by relatively low technical and cognitive competencies and a predominantly negative attitude. In contrast, we noticed higher scores on technical and cognitive competencies, as well as more positive attitudes, among the younger generation of employees and students. These users are embracing the opportunities of the new technology, but not all of them are engaging with it a critical way – although this can also be said of the older generations. Conducted studies within the field of Internet literacy also came to this conclusion that younger generations are associated with more confident and technically skilled use (e.g. Hargittai, 2010; van Deursen, 2010). Some scholars also often claim that children and young people often lack the reflection regarding critical web use and search engine use (e.g. Lorenzen, 2001; Pritchard & Cartwright, 2004). The latter is, however, not entirely confirmed by our research results: some young people also have a high level of critical cognitive competencies concerning their social media use. In our view, the differences in social media competencies are thus not only determined by age, but also by other factors. From our empirical findings, two main conclusions can be drawn for these two groups. For young people, both the home or domestic context and the technical features of social media platforms are key factors in their social media literacy. For employees' development of social media literacy, the organizational structure and a social media policy play a prominent role.

These general findings were discussed in depth in the preceding chapters, leading to theoretical, methodological and empirical insights that aim to be valuable for both scholars as well as other societal stakeholders who want to conceptualize and measure social media literacy. On the practical level, our findings may help to advise and inspire policymakers and civil society organizations to develop new strategies and projects concerning e-inclusion and social media education, and to make social media [commercial] companies aware of their responsibilities in how users deal with the environments they have created.

In this final chapter, we will provide recommendations for government and other societal stakeholders for improving people's social media literacy. But before addressing these recommendations, we first reflect upon the theoretical, methodological, and empirical results that were presented throughout this dissertation.

6.1.1. Theoretical conclusions

This dissertation aimed to bring theoretical insight into the concept of 'social media literacy'. Since social media literacy is a combination of two existing concepts, 'social media' and 'media literacy', we first defined the conceptual framework on which they are built.

This dissertation began by presenting an in-depth explication of the concept of 'social media'. After a thorough literature review, we identified three perspectives on social media: critical, technical-structural, and user-centric perspectives. Although these perspectives are not mutually exclusive, there are some voices who argue that the critical perspective on social media is not compatible with the other perspectives, as it is a reaction against the more techno-optimistic and idealistic definitions of social media (Fuchs, 2014). This critical

perspective defines social media as having an architecture of exploitation because they are commercial and profit-oriented companies. Consequently, it claims that social media cannot offer opportunities for its users, as these are all directed towards providing profit for the social media companies. However, other more nuanced critical perspectives on social media pay attention to the benefits and the online experiences of the user (e.g. Bechmann & Lomborg, 2013; Carpentier, 2007; van Dijck, 2013a). In this nuanced view, critical perspectives can match well with the technical-structural perspective on social media as they draw attention to both the 'rich' user experience that can be derived from social media, while simultaneously warning of how social media companies can use technical features on the platforms to manipulate users' behaviour. Both perspectives, however, neglect how people can benefit from using social media. Therefore, we need a user-centric perspective as well, which reminds us of the opportunities social media have for its users. The combined focus on these three perspectives ensures that we have not neglected other valuable interpretations of social media

In addition to apparent differences between the three perspectives on social media, we believe that there is a common ground for conceptualizing social media literacy. Although social media literates see the opportunities of social media, at the same time they must not be blind to the commercial interests and powers behind social media, their manipulation of the technical features to achieve their goals (e.g. seeking profit by commodifying social interaction), and the other risks related to the networked nature of social media. To gain insights in why people need to be literate in social media, we discussed the potential and pitfalls of social media. We treated obtaining social, cultural, and symbolic capital as potential opportunities and cyber bullying and loss of privacy through commodification and surveillance as potential risks of social media use. We used the word 'potential' because a risk or opportunity of social media cannot be defined objectively, as it varies from person to person. Specifically, what for one person is a positive outcome of social media (e.g. a place for getting in touch with people and sharing photos and other content) can be for others negative (e.g. loss of privacy).

As we focus in this dissertation on social media literacy practices on the platforms that are most popular at this time, i.e. Facebook and Twitter, we elaborated in the theoretical section of this dissertation on the specific characteristics of these two platforms. Drawing on Fuchs's (2014) theorization of 'sociality', we concentrate on the characteristics of Facebook and Twitter for communication, community-building, and collaboration between people, with an increased attention for potential opportunities and risks. This made it clear that different social media platforms require different social media literacy practices. The latter should thus be taken into account when translating the conceptualization of social media literacy into concrete measurement instruments.

Before we were able to conceptualize social media literacy, a second theoretical challenge was necessary to gain a thorough understanding of traditional interpretations of media literacy. The literature review of media literacy and related concepts demonstrates a great variety of interpretations of media literacy, and consequently a lack of consensus about what media literacy exactly means (Livingstone et al., 2008). Despite this lack of consensus, this literature review provides many valuable insights into the components of media literacy and thus into how social media literacy must be conceptualized. This literature review, however, seems insufficient

to provide adequate insights into how media literacy is developed with regard to social impact and efficacy. In order to overcome this, we relied on the following theoretical foundations of media literacy: the cultural capital concept of Bourdieu (1986, 1997), the structuration theory of Giddens (1984), the capabilities approach of Sen (2003), and the knowledge gap hypothesis (Bonfadelli, 2002; Rogers, 2001).

Based on a general understanding of the two concepts 'social media' and 'media literacy', we developed a conceptual framework of social media literacy. Our conceptualization has five important characteristics that distinguish it from other conceptualizations of media literacy:

1. Social media literacy itself is conceptualized by applying a framework that goes beyond technical competencies. The proposed conceptual framework distinguishes between technical, cognitive, and emotional competencies. This conceptual framework is valuable for scholars as well as curricula and initiative developers who want to measure the social media literacy of a specific target group. The high-level components of social media literacy (e.g. technical, cognitive, and emotional competencies) proposed in our conceptual framework can be applied to all media and target groups. This level of abstraction allows stakeholders to refine and specify the competencies in the terms they consider most appropriate for the specific media and/or target group under investigation;
2. The attention paid to emotional competencies in the conceptual framework means that we can recognize social media literacy as something personal, which differs from person to person. Specifically, what is positive and trustworthy for one person is not for another. As emotional competencies are strongly interrelated with technical and cognitive competencies, we can only make statements of whether someone has a critical attitude or not if we have sufficient insights at our disposal about the other two competencies. Therefore, we found it more useful to make profiles of people concerning their social media literacy as a whole instead of interpreting the aspects of social media competency separately;
3. Our conceptualization of social media literacy goes beyond the more traditional definitions of media literacy and related concepts by considering the more (inter)active use of networked media. We considered the uniqueness of social media in our conceptual framework by treating communication and creation as dimensions of social media literacy. We also directed attention towards the more traditional information retrieval and problem-avoiding and problem-solving skills, as these still remain important in a social media environment. For every dimension of social media literacy, people need other technical, cognitive, and emotional competencies. In the conceptual framework, we provided a detailed description of the dimensions and sub dimensions of these competencies, and provided a list of examples that can be used for the measurement of social media literacy. The examples of each of the competency dimensions are activities that all sectors of the population are performing with social media. Certain advanced competencies, which might be desirable at some point but are only possessed by a relatively small minority of the population, have been excluded. The clear examples we provided for each of the social media competencies in the

conceptual framework could also enable providers of social media literacy to readily employ the framework for their own measurements;

4. While other conceptualizations of media literacy and related concepts (e.g. information literacy, Internet literacy, digital literacy) are frequently too broad to be measurable, the conceptualization of social media literacy used here is simultaneously abstract enough to be translated to other media (i.e. high-level components: technical, cognitive, and emotional competencies) and detailed enough (i.e. dimensions of social media literacy) to be measurable. This measurement is important to understand the diffusion and use of social media literacy within the population as well as to develop and/or evaluate targeted educational and/or governmental actions or projects to improve social media literacy;
5. The conceptual framework also contains factors that can influence people's development of social media literacy as well as the possible outcome of social media literacy. In operational terms, the factors concern the immediate social and spatial context, which simultaneously shapes and is shaped by people's social media consumption in that context. The outcomes of social media literacy are the different opportunities to fully participate in contemporary networked society, for example, civic engagement, cultural participation, advantages in the labour market, and communication with the social network.

Using this conceptual framework, we defined social media literacy as *'the set of technical, cognitive, and emotional competencies required when using social media to search for information, for communication, content creation, and for problem-avoiding and problem-solving, both in a professional and social context.'* This conceptualization of social media literacy is strongly inspired by the conceptualizations of media and digital literacy of McClure (1997), Livingstone et al. (2005), Martin and Grudziecki (2006), and more recently van Deursen (2010), Ala-Mutka (2011), and Ferrari (2013). Nevertheless, it consists of new interpretations where, foremost, the more detailed conceptualization of each of the competencies and dimensions of social media activity provide new insights. This responds to the criticism that many conceptualizations in this context fail to be translated into measurement instruments that allow the assessment of media literacy, in this case social media literacy. In this dissertation we developed an elaborate and comprehensive conceptual framework that can be used to map people's social media literacy.

Theoretical discussion and future research directions

Although we paid much attention to theoretical aspects in this dissertation, this does not mean that the theoretical work around social media literacy is finished. This is not an end, but rather a starting point. In this section it is not our intention to write a full research agenda for future research into social media literacy. Instead, we want to define the key challenges for conceptualizing social media literacy in the future.

The first challenge is determining the exact contribution of social media literacy to society. To fully understand how social media literacy is developed according to its impact on society, we must further conceptualize the outcomes of social media literacy. Given the fact that the exploring (and then measuring) of the consequences as 'civic participation', 'cultural

participation', etc., each requires a dissertation in itself, this was not possible within the scope of this dissertation. The exact contribution of social media literacy can thus only be determined when the outcome of social media literacy is conceptualized and added as dependent variables in future research. Only then can the consequences of social media literacy in terms of inequality be adequately addressed within the general population. Nevertheless, before this can be done, social media literacy must first be defined and measured, which is the core of this dissertation.

When investigating the outcomes of social media literacy, researchers must keep in mind a second challenge: social media literacy is a simplified representation of reality. Being literate in social media has many positive outcomes for individuals' social, cultural, political and economic lives. We should not, however, be blind for the many problems that cannot be solved with social media (literacy) (cf. Internet Solutionism, Morozov, 2011). In this respect, many authors refer to the multiplicity of literacy in the current society (e.g. Belshaw, 2011; Jenkins, Purushotma, et al., 2009). The importance of social media literacy thus cannot be exaggerated. Critical voices, such as Fuchs (2014) and Feenberg (1999), see social media literacy as an 'easy' solution to and 'accepting' of the risks of social media. According to them, people should not engage with an interim solution as (social) media literacy, but must tackle the real problem at its source and thus change the way social media are organized. However, such a solution ignores the fact that social media are, to date, so deeply embedded in many people's daily lives, that no alternative seems viable. In the meantime, it is important that people who use social media are aware of the potential and pitfalls of these media, and that they can act accordingly. And for that, they need to be social media literate.

A third challenge concerns the concept of 'literacy' from which the term social media literacy is derived. There are many critiques of the term 'literacy' as it perpetuates a divide between 'literate' and 'illiterate'. Literacy, and thus also social media literacy, is often seen as a term created to serve ideological and political purposes in justifying social control and initiatives for emancipation of the so-called 'illiterates' (Hartley, 2002). The term 'literacy', however, has become so mainstream that it would lead to confusion if we were to use another term to refer to the actions that people (could) perform as a result of their effective and efficient use of media, in this case social media. When using the term, future researchers must be careful to not describe non-users as 'illiterate'. Non-users rely on other competencies that are also valuable in society. It is important that there are resources available to help them use social media when this is required, but we may/can not force them to use these (Sen, 1999). From this point of view, conceptualizing and measuring social media literacy remains important in order to understand the types of resources and support people need in their use of social media (and it also provides insight into who do not need/want support/resources).

A fourth challenge consists of the constant technological developments in social media. It could be questioned whether it is valuable to conceptualize social media literacy when social media is subject to such rapid and continuous change. Our response to this criticism is that every media technology is subject to change, which also means that every media literacy concept is subject to change. Furthermore, as Bawden (2008, p. 28) states:

'Whilst it may be possible to produce lists of the components of digital literacy, and to show how they fit together, it is not sensible to suggest that one specific model of digital literacy will be appropriate for all people or, indeed, for one person over all their lifetime. Updating of understanding and competence will be necessary as individual circumstances change, and as changes in the digital information environment bring the need for new fresh understanding and new competencies.'

Related to this fourth challenge is the observation that people change their minds in what they accept as the norm for online communication through social media: sharing private information and personalized advertisements were gradually implemented as the standard and as users became accustomed to these new platforms and features, these norms became entrenched and normalized (Fuchs, 2014). Therefore, what people interpret as a risk related to social media evolves according to societal and technical developments. To meet this fourth challenge there is a constant need for research to these new societal and technological developments and how this determines how people search for information and communicate online.

6.1.2. Methodological conclusions

In addition to the theoretical exploration of what social media literacy means, this dissertation's scope is also directed towards measuring social media literacy – or how it can be assessed. So far media literacy and digital literacy have been primarily assessed with surveys that typically focus on technical competencies and, to some extent, cognitive and emotional competencies as well (van Deursen, 2010). In this study, we were also looking for additional methods that allow measuring social media literacy in an appropriate way. The need for a multi-method approach is mainly derived from the shortcomings of individual methods that are predominantly used to measure social media literacy. To provide practical insights into the different methods that can be used, we outlined them in the form of a toolkit. This toolkit, with a clear description and concrete operationalization of each method, will help researchers choose which method is most appropriate based on the expected results as well as time, money, and other constraints. The goal of this toolkit is not only to support further research, but also to inspire others beyond academia who want to measure social media literacy. The online version of this toolkit will serve as a 'living' tool that can be supplemented with ideas or comments of others. In order that others can make use of the toolbox, we have included example questions for the platforms Facebook and Twitter.

In the toolkit, we explain how the disadvantage of one method could be an advantage for another method when measuring all three competencies, thus making a plea for a multi-method approach in measuring social media literacy. In bringing this multi-method approach into practice, we argue that a good practice is to start with setting up a large-scale quantitative research to obtain a general overview of macro-level patterns (Courtois, 2012). In the case of social media literacy, this general overview contains insights into people's social media use, competencies, and the context of use. Second, a qualitative method must be set up to delve deeper into the patterns found in the first method. Since it is often impossible to apply the qualitative method to all of the respondents of the quantitative method – as this is both

expensive and time-consuming – the respondents of the quantitative method must be profiled or divided into subsamples. This profiling, which is at the same time used for recruiting participants for the qualitative research part of a multi-method design, also results in valuable information about the social media literacy about the population under investigation.

Different methods for measuring social media literacy were tested and validated in various research projects that are part of this doctoral research; they provided insights into the social media literacy of both sub samples of Flemish young people and employees. When differentiating between different social media literacy profiles, we found that for some people technical competencies leave much room for improvement, while for others this is only the case for cognitive or emotional competencies. The habitual Facebook users, for example, have a high level of technical competencies and are very positive about Facebook, but they score lower when it comes to cognitive competencies. The critical users, on the contrary, have a high level of cognitive competencies but have a rather lower level of technical competencies and a more negative attitude. It is thus important to understand that having one of the three competencies alone is not sufficient for effectively and efficiently using social media. To our knowledge, there are, however, no other (multi-method) tests of social media literacy that explicitly distinguish between different technical, cognitive, and emotional competencies. This means that there are no direct standards of comparison within Belgium or any other country.

However, using multiple methods for measuring social media literacy is often very expensive and time-consuming for very large-scale data collection. Therefore, we elaborated in the methodological chapter on the development of survey questions for measuring social media literacy, explicitly acknowledging that this kind of quantitative research should ideally be accompanied by other methods. We searched for survey questions that best approximate people's actual social media literacy. To do this we followed four steps that together resulted in survey proxy measures for social media literacy. In the first step, we correlated the survey items with the observed technical competencies. In the second step, we compared the answers in the survey with the interview data. In a third step, we compared the answers in the survey with the data of the diary study. In the last step, the Fornell and Larcker (1981) discriminant validity criterion was used to test the discriminant validity of the survey items that remained after the first three steps. In this stage, the remaining items are further analyzed by using a first-order factor analysis. The items that resulted from these four steps might be used in future survey measures. Concerning the survey proxy measures for technical competencies we came to the same conclusion as Hargittai (2005), who found in her research that asking people how familiar they are with certain Internet terms is a good proxy for people's observed web-use skills. In contrast to the findings of van Deursen (2010), we found that frequency of use was not such a good proxy for people's technical competencies. For measuring cognitive competencies through surveys, we advise to use trust question, which are a combination of attitude and knowledge questions towards Facebook's operations and the users of Facebook. Concerning the measurement of emotional competencies, we found that using the attitude questions of the trust questions is better than a general attitude question. The results concerning cognitive and emotional competencies could, however, not be compared to previous research results as to our knowledge there are no other tests who compared the

results of cognitive and emotional competencies concerning the Internet in general, or social media in specific, with interview and/or diary data. This analysis allowed us to reduce a long list of measurable indicators to a short list of measurable indicators for social media literacy in a survey.

This methodological contribution allows researchers as well as societal stakeholders (e.g. government, education or youth work) to make work of the measurement of social media literacy. In this dissertation, we used these measurements to gather empirical data about young people's and employees' social media literacy.

Methodological discussion and future research directions

In this section we will discuss methodological challenges that future research into measurement of social media literacy must take into account.

As addressed in Section 3.4. there already exist many good initiatives for enhancing people's social media literacy. Since there was no measurement of social media literacy available, it was not possible to detect if these initiatives have achieved their goals. The evaluation of these already existing and new initiatives with the proposed measurement instruments in this dissertation is thus the first challenge for future research.

A second methodological challenge will be the constant upgrading of the example questions and indicators proposed in the toolkit to the future societal and technological changes. Also in the case of using this toolkit to measure social media literacy on other platforms than Facebook and Twitter, the proposed example questions and indicators must be adapted and translated to other social media platforms. The latter, however, will require additional pretests.

As our research has confirmed that many social media literacy practices are a routine behaviour, we advocate a longitudinal 'true ethnography' (Deuze, 2012), consisting of repeated contact with the respondents and participation in their social media routines. However, this was not feasible for this dissertation, as there were considerable challenges. First, since people's social media use is extremely private, a true ethnography would have violated various ethical considerations. Social media use takes place at very different times of the day and is extremely sporadic (e.g. when people are at school, when they are in bed, and even on the toilet), which makes it almost impossible to follow people whenever they are using social media. Moreover, it would be tremendously inefficient and ineffective to stay with or to follow people for a few hours and not collect enough data. We thus focused on a reasonable in-between method, such as the diary method or interviews, rather than focusing on a sporadic gathering of ethnographic data. Another ideal method for measuring social media literacy is recording people's daily social media use. The basic start should be to track a device on which that person uses social media, such as a smartphone or laptop, and every time the person logs into a certain social media platform he/she gets a few questions before and after he/she completes an action. In this way, we gain insights into what people do with social media and how they do it (i.e. technical competencies), how they feel before and after the activity (i.e. emotional competencies), what they thought about before, during, or after the activity (i.e. cognitive competencies), which allows understanding of the context of use (e.g. frequency of

use, location of use, and device] as well. However, this may have to remain a proposed experiment, as it could be extremely difficult to accomplish, considering crucial issues concerning cost, standards, privacy, and regulation. Nevertheless, it should be an ideal methodological situation for measuring social media literacy in future research.

6.1.3. Empirical conclusions

In the very beginning of this dissertation, we explicitly discussed the societal impact of social media, specifically, the wide and persistent migration towards social media in social, cultural, political, and economic domains. In extreme cases, social media even replace offline services, which infringes basic human rights when people have no access to the Internet or devices to access social media. Coping with these media is important for every person in the network society, as this will largely determine someone's position in their social as well as professional life.

In this dissertation, we conducted four case studies to determine the state of people's social media literacy in Flanders and the factors that enhance (or form a barrier to) people's social media literacy. In papers 1 and 2, we focused on young people, since they are seen as the most vulnerable group, because they experiment more with social media and they are not always aware of potential risks of social media, because of e.g. their age and other factors. In paper 1, we focused on the perceived parenting styles as a factor in adolescent's development of social media literacy. Paper 2 elaborated on the architectural features of the social media platform as a factor in adolescents' privacy protection behaviour, as a part of social media literacy. Papers 3 and 4 are dedicated to employees' social media literacy, as we were interested in how their social media literacy can be improved from the use of social media in professional contexts. Paper 3 focused on how the organization structure and more specifically, social media experts in that organization, can support (or constrain) employees' social media literacy. Paper 4 focused on professional context variables and how this can support (or constrain) employees' social media literacy.

In papers 1 and 2, we noticed that none of the adolescents had especially low scores on technical, cognitive, or emotional social media competencies. It is also noteworthy that they had higher technical competencies in comparison to cognitive competencies. In addition, we observed significant differences among adolescents' social media literacy in relation to their perceived parenting style of their parents. Adolescents who encounter a parenting style that predominantly employs warmth, guidance, and communication instead of control strategies to moderate Facebook use have the highest score on technical competencies and a very active and creative use of social media. These adolescents indicated that they could experiment more and get more support to develop their technical social media competencies. In contrast, perceiving both freedom and control seems more beneficial for adolescents' cognitive competencies. This rule negotiation makes young people think about potential reasons why parents set these rules, which stimulates their cognitive competencies. Additionally, these adolescents also indicate that their parents warn them about potential risks, which also makes them more aware of these risks. We found in paper 2, for example, that adolescents who experience the combination of freedom and rule negotiation have greater concern about the

loss of privacy and reveal less personal information on Facebook. Simply restricting alone or doing nothing seems to be less effective. Therefore, we can conclude that communication between the parent and the child is an important factor in adolescents' development of social media literacy.

However, this cannot be the only factor, because many adolescents resist the interference of their parents in their social media use, as this is too private. Throughout paper 2, we learned that the architectural features of a social media platform are also an important factor in adolescents' development of social media literacy. A social media platform, such as Facebook, which provides more opportunities to reveal personal information (e.g. through profile information, status updates, chat messages, reactions) and provides users a greater feeling of control (e.g. privacy settings) over their personal information, stimulates its users to reveal more personal information. In paper 1 and 2, we also saw that age was an important predictor. While older adolescents have higher technical competencies, most likely due to more experience and less parental control, they also reveal less personal information on social media platforms. However, they do not necessarily score higher on cognitive competencies. Adolescents still do not question many things on social media platforms. For example, little is known about what social media companies are doing with the information users post on these platforms and how users can protect themselves. Additionally, papers 1 and 2 reveal that in spite of a widespread assumption that adolescents are a homogenous group of 'digital natives', we noticed differences in social media literacy among young people.

The research presented in papers 3 and 4 allowed us to distinguish between different profiles concerning employees' social media literacy. These profiles reveal significant similarities in both studies. In each of the two studies, we found a group of people who did not use social media frequently, either at home or at work, and those people had relatively low technical and cognitive competencies. However, this group is fairly positive towards the use of these social media, which allows us to posit that this group are new to using social media (or at least that specific platform). Consequently we label this group 'social media laggards' in paper 3 and 'novice tweeters' in paper 4.

A second parallel profile in the two studies involves the 'social media spare time users' in paper 3 and the 'amateur tweeters' in paper 4. As the name suggests, this is a group that uses social media primarily at home in their spare time. This profile displays average social media competencies. In paper 3, we also found a profile that we did not find in paper 4, which we labelled as the 'social media workers'. This group uses social media primarily for professional purposes and has relatively high technical and cognitive social media competencies and positive attitudes towards social media. We did not find this profile in paper 4, because the people who use Twitter for professional purposes also use it for personal reasons as well. Employees sometimes use other social media platforms, such as Facebook or YouTube, for only professional purposes.

In both studies, we also found a group of employees who use social media very frequently for both private and professional purposes and have the highest score on all three social media competencies. In paper 3, we named this group the 'social media literates' and in paper 4, we labelled them 'professional tweeters'. Since the amateur or spare-time user profile is the most

dominant group, followed by the professional or literate profile, we can conclude that many employees are embracing the social media revolution. Especially among the younger age cohorts, we noticed that they use social media more intensely for both private and professional purposes; in addition, they also have the highest scores on both technical and cognitive competencies and display a more critical attitude. The older generations reveal a fairly novice and cautious use of social media, which is characterized by a less frequent use of social media and lower scores on social media competencies. Since the latter group does not use social media very frequently, they do not use it for both private and professional purposes, but mostly for one or the other.

We believe that the employees who fit the social media literate or professional tweeter profile could serve as facilitators or agents to guide and support their colleagues in their social media use. In paper 3, we found that such a social media expert spreads the most social media information to other colleagues. However, this information is given to the people who are already conversant with social media and/or with whom the expert shares a closer relationship (e.g. the same desk or friendship). In contrast to the more optimistic views noted earlier, various uses of social media thus have the potential to increase the inequalities that result from the accumulation of advantages provided by wealth. Social media experts in an organization are *'benefiting those who are already in the advantageous positions and denying access to better resources to the unprivileged'* (Hargittai, 2008, p. 943). Merton's (1973, p. 446) notion of the Matthew effect — *'Unto every one who hath shall be given, and he shall have abundance'* — applies here.

However, it is not only the organizational structure, or the presence of a social media expert in the organization, that is an important factor in employees' development of social media literacy, but also the policy and/or management view on the role of social media within organizations. In paper 4, we found that the employees who perceive a restrictive social media policy are less inclined to use social media for professional purposes. Social media experts should clearly speak out that they want to use social media professionally and share their knowledge about social media with other colleagues. Having too many guidelines and restrictions about with whom and in what way social media can or must be used can be counterproductive for the development of employees' social media literacy. In addition, this also holds true for the entire social media activities of the entire company.

The findings of this dissertation further confirm the presence of a second-level digital divide that includes differences in the way people use social media (see e.g. the different social media profiles). The results indicate that a large part of the Flemish population is struggling to equip themselves with competencies to fully participate in society. Some groups lack technical competencies, which can be considered a temporary problem (until more support or an easier-to-use social media platform or features appear). Instead, the lack of cognitive and emotional competencies might be more difficult to overcome, as this is related to a combination of education, socialization in the home, and intellectual capacity. Therefore, support must focus more on these cognitive and affective competencies. The following section will provide recommendations to improve people's individual social media literacy.

Empirical discussion and future research directions

The first empirical challenge is the need for large-scale empirical studies of other factors that can support (or constrain) people's social media literacy, such as education curriculum, the influence of peer groups, and the influence of the devices on which people use social media. Additionally, it is noteworthy that habit is also a consistent explanatory factor for how people use social media. Following Deuze's (2012) thesis about media life, one could argue that to fully understand how people use media in their daily lives, it is necessary to sample people's everyday life. Because of budget, time, and privacy restrictions related to longitudinal ethnographic research (cf. *supra*), we could not study the routines of people's social media behaviour.

Another challenge is the limited focus on the Flemish population. Other populations are not included in the measurements of social media literacy, making national and international comparisons impossible. This does not mean that the proposed conceptualization and operationalization is not applicable to other populations. However, this will need further validation and replication outside Flanders. Notwithstanding these limitations, this dissertation makes a clear contribution to digital divide research, awareness-raising strategies, and educational and policy initiatives that aim to overcome social inequalities resulting from not being able to respond to the increasing demands related to an environment saturated by social media.

6.2. Recommendations

One of the objectives of this study was to create a bridge between research and practice; we fulfil this objective by providing a number of recommendations to the various parties that play an important role in improving people's social media literacy.

Our findings indicate that dealing with social media requires not only comprehension of the functionalities of these new technologies, but also an understanding of the consequences of becoming a social media user. Being able to use social media in an efficient and effective way requires a certain level of technical, cognitive and emotional competencies that many individuals have not yet achieved. It is crucial, therefore, to improve all users' social media literacy. In addition to the individuals themselves, other parties play an important role in improving the social media literacy of the people around them. These include the government, social media companies that want a better image, non-profit organizations with a social and educational mission, and every individual person as a parent, colleague and/or a friend.

Here, we make a distinction between recommendations for the demand-side of social media and the supply-side of social media. The first, demand-side, recommendations will focus on the responsibilities of governmental, teachers, and educational institutions. The supply-side recommendations address the usability of the architectural features of/and the content on the social media platforms themselves. In this section, recommendations for both sides are suggested, based on our research findings.

6.2.1. Recommendations for the demand-side of social media

Although social media use is increasingly widespread among all social groups, this does not imply that people automatically develop the competencies needed to benefit from social media in different aspects of life. People may simply remain at the level of using some specific basic applications. Therefore, social media use as such should not be considered as proof of social media literacy, and parents, teachers, and governments should all aim to provide awareness and learning opportunities about social media literacy for all users.

It is important that these different parties account for the complete range of social media literacy. Addressing the potential opportunities of social media by only improving technical competencies, and not cognitive competencies, ignores the important potential risks that users can experience. In addition, only providing information to people about how to enhance their technical and cognitive competencies is not enough to change their behaviour. Therefore, additional attention must be directed towards emotional competencies, their affects towards social media, and their behaviour on these platforms. In the educational context, most attention currently is being paid to the improvement of technical competencies (Apestaartjaren, 2014). However, the cognitive and emotional competencies appear to be more problematic. Nonetheless, this does not mean that technical social media competencies can simply be neglected. Profiles with limited technical competencies are less likely to fully employ the potentials of social media, as seems to be the case with the older employees.

Table 39 Sources that the respondents have ever consulted in case of social media problems, data derived from study 2 to survey proxy measures for social media literacy (cf. Section 4.3.)

%	Cyber bullying	Problems with privacy issues	Unauthorized access to my account (e.g. hacking)	How I must operate social media
Never had this problem	71	36	49	36
Nowhere	8	8	7	10
Self-study (vb. Google, YouTube)	12	48	27	46
Friends	5	14	9	17
Colleagues	3	8	4	8
Child	3	5	3	7
Brother/sister	2	5	3	5
Parent	3	3	5	3
Teachers	3	3	2	3
Library	2	3	2	3

There are several ways to learn how to use social media. From Table 39, it appears that self-study is most commonly applied in the case of problems with social media. The second most important source is the informal assistance of friends or colleagues. In the case of colleagues, we can make the following recommendations for employers who want to implement social media within their organization:

- Check whether someone within the organization is familiar with social media and can thus take a steering role concerning social media use. Lived experiences provide interesting learning opportunities for other colleagues;
- The most suitable profiles for this coordinating role are the people who use social media frequently and actively both for private and professional purposes, for which they possess high technical social media competencies. They must also have high cognitive competencies and a critical attitude towards social media: They must be aware of the potential risks of social media, but must simultaneously be positive about the possibilities of social media;
- It is important is that these social media coordinators, and other employees, get enough freedom to use social media during work and thus are able to develop essential social media competencies;
- Be aware that a policy that is too strict, as well as no social media policy at all, can have an inhibitory effect on employees' social media competencies;
- A social media policy must contain guidelines in preference of restrictive rules (e.g. recommendations)
- The presence of a social media coordinator, or a social media expert, has a positive effect on the information exchange of social media among other employees. Other colleagues should know to whom to ask questions.

Although many policy resources are dedicated to enhancing of social media literacy in the context of education, Table 39 clearly indicates that parents, teachers, and librarians are less often invoked in the case of social media problems. Nonetheless, as parents and teachers are the people that adolescents see almost every day, it is important to also provide this group with some recommendations on how to support or improve the social media literacy of the adolescents around them:

- Social media are inextricably linked to the lives of young people. Therefore, try to stay aware of key developments in social media;
- Young people generally have relatively good technical competencies, but lower cognitive competencies. Encourage young people to think (critically) about how social media works, their own behaviour on social media, and the behaviour of others;
- Be aware that setting strict rules sometimes has a counter-productive effect. Young people are inventive in finding ways to evade rules;
- It is better to provide young people with guidance and exchange in an open and constructive manner, encouraging their own thoughts about their experiences with social media;
- Give young people sufficient freedom to develop the necessary technical social media competencies. An important observation regarding technical social media competencies of children is that they mainly seem to learn them in practice, if they get enough freedom to experiment;
- At the same time, warnings and guidance are highly effective for children's development of cognitive competencies;

- When cautioning children, it is important to stress both the positive and the negative sides of social media;
- Taking the motto ‘unknown is unloved’, we advise parents or other caregivers of young people to experiment with the possibilities of social media;
- Let young people help and advise in setting up an account and the use of social media, this will give insights into how social media work as well as into how the children use social media.

Although these recommendations emerged from a study with parents, they are certainly applicable in other educational contexts, specifically, formal education and libraries. Unfortunately, the curriculum does not fully consider or include discussion of social media. While all schools are obliged to teach children to read and write, learning to use digital media, especially social media, which now forms part of many young people’s everyday lives, is only a small component in the curriculum. A study by the Flemish Ministry of Education has also made this observation (Pynoo, Kerckaert, Goeman, Elen, & van Braak, 2013). In this study, it was observed that more than half of the teachers in both primary and secondary education have never used social media for educational purposes. Although it shows a slightly more encouraging picture, the Apestaartjaren (2014) research came to similar conclusions. In 2014, more young people indicate that their teachers use social media for educational purposes (35%) than in 2012 (only 10%). They also got more advice from their teachers about how they must change their privacy settings (41% in 2014 and 16% in 2012). The study also revealed that 78% of the young people use social media for educational purposes, such as discussing homework with fellow students, of whom half of them had already set up a Facebook group (compared to only 17% in 2012). Furthermore, at least one out of five adolescents claimed to have made a YouTube video as part of their schoolwork.

6.2.2. Recommendations for the supply-side of social media

In this section, we focus on how social media companies can improve the social media platforms in such a way that they better fit the needs of the users. If social media companies want to achieve a more positive image, they still have much to learn. For the recommendations to the social media companies, we focus on the interfaces and the content on the platforms, which frequently leave much room for improvement in usability and comprehensibility:

- Allow users to choose for themselves what kind of personal information they disclose, without stimulating it too much;
- Provide a full overview of the personal information (including information on use) the platform collects;
- Enable easy solutions to remove personal information from the platform;
- Provide more clarity as to what happens (or what can happen) with the information people post on social media, not only in the privacy statement and/or terms of service, which is very difficult to find and read, but also in more visible places where it is relevant;

- Indicate when cookies or algorithms collect information and/or link personal information to each other via labels or pop-up windows. The effectiveness of labelling or pop-up windows is not yet proven on cognitive competencies, but it will certainly bring more knowledge and awareness;
- Support standardized privacy settings over all (or most) social media platforms, so that users can easily find and adapt them across social media platforms;
- Provide transparency in the full range commercial practices related to the use of social media services;
- Provide standardized ways to submit complaints, report abuse, remove apps, and remove the link between advertisements on social media platforms and what a user has done elsewhere on the Internet (cf. cookies, algorithms).

Although, further recommendations can be made to make social media platforms more user-friendly, we limited ourselves to the suggestions based on our research findings. This shift to more natural and intuitive interfaces on social media platforms is a first step to a more user-friendly social media environment. However, these small changes do not mean that in the future there will be no need for social media literacy. Ease of use still requires a set of competencies on how to use these tools, and also requires an understanding of the possibilities, consequences, and affordances allowed by the platform, as social media are still companies that want to make a profit.

To address the social media literacy of individual people, it is necessary to use a combination of different recommendations. This is why the development of social media literacy is a complex policy issue that calls for both technological and educational solutions, using a comprehensive approach. We acknowledge that it is not possible, even not necessary, to move everyone to an equal level of social media literacy. Based on Sen (2003), we argue that providing equal capabilities to everyone must go hand-in-hand with individual freedom of choice. From this perspective the government should develop a holistic strategy to increase social media literacy for the whole population, but simultaneously offer enough opportunities for personal development and responsibility. Governmental action could then contain awareness-raising campaigns and/or the support of (formal) social media education directed towards specific target groups, such as young people, employees or parents, but also find ways to reach those most in need of social media literacy.



REFERENCES

REFERENCES

- Abril, P. S., Levin, A., & Del Riego, A. (2012). Blurred boundaries: Social media privacy and the twenty-first-century employee. *American Business Law Journal*, 49(1), 63–124.
- Acquisti, A., & Gross, R. (2006). *Imagined communities: Awareness, information sharing, and privacy on the Facebook*. Paper presented at the 6th Workshops on Privacy Enhancing Technologies, Cambridge, UK.
- Adeyoyin, S. O. (2006). ICT literacy among the staff of West African university libraries: A comparative study of anglophone and Francophone countries. *The Electronic Library*, 24(5), 694–705.
- Agre, P. (2004). Internet research: For and against. In M. Consalvo, N. Baym, J. Hunsinger, K. B. Jensen, J. Logie, M. Murero & P. Lang (Eds.), *Internet research annual: Selected papers from the association of internet researchers conferences 2000-2002* (Vol. 1, pp. 25–36). New York: Peter Lang.
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckman (Eds.), *Action-control: From cognition to behavior* (pp. 11–39). Heidelberg: Springer.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Akrich, M., & Latour, B. (1992). A summary of a convenient vocabulary for the semiotics of human and nonhuman assemblies. In W. E. Bijker & J. Law (Eds.), *Shaping technology/Building society* (pp. 259–264). Cambridge: The MIT Press.
- Ala-Mutka, K. (2011). Mapping digital competence: Towards a conceptual understanding. Seville: JRC-IPTS. Retrieved from <http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=4699>.
- Allen, M. (2008). Web 2.0: An argument against convergence. *First Monday*, 13(3).
- Alvarado, M., & Boyd-Barrett, O. (1992). *Media education: An introduction*. London: British Film Institute.
- American Library Association Presidential committee on information literacy (1989). Final Report. Chicago, IL: American Library Association.

- Andrejevic, M. (2006). The discipline of watching: Detection, risk, and lateral surveillance. *Critical Studies in Media Communication*, 23(5), 391–407.
- Anttiroiko, A., Lintilä, L., & Savolainen, R. (2001). Information society competencies of managers: Conceptual considerations. In E. Pantzar, R. Savolainen & P. Tynjälä (Eds.), *In search for a human-centered information society* (pp. 27–57). Tampere: Tampere University Press.
- Anttiroiko, A., & Savolainen, R. (2007). New premises of public library strategies in the age of globalization. In E. D. Garten, D. E. Williams, J. M. Nyce & S. Talja (Eds.), *Advances in library administration and organization* (Vol. 25, pp. 61–81). Amsterdam: Elsevier, JAI Press.
- Arnett, J. J. (2001). *Adolescence and emerging adulthood: A cultural approach*. Upper Saddle River, NJ: Prentice Hall.
- Attewel, P. (2001). The first and second digital divide divides. *Sociology of Education*, 74(3), 252–259.
- Atun, R. A., Kyratsis, I., Jelic, G., Rados-Malicbegovic, D., & Gurol-Urganci, I. (2007). Diffusion of complex health innovations—implementation of primary health care reforms in Bosnia and Herzegovina. *Health Policy Plan*, 22(1), 28–39.
- Aufderheide, P. (1993). *Media literacy: A report of the national leadership conference on media literacy*. Aspen: Aspen Institute.
- Aula, A., & Nordhausen, K. (2006). Modelling successful performance in web searching. *Journal of the American Society for Information Science and Technology*, 57(12), 1673–1693.
- Ausserhofer, J., & Maireder, A. (2013). National politics on Twitter: Structures and topics of a networked public sphere. *Information, Communication & Society*, 16(3), 291–314.
- Back, M. D., Stopfer, J. M., Vazier, S., Gaddis, S., Schmukle, S. C., Egloff, B., & Gosling, S. (2010). Facebook profiles reflect actual personality, not self-idealization. *Psychological Science*, 21(3), 372–374.
- Bakardjieva, M. (2005). *Internet society: The Internet in everyday life*. London: Sage.
- Baker, F. B., & Hubert, L. J. (1981). The analysis of social interaction data: A nonparametric technique. *Sociological Methods Research*, 9(3), 339–361.
- Balzalgette, C. (1999). *Making movies matter*. London: British Film Institute.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs: Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Barnes, S. B. (2006). A privacy paradox: Social networking in the United States. *First Monday*, 1(9).
- Barsky, E. (2006). Introducing Web 2.0: RSS trends for health libraries. *Journal of the Canadian Health Librarians Association*, 27(1), 7–8.
- Baumrind, D. (1966). Effects of authoritative parental control on child behavior. *Child Development*, 37(4), 887–907.
- Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *Journal of Early Adolescence*, 11(1), 56–96.

- Bauwens, M. (2008). The social web and its social contracts: Some notes on social antagonism in netarchical capitalism. Retrieved from <http://www.re-public.gr/en/?p=261>.
- Bawden, D. (2001). Information and digital literacies: A review of concepts. *Journal of Documentation*, 57(2), 218–259.
- Bawden, D. (2008). Origins and concepts of digital literacy. In C. Lankshear & M. Knobel (Eds.), *Digital literacy: Concepts, policies and practices* (pp. 17–33). New York: Peter Lang.
- Baym, N. (2010). *Personal connections in the digital age*. Cambridge: Polity Press.
- Bechmann, A., & Lomborg, S. (2013). Mapping actor roles in social media: Different perspectives on value creation in theories of user participation. *New Media & Society*, 15(5), 765–781.
- Beer, D. (2008). Social network[ing] sites...revisiting the story so far: A response to danah boyd & Nicole Ellison. *Journal of Computer-Mediated Communication*, 13(2), 516–529.
- Beer, D. (2009). Power through the algorithm? Participatory web cultures and the technological unconscious. *New Media & Society*, 11(6), 985–1002.
- Belshaw, A. J. (2011). *What is 'digital literacy'? A pragmatic investigation*. Durham University, UK.
- Berker, T., Hartmann, M., Punie, Y., & Ward, J. (2006). *Domestication of media and technology*. New York: Open University Press.
- Berton, M. (1994). Relating competence-promotion and empowerment. *Journal of Progressive Human Services*, 5, 27–44.
- Bertot, J. C., Jaeger, P. T., & Grimes, J. M. (2010). Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. *Government Information Quarterly*, 27(3), 264–271.
- Bertot, J. C., Jaeger, P. T., & Hansen, D. (2012). The impact of polices on government social media usage: Issues, challenged, and recommendations. *Government Information Quarterly*, 29(1), 30–40.
- Bloor, D. (1999). Anti-Latour. *Studies in History and Philosophy of Science*, 30(1), 81–112.
- Bolger, N., Davis, A., & Rafaeli, E. (2003). *Diary methods: Capturing life as it is lived*, 54, 579–616.
- Bonderup-Dohn, N. (2009). Affordances revisited: Articulating a Merleau-Pontian view. *International Journal of Computer-Supported Collaborative Learning*, 4(2), 151–170.
- Bonfadelli, H. (2002). The Internet and knowledge gaps: A theoretical and empirical investigation. *European Journal of Communication*, 17(1), 65–84.
- Bonsón, E., Torres, L., Royo, S., & Flores, F. (2012). Local e-government 2.0: Social media and corporate transparency in municipalities. *Government Information Quarterly*, 29(2), 123–132.
- Borgatti, S. P., Everett, M. G., & Freeman, L. C. (2002). *UCINET for Windows: Software for social network analysis*. Harvard: Analytic Technologies.
- Bourdieu, P. (1966). L'école conservatrice. Les inégalités devant l'école et devant la culture. *Revue Française de Sociologie*, 7(3), 325–347.
- Bourdieu, P. (1977). *Outline a theory of practice*. Cambridge, UK: Cambridge University Press.

- Bourdieu, P. (1984). *Distinction: A social critique of the judgment of taste*. Cambridge: Harvard University Press.
- Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). New York: Greenwich Press.
- Bourdieu, P. (1990). *The logic of practice*. Cambridge: Polity Press.
- Bourdieu, P. (1997). The forms of capital. In A. Halsey, H. Lauder, P. Brown & A. Stuart-Wells (Eds.), *Education: Culture, economy, society* (pp. 46-58). Oxford: Oxford University Press.
- Bourdieu, P., & Passeron, J. C. (1970). *La reproduction. Éléments pour une théorie du système d'enseignement*. Paris: Éditions de minuit.
- boyd, D. (2006a). A blogger's blog: Exploring the definition of a medium. *Reconstruction*, 6(4).
- boyd, D. (2006b). Friends, friendsters, and MySpace Top 8: Writing community into being on social network sites. *First Monday*, 11(12).
- boyd, D. (2008). Why youth (heart) social network sites: The role of networked publics in teenage social life. In D. Buckingham, D. John & T. Catherine (Eds.), *Youth, identity and digital media* (pp. 119-142). Cambridge, MA: The MIT Press
- boyd, D. (2012). Networked privacy. *Surveillance & Society*, 10(3/4), 348-350.
- boyd, D., & Ellison, N. B. (2008). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210-230.
- Brandeis, L., & Warren, S. (1980). The right to privacy. *Harvard Law Review*, 4(5), 193-220.
- Bråten, S. (1981). *Modeller av menneske og samfunn: Bro mellom teori og erfaring fra sosiologi og sosialpsykologi*. Oslo: Universitetsforlaget.
- Bridges, F., Appel, L., & Grossklags, F. (2012). Young adults and online political participation: Search strategies and the role of social media. *Information Polity*, 17(2), 163-176.
- Brown, B. B., & Klute, C. (2003). Friendships, cliques, and crowds. In G. R. Adams & M. D. Berzonskys (Eds.), *The Blackwell handbook of adolescence* (pp. 330-348). Malden: Blackwell publishing.
- Bruns, A. (2008). *Blogs, Wikipedia, Second Life, and beyond: From production to produsage*. New York: Peter Lang.
- Bryman, A. (2007). Barriers to integrating quantitative and qualitative research. *Journal of Mixed Methods Research*, 1(1), 8-22.
- Buchanan, T., Paine, C., Joinson, A. N., & Reips, U. (2007). Development of measures of online privacy concern and protection for use on the Internet. *Journal of the American Society for Information Science and Technology*, 58(2), 157-165.
- Buckingham, D. (1998). Media education in the UK: Moving beyond protectionism. *Journal of Communication*, 48(1), 33-42.
- Buckingham, D. (2003). *Media education: Literacy, learning and contemporary culture*. Cambridge: Polity Press.
- Buckingham, D. (2005). *The media literacy of children and young people*. London: Office of Communications.
- Bughin, J. R. (2007). How companies can make the most of user-generated content. Retrieved from http://www.inovacaoedesign.com.br/artigos_cientificos/hoca07.pdf.
- Callahan, D. R. (1991). The librarian as change agent in the diffusion of technological innovation. *Electronic Library*, 9(1), 13-15.

- Carlisle, G., & Scerri, J. (2007). Web 2.0 and user-generated content: Legal challenges in the new frontier. *Journal of Information, Law & Technology*, 11(2).
- Carpentier, N. (2007). Theoretical frameworks for participatory media. In N. Carpentier, P. Pruulman-Vengerfeldt, K. Nordenstreng, M. Hartmann, P. Vihalemm, B. Cammaerts & H. Nieminen (Eds.), *Media technologies and democracy in an enlarged Europe: The intellectual work of the 2007 European media and communication doctoral summer school* (pp. 105-122). Tartu: Tartu University Press.
- Carter, L., & Bélanger. (2005). The utilization of e-government services: Citizen trust, innovation and acceptance factors. *Information Systems Journal*, 15(1), 5-25.
- Casey, M. E., & Sevastinuk, L. C. (2006). Library 2.0: Service for the next-generation library. *Library Journal*, 131(14), 40-42.
- Castells, M. (1998). *End of Millennium*. Oxford: Basil Blackwell Ltd.
- Castells, M. (2007). Communication, power and counter-power in the network society. *International Journal of Communication*, 1(1), 238-266.
- Castells, M. (2009). *Communication power*. Oxford: Oxford University Press.
- Christ, W. G., & Potter, W. J. (1998). Media literacy, media education, and the academy. *Journal of Communication*, 48(5-15).
- Christofides, E., Muise, A., & Desmarais, S. (2009). Information disclosure and control on Facebook: Are they two sides of the same coin or two different processes? *CyberPsychology & Behavior*, 12(3), 341-345.
- Chun, S. A., Shulman, S., Sandoval, R., & Hovy, E. (2010). Government 2.0: Making connections between citizens, data and government. *Information Polity*, 15(1, 2), 1-9.
- Clark, L. S. (2011). Parental mediation theory for the digital age. *Communication Theory*, 21(4), 323-343.
- Cogburn, D. L., & Espinoza-Vasquez, F. K. (2011). From networked nominee to networked nation: Examining the impact of Web 2.0 and social media on Political participation and civic engagement in the 2008 Obama campaign. *Journal of Political Marketing*, 10(1-2), 189-213.
- Coiro, J., Knobel, M., Lankshear, C., & Leu, D. J. (2008). Central issues in new literacies and new literacies research. In J. Coiro, M. Knobel, C. Lankshear & D. J. Leu (Eds.), *Handbook of research on new literacies* (pp. 1-21). New York: Lawrence Erlbaum associates.
- Coleman, J. S. (1958). Relational analysis: A study of social organization with survey methods. *Human Organization*, 17(4), 28-36.
- Colesca, S. E., & Dobrica, L. (2008). Adoption and use of e-government services: The case of Romania. *Journal of Applied Research and Technology*, 6(3), 204-217.
- Collins, W. A., & Steinberg, L. (2006). Adolescent development in interpersonal context. In W. Damon, R. M. Lerner & N. Eisenberg (Eds.), *Handbook of child psychology* (Vol. 3, pp. 571-645). Hoboken, NJ: Wiley.
- Compeau, R. C., & Higgins, C. A. (1995). Application of social cognitive theory to training for computer skills. *Information Systems Research*, 6(2), 118-143.
- Constantinides, E., & Fountain, S. J. (2008). Web 2.0: Conceptual foundations and marketing issues. *Journal of Direct, Data and Digital Marketing Practice*, 9(3), 231-244.

- Correia, R. A. M., & Teixeira, J. C. (2003). Information literacy: An integrated concepts for a safer Internet. *Online information review*, 27(5), 311-320.
- Corston, R., & Coleman, A. M. (1996). Gender and social facilitation effects on computer competence and attitudes toward computer. *Journal of Educational Computing*, 14(2), 171-183.
- Courtois, C. (2012). *The triple articulation of audiovisual media technologies in the age of convergence*. Ghent University. Ghent.
- Courtois, C., All, A., & Vanwynsberghe, H. (2012). Social network profiles as information sources for adolescents' offline relations. *CyberPsychology, Behavior and Social Networking*, 15(6), 290-295.
- Courtois, C., Mechant, P., & De Marez, L. (2012). Communicating creativity on YouTube: What and for whom? *CyberPsychology Behavior and Social Networking*, 15(3), 129-134.
- Courtois, C., Mechant, P., Paulussen, S., & De Marez, L. (2012). The triple articulation of media technologies in teenage media consumption *New Media & Society*, 14(3), 401-420.
- Daft, R. L., Lengel, R.H. (1986). Organizational information requirements, media richness and structural design. *Management Science*, 32(5), 554-571.
- Daly, A. J., & Finnigan, K. S. (2010). A bridge between worlds: Understanding network structure to understand change strategy. *Journal of education Change*, 11(2), 111-138.
- Damanpour, F. (1987). The adoption of technological administrative, and ancillary innovations: Impact of organizational factors. *Journal of Management*, 13(4), 675-688.
- Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological Bulletin*, 113(3), 487-496.
- Davis, F. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.
- Davis, F. (1993). User acceptance of information technology: System characteristics, user perceptions and behavioural impacts. *International Journal of Man-Machine Studies*, 38(3), 475-487.
- De Haan, J., Huysmans, F., & Steyaert, J. (2002). *Van huis uit digitaal: Verwerving van digitale vaardigheden tussen thuismilieu en school*. Den Haag: Sociaal Cultureel Planbureau.
- De Ridder, S. (2013). Are digital media institutions shaping youth's intimate stories? Strategies and tactics in the social networking site Netlog. *New Media & Society*, 10(1), 1-19.
- De Souza, Z., & Dick, G. N. (2009). Disclosure of information by children in social networking - Not just a case of "You show me yours and I'll show you mine". *International Journal of Information Management*, 29(4), 255-261.
- De Zúñiga, H. G., Jung, N., & Valenzuela, S. (2012). Social media use for news and individuals' social capital, civic engagement and political participation. *Journal of Computer-Mediated Communication*, 17(3), 319-336.
- Debatin, B., Lovejoy, J. P., Horn, A. H., & Hughes, B. N. (2009). Facebook and online privacy: Attitudes, behaviors, and unintended consequences. *Journal of Computer-Mediated Communication*, 15(1), 83-108.
- Dervin, B. (1980). Communication gaps and inequities. Moving toward a reconceptualization. In M. Voigt & B. Dervin (Eds.), *Progress in Communication Sciences*. Hillsdale, NJ: Lawrence Erlbaum.

- Deuze, M. (2012). *Media life*. Cambridge, UK: Polity Press.
- DiMaggio, P., & Hargittai, E. (2001). From the 'digital divide' to 'digital inequality': Studying internet use as penetration increases. Retrieved from http://www.webuse.umd.edu/webshop/resources/Dimaggio_Digital_Divide.pdf
- DiMaggio, P., Hargittai, E., Celeste, C., & Shafer, S. (2004). Digital inequality: From unequal access to differentiated use. In K. Neckerman (Ed.), *Social Inequality* (pp. 355-400). New York: Russell Sage Foundation.
- Dolnicar, V., & Fortunati, L. (2014). Exploring and conceptualizing empowerment: Introduction to the special issue on media and empowerment. *The Information Society, 30*(3), 165-168.
- Domingo, D., Quandt, T., Heinonen, A., Paulussen, S., Singer, J. B., & Vujnovic, M. (2008). Participatory journalism practices in the media and beyond. *Journalism Practice, 2*(3), 326-342.
- Donoso, V. (2011). Results of the assessment of the implementation of the safer social networking principles for the EU: Individual reports of testing of 14 social networking sites Safer Internet Programme. Luxembourg: European Commission.
- Downes, S. (2005). e-Learning 2.0. Retrieved from <http://www.elearnmag.org/subpage.cfm?section=articles&article=29-1>.
- Doyle, G. (2013). *Understanding media economics* (2nd ed. ed.). London: Sage.
- Durkheim, E. (1982). *Rules of sociological method*. New York: Free Press.
- Dwyer, C., Hiltz, S. R., & Passerini, K. (2007). *Trust and privacy concern within social networking sites: A comparison of Facebook and Myspace*. Paper presented at the Thirteenth Americas Conference on Information Systems, Keystone, Colorado, USA.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth, TX: Hartcourt Brace Jovanovich College Publishers.
- Eagly, A. H., & Chaiken, S. (1998). Attitude structure and function. In D. T. Gilbert, S. T. Fiske & G. Lindzey (Eds.), *The handbook of social psychology* (4th edition, Vol. 1, pp. 169-322). Oxford: Oxford University Press.
- Eastin, M., & LaRose, R. (2000). Internet self-efficacy and the psychology of the digital divide. *Journal of Computer-Mediated Communication, 6*(1).
- Eco, U. (1979). *The role of the reader: Explorations in the semiotics of texts*. Bloomington: Indiana University Press.
- Eldred, M. (2008). *Social ontology: Recasting political philisophy through a phenomenology of whoness*. Frankfurt: Ontos Verlag.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends": Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication, 12*(4), 1143-1168.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2011). Connection strategies: Social capital implications of Facebook-enabled communication practices. *New Media & Society, 13*(6), 873-892.
- Ellison, N. B., Vitak, J., Steinfield, C., Gray, R., & Lampe, C. (2011). Negotiating privacy concerns and social capital needs in a social media environment. In S. Trepte & L. Reinecke

- (Eds.), *Privacy Online: Perspectives on privacy and self-disclosure in the social web*. London: Springer.
- Eltantawy, N., & Wiest, J. B. (2011). Social media in the Egyptian revolution: Reconsidering resource mobilization theory. *International Journal of Communication, 5*(2), 144-167.
- Erickson, B. H. (1996). Culture, class, and connections. *American Journal of Sociology, 102*(1), 217-251.
- Eshet-Alkalai, Y. (2004). Digital literacy: A conceptual framework for survival skills in the digital era. *Journal of Educational Multimedia and Hypermedia, 139*(1), 93-106.
- Ettema, J. S., & Kline, G. F. (1977). Deficits, differences, and ceilings. Contingent conditions for understanding the knowledge gap. *Communication Research, 2*(4), 179-202.
- Falkheimer, J. (2009). On Giddens: Interpreting public relations through Anthony Giddens's structuration and late modernity theory. In O. Ihlen, B. van Ruler & M. Fredriksson (Eds.), *Public relations and social theory* (pp. 119-140). Abingdon: Routledge.
- Feenberg, A. (1999). *Questioning technology*. New York: Routledge.
- Feng, Y., & Xie, W. (2014). Teens' concern for privacy when using social networking sites: An analysis of socialization agents and relationships with privacy-protecting behaviors. *Computers in Human Behavior, 33*(4), 153-162.
- Ferrari, A. (2013). DIGCOMP: A framework for developing and understanding digital competence in Europe. In Y. Punie & B. N. Brecko (Eds.), *JRC scientific and policy reports*. Retrieved from <http://ftp.jrc.es/EURdoc/JRC83167.pdf>
- Festinger, L., Schacter, S., & Back, K. W. (1950). *Social pressures in informal groups*. Stanford: Stanford University Press.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, Mass.: Addison-Wesley.
- Fleming, M. J., Greentree, S., Cocotti-Muller, D., Elias, K., & Morrison, S. (2006). Safety in cyberspace: Adolescents' safety and exposure online. *Youth and Society, 38*(2), 135-154.
- Flick, U. (2002). *An introduction to qualitative research* (2nd edition). London: Sage.
- Fornell, C., & Larcker, F. D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50.
- Frambach, R. T., & Schillewaert, N. (2002). Organizational innovation adoption: A multi-level framework of determinants and opportunities for future research. *Journal of Business Research, 55*(2), 163-176.
- Frank, K. A., Zhao, Y., & Borman, K. (2004). Social capital and the diffusion of innovations within organizations: The case of computer technology in schools. *Sociology of Education, 77*(2), 148-171.
- Froomkin, A. M. (2000). The death of privacy? *Symposium: Cyberspace and privacy: A new legal paradigm?*, 52(5), 1461-1543.
- Fuchs, C. (2009). *Social networking sites and the surveillance society: A critical case study of the usage of studiVZ, Facebook, and MySpace by students in Salzburg in the context of electronic surveillance*. Salzburg/Vienna: Research group UTI.
- Fuchs, C. (2014). *Social media: A critical introduction*. London: Sage.

- Fuchs, C., Boersma, K., Albrechtslund, A., & Sandoval, M. (2011). *Internet and surveillance: The challenges of Web 2.0 and social media*. New York: Routledge.
- Gallivan, M. J., Spitzer, V. K., & Koufaris, M. (2005). Does information technology training really matter? A social information processing analysis of coworkers' influence on IT usage in the workplace. *Journal of Management Information Systems*, 22(1), 153-192.
- Garfinkel, S. (2000). *Database nation: The death of privacy in the 21st century*. Sebastopol, Calif: O'Reilly & Associates.
- Garnham, N. (1999). Amartya Sen's "capabilities" approach to the evaluation of welfare: Its application to communications. In A. Calabrese & J. C. Burgelman (Eds.), *Communication, citizenship, and social policy*. Oxford: Rowman and Littlefield Publishers.
- Gauntlett, D. (2011). *Making is connecting*. Cambridge: Polity.
- Gee, J. P. (2004). *Situated language and learning: A critique of traditional schooling*. New York: Routledge.
- Gee, J. P. (2007). *Good video games + good learning: Collected essays on video games, learning, and literacy*. New York: P. Lang.
- Gee, J. P., Hull, G., & Lankshear, C. (1996). *The new work order: Behind the language of the new capitalism*. Westview Press Boulder.
- Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. Berkeley: University of California Press.
- Gil de Zúñiga, H., Jung, N., & Valenzuela, S. (2012). Social media use for news and individuals' capital, civic engagement and political participation. *Journal of Computer-Mediated Communication*, 17(3), 319-336.
- Gillespie, T. (2012). Can an algorithm be wrong? *Limn 2*. Retrieved from <http://limn.it/can-an-algorithm-be-wrong/>.
- Gilster. (1997). *Digital literacy*. New York, NY: Wiley.
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago: Aldine.
- Golding, P., & Murdock, G. (1997). Introduction: Communication and capitalism. In P. Golding & G. Murdock (Eds.), *The political economy of media I* (pp. xiii-xviii). Cheltenham: Edward Elgar.
- Gong, X., & Richmann, M. B. (1995). On the application of cluster analysis to growing season precipitation data in North America east of rockies. *Journal of Climate*, 8(4), 897-931.
- Good, K. D. (2013). From scrapbook to Facebook: A history of personal media assemblage and archives. *New Media & Society*, 15(4), 557-573.
- Goulding, A., & Spacey, R. (2002). *Women and the information society: Barriers and participation*. Paper presented at the 68th IFLA Council and General Conference, Glasgow.
- Graff, H. J. (1995). *The labyrinths of literacy*. Pittsburgh: University of Pittsburgh Press.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78(6), 1360-1380.
- Greenhow, C., & Gleason, B. (2012). Twitteracy: Tweeting as a new literacy practice. *The Educational Forum*, 76(4), 463-477.

- Grolnick, W. S., Ryan, R. M., & Deci, E. L. (1991). The structure of expressed emotion: A three-construct representation. *Journal of Education Psychology, 83*(4), 508-517.
- Gruzd, A., Wellman, B., & Takhteyev, Y. (2011). Imaging Twitter as an imagined community. *American Behavioral Scientist, 55*(10), 1294-1318.
- Gupta, B., Dasgupta, S., & Gupta, A. (2008). Adoption of ICT in a government organization in a developing country: An empirical study. *The Journal of Strategic Information Systems, 17*(2), 140-154.
- Gustafsson, N. (2012). The subtle nature of Facebook politics: Swedish social network site users and political participation. *New Media & Society, 14*(7), 1111-1127.
- Habermas, J. (1989). *The structural transformation of the public sphere*. Cambridge, MA: MIT Press.
- Haddon, L. (2004). *Information and communication technologies in everyday life: A concise introduction and research guide*. Oxford: Berg.
- Haddon, L., Mante, E., Sapio, B., Kommonen, K.-H., Fortunati, L., & Kant, A. A. (2005). *Everyday innovators: Researching the role for users in shaping ICT's*. Dordrecht: Springer.
- Hanneman, R. A., & Riddle, M. (2005). *Introduction to social network methods*. Riverside, CA: University of California: Riverside.
- Hansen, M. T. (1999). The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative Science Quarterly, 44*(1), 82-111.
- Harb, Z. (2011). Arab revolutions and the social media effect. *Journal of Media and Culture, 14*(2).
- Hargittai, E. (2002). Second-level digital divide: Differences in people's online skills. *First Monday, 7*(4).
- Hargittai, E. (2005). Survey measures of web-oriented digital literacy. *Social Science Computer Review, 23*(3), 371-379.
- Hargittai, E. (2008). The digital reproduction of inequality. In S. Grusky (Ed.), *Social stratification* (pp. 936-944). Boulder, CO: Westview Press.
- Hargittai, E. (2010). Digital natives in Internet skills and uses among members of the "net generation". *Sociological Inquiry, 80*(1), 92-113.
- Hargittai, E., & Shafer, S. (2006). Differences in actual and perceived online skills: The role of gender. *Social Science Quarterly, 87*(2), 432-448.
- Hartley, J. (2002). *Communication, cultural and media studies: The key concepts*. London: Routledge.
- Haythornthwaite, C. (1996). Social network analysis: An approach and technique for the study of information exchange. *Library & Information Science Research, 18*(4), 323-342.
- Haythornthwaite, C. (2005). Social networks and internet connectivity effects. *Information, Communication & Society, 8*(2), 125-147.
- Heim, J., Brandtzaeg, P. B., Hertzberg, B. H., Endstad, T., & Torgersen, L. (2007). Children's usage of media technologies and psychosocial factors. *New Media & Society, 9*(3), 425-454.
- Heller, K., Price, R., Reinharz, S., Riger, S., & Wandersman, A. (1984). *Psychology and community change: Challenges of the future* (2nd edn. ed.). Homewood, IL: Dorsey.

- Helsper, E. (2012). A corresponding fields model for the links between social and digital exclusion. *Communication Theory*, 22(4), 403-426.
- Henderson, S., & Gilding, M. (2004). "I've never clicked this much with anyone in my life": trust and hyperpersonal communication in online friendship. *New Media & Society*, 6(4), 487-506.
- Hobbs, R. (1997). Expanding the concept of literacy. In R. Kubey (Ed.), *Media literacy in the information age* (pp. 163-183). New Brunswick, NJ: Transaction.
- Hobbs, R. (1998). The seven great debates in the media literacy movement. *International Communication Association* 48(1), 6-32.
- Hobbs, R., & Jensen, A. (2009). The past, present, and future of media literacy education. *Journal of Media Literacy Education*, 1(1), 1-11.
- Hoechsmann, M., & Poyntz, S. R. (2012). *Media literacies: A critical introduction*. Malden, NJ: Blackwell Publishing.
- Holme, R. (2004). *Literacy: An introduction*. Edinburgh: Edinburgh University Press.
- Horkheimer, M. (1947). *Eclipse of reason*. New York: Continuum.
- Horkheimer, M. (1982). *Critical theory*. New York: Seabury Press.
- Horkheimer, M., & Adorno, T. W. (2002). *Dialectic of enlightenment*. Stanford: Stanford University Press.
- Horton, F. W. (1983). Information literacy vs. computer literacy. *Bulletin of the American Society for Information Science*, 9(4), 14-16.
- Howard, P. E. N., Duffy, A., Freelon, D., Hussain, M., Mari, W., & Mazaid, M. (2011). Opening closed regimes: What was the role of social media during the Arab Spring? Retrieved from <http://pitpi.org/index.php/2011/09/11/opening-closed-regimes-what-was-the-role-of-social-media-during-the-arab-spring/>
- Howitt, D., & Cramer, D. (2004). *A guide to computing statistics with SPSS11 for Windows: Revised edition for SPSS11*. UK: Pearson Education Limited.
- Hunter, B. (1983). *My students use computers: Learning activities for computer literacy*. Reston: Reston Publishing.
- Hutchby, I. (2001). Technologies, texts and affordances. *Sociology*, 35(2), 441-456.
- Huvila, I., Holmberg, K., Kronqvist-Berg, M., Nivakoski, O., & Widén, G. (2013). What is Librarian 2.0 – New competencies or interactive relations? A library professional viewpoint. *Journal of Librarianship and Information Science*, 45(3), 198-205.
- Ibarra, H. (1993). Personal networks of women and minorities in management - A conceptual framework. *Academy of Management Journal*, 18(1), 56-87.
- iMinds, & iLab.o. (2013). Digimeter Rapport 6: Mediatechnologie- & ICT-gebruik in Vlaanderen Wave 6 Augustus - September 2013. Gent: iMinds) – iLab.o.
- Jenkins, H. (2006). *Convergence culture: Where old and new media collide*. New York: New York University Press.
- Jenkins, H., Purushotma, R., Weigel, M., Clinton, K., & Robison, A. J. (2009). *confronting the challenges of participatory culture*. Chicago, IL: MacArthur Foundation. Retrieved from https://mitpress.mit.edu/sites/default/files/titles/free_download/9780262513623_Confronting_the_Challenges.pdf

- Jurgenson, N. (2012). When atoms meet bits: Social media, the mobile web and augmented revolution. *Future Internet*, 4(1), 83-91.
- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons*, 53(1), 59-68.
- Katz, J., & Aspden, P. (1997). Motivations for and barriers to Internet usage: Results of a national public opinion survey. *Internet Research: Electronic Networking Applications and Policy*, 7(3), 170-188.
- Kauffman, L., & Rousseeuw, P. (1990). *Finding groups in data: An introduction to cluster analysis*. Hoboken, New Jersey: Wiley.
- Kauffman, R. J., & Wang, B. (2008). Turning into the digital channel: Evaluating business model characteristics for Internet firm survival. *Information Technology & Management*, 9(3), 215-232.
- Kavanaugh, A., Fox, E. A., Sheetz, S. D., Yang, S., Li, L. T., Whalen, D.J., Shoemaker, D. J., Natsev, L. Xie. (2012). Social media use by government from the routine to the critical. *Government Information Quarterly*, 29(4), 480-491.
- Kelder, R. (1996). *Rethinking literacy studies: From the past to the present*. Paper presented at the 1996 World Conference on Literacy, International Literacy Institute, Philadelphia. Retrieved from http://www.literacy.org/sites/literacy.org/files/publications/kelder_review_of_lit_studies_96.pdf
- Kennedy, T., & Wellman, B. (2007). The networked household. *Information, Communication & Society*, 10(5), 645-670.
- Kiili, C., Laurinen, L., & Marttunen, M. (2008). Students evaluating Internet sources: From versatile evaluators to uncritical readers. *Journal of Educational Computing Research*, 39(1), 75-95.
- Kilduff, M., & Tsai, W. (2003). *Social networks and organizations*. London: Sage.
- Kling, R., & Scacchi, W. (1982). The web of computing: Computer technology as social organization. *Advances in Computer*, 21, 1-90.
- Korupp, S. E., & Szydluk, M. (2005). Causes and trends of the digital divide. *European Sociological Review*, 21(4), 409-422.
- Kretschmer, C., & Aguillo, I. F. (2004). Visibility of collaboration on the Web. *Scientometrics*, 61(3), 405-426.
- Krissoff, A., & Konrad, L. (1998). Computer training for staff and patrons. *Computers in Libraries*, 18(1), 30-32.
- Kroger, J. (2007). *Identity development: Adolescence through adulthood*. Thousand Oaks, CA: Sage.
- Kushin, M. J., & Yamamoto, M. (2010). Did social media really matter? College students' use of online media and political decision making in the 2008 election. *Mass Communication and Society*, 13(5), 608-630.
- Kuzma, J. (2010). Asian government usage of Web 2.0 social media. *European Journal ePractice*, 7(9), 1-13.

- Kwak, H., Lee, C., Park, H., & Moon, S. (2010). *What is Twitter, a social network or a news media?* Paper presented at the The International World Wide Web conference, Raleigh, NC.
- Ladbrook, J., & Probert, E. (2011). Information skills and critical literacy: Where are our digikids at with online searching and are their teachers helping? *Australasian Journal of Educational Technology*, 27(1), 105-121.
- Langer, J. A. (1992). Speaking of knowing: Conceptions of knowing in the academic disciplines. In A. Herrington & C. Moran (Eds.), *Writing, teaching and learning in the disciplines* (pp. 69-85). New York: Modern Language Association.
- LaRose, R., Lin, C. A., & Eastin, M. S. (2003). Unregulated Internet usage: Addiction, habit, or deficient self-regulation? *Media Psychology*, 5(3), 225-253.
- LaRose, R., Mastro, D., & Eastin, M. S. (2001). Understanding internet usage: A social-cognitive approach to uses and gratifications. *Social Science Computer Review*, 19(4), 395-413.
- Larsson, A. O., & Moe, H. (2012). Studying political microblogging: Twitter users in the 2010 Swedish election campaign. *New Media & Society*, 14(5), 729-747.
- Lathrop, D., & Ruma, L. (2010). *Open government: Collaboration, transparency, and participation in practice*. Sebastopol, CA: O'Reilly.
- Latour, B. (1987). *Science in action: How to follow scientists and engineers through society*. Milton Keynes: Open University Press.
- Latour, B. (1995). Mixing humans and non-humans together: The sociology of a door-closer. In S. Star (Ed.), *Ecologies of knowledge* (pp. 257-277). New York: State University Press.
- Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. New York: Oxford University Press.
- Leadbeater, C. (2009). *We-think: The power of mass creativity*. GB: Profile Books.
- Lee, S., & Chae, Y. (2007). Children's Internet use in family context: Influence on family relationships and parental mediation. *CyberPsychology & Behavior*, 10(5), 640-644.
- Leeds-Hurwitz, W. (1993). *Semiotics and communication: Signs, codes, cultures*. Hillsdale, NJ: Lawrence Erlbaum.
- Lenhart, A., Purcell, K., Smith, A., & Zickuhr, K. (2010). *Social media and young adults*. Washington, DC: Pew Internet & American Life Project.
- Li, Q. (2006). Cyberbullying in schools: A research of gender differences. *School Psychology International*, 27(2), 157-170.
- Lichterhan, P. (1996). *The search for political community*. New York: Cambridge University Press.
- Lievrouw, L. A. (2006). New media and design and development: Diffusions of innovations v. social shaping of technology. In L. A. Lievrouw & S. Livingstone (Eds.), *The handbook of new media* (pp. 246-265). London: Sage.
- Lin, N. (2001). *Social capital: A theory of social structure and action*. New York, NY: Cambridge University Press.
- Linh, N. C. (2008). A survey of the application of web 2.0 in Australian university libraries. *Library Hi Tech*, 26(4), 630-653.
- Lister, M., Dovey, J., Giddings, S., Grant, I., & Kelly, K. (2009). *New media: A critical introduction*. London: Routledge.

- Liu, H. (2007). Social network profiles as taste performances. *Journal of Computer-Mediated Communication*, 13(1), 252-275.
- Livingstone, S. (2002). *Young people and new media: Childhood and the changing media environment*. London: Sage.
- Livingstone, S. (2004a). Media literacy and the challenge of new information and communication technologies. *Communication Review*, 7(1), 36-14.
- Livingstone, S. (2004b). What is media literacy? *Intermedia*, 32(3), 18-20.
- Livingstone, S. (2007). Strategies of parental regulation in the media-rich home. *Computers in Human Behavior*, 23(2), 920-941.
- Livingstone, S. (2008a). Engaging with media-a matter of literacy? *Communication, culture & Critique*, 1(1), 51-62.
- Livingstone, S. (2008b). Taking risky opportunities in youthful content creation: Teenagers' use of social networking sites for intimacy, privacy and self-expression. *New Media & Society*, 10(3), 459-477.
- Livingstone, S., & Brake, D. (2010). On the rapid rise of social networking sites: New findings and policy implications. *Children & Society*, 24(1), 75-83.
- Livingstone, S., & Helsper, E. (2008). Parental mediation and children's Internet use. *Journal of Broadcasting & Electronic Media*, 52(4), 581-599.
- Livingstone, S., van Couvering, E., & Thumim, N. (2005). *Adult media literacy: A review of the research literature*. London, UK: office of Communications (Ofcom).
- Livingstone, S., van Couvering, E., & Thumin, N. (2008). Converging traditions of research on media and information literacies: Disciplinary, critical, and methodological issues. In J. Coiro, M. Knobel, C. Lankshear & D. J. Leu (Eds.), *Handbook of research on new literacies* (pp. 103-132). New York, USA: Routledge.
- Lorenzen, M. (2001). The land of confusion? High school students and their use of the World Wide Web for research. *Research Strategies*, 18(2), 151-163.
- Lovink, G. (2012). *Networks without a Cause: A critique of Social Media*. Malden, MA: Wiley.
- Lüders, M. (2008). Conceptualizing personal media. *New Media & Society*, 10(5), 683-702.
- Lunt, P., & Livingstone, S. (2012). *Media regulation: Governance and the interests of citizens and consumers*. London: Sage.
- Lwin, M. O., Stanaland, A. J. S., & Miyazaki, A. D. (2008). Protecting children's privacy online: How parental mediation strategies affect website safeguard effectiveness. *Journal of Retailing*, 84(2), 205-217.
- Lwin, M. O., Wirtz, J., & Williams, J. D. (2007). Consumer online privacy concerns and responses: A power-responsibility equilibrium perspective. *Journal of the Academy of Marketing Science*, 35(4), 572-585.
- Lyon, D. (1998). The World Wide Web of surveillance: The Internet and off-world power-flows. *Information, Communication & Society*, 1(1), 91-105.
- Lyon, D. (2007). *Surveillance studies: An overview*. Cambridge: Polity.
- Madden, M. (2012). Privacy management on social network sites. Washington, DC: Pew Research Center.

- Majid, S. H., & Abazova, A. F. (1999). Computer literacy and use of electronic information sources by academics: A case study of International Islamic University of Malaysia. *Asian Libraries, 8*(4), 100-111.
- Mangold, W. G., & Faulds, D. J. (2009). Social media: The new hybrid element of the promotion mix. *Business Horizons, 52*(4), 357-365.
- Mansell, R. (2002). From digital divide to digital entitlements in knowledge societies. *Current sociology, 50*(3), 407-426.
- Marcuse, H. (1964). *One-dimensional man*. Boston: Beacon Press.
- Martens, H. (2010). Evaluating media literacy education: Concepts, theories and future directions. *Journal of Media Literacy Education, 2*(1), 1-22.
- Martin, A. (2005). DigEuLit - a European framework for digital literacy: a progress report. *Journal of e-literacy, 2*(2), 130-136.
- Martin, A. (2008). Digital literacy and the "digital society". In C. Lankshear & M. Knobel (Eds.), *Digital literacies: Concepts, policies & practices* (pp. 151-176). New York: Peter Lang Publisher.
- Martin, A., & Grudziecki, J. (2006). DigEuLit: Concepts and tools for digital literacy development. *ITALICS, 5*(4), 249-267.
- Marwick, A., & boyd, D. (2011). I tweet honestly, I tweet passionately: Twitter users, context collapse, and the imagined audience. *New Media & Society, 13*(1), 114-133.
- Marx, K., & Engels, F. (1846). *The German ideology*. Amherst, NY: Prometheus Books.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review, 20*(3), 709-734.
- McChesney, R. (2008). *The political economy of media*. New York: Monthly Review Press.
- McClure, C. R. (1997). Network literacy in an electronic society: An educational disconnect? In R. W. Kubey (Ed.), *Media literacy in the information age* (pp. 403-439). New Jersey: Transaction Publishers.
- McEvily, B., Weber, R. A., Bicchieri, C., & Ho, V. (2002). Can groups be trusted? An experimental study of collective trust. In R. Bachmann & A. Zaheer (Ed.), *The handbook of trust research* (pp. 52-67). Northampton, MA: Edward Elgar Publishing.
- McMillan, S. J., & Downes, E. J. (2000). Defining interactivity: A qualitative identification of key dimensions. *New Media & Society, 2*(2), 157-179.
- McWhirter, E. H. (1991). Empowerment in counselling. *Journal of Counselling and Development, 13*(1), 222-227.
- Mediaraven & Linc vzw (2014). *Apestaartjaren 5*. Gent: Mediaraven.
- Meirick, P. C., Sims, J., Gilchrist, E., & Croucher, S. (2009). All the children are above average: Parents' perceptions of education and materialism as media effects on their own and other children. *Mass Communication & Society, 12*(2), 217-237.
- Mendoza, K. (2009). Surveying parental mediation: Connections, challenges and questions for media literacy. *The Journal of Media Literacy Education, 1*(1), 28-41.
- Merrit, K., Smith, K. D., & Renzo, J. C. D. (2005). An investigation on self-reported computer literacy: Is it reliable? *Issues in Information Systems, 6*(1), 289-295.
- Merton, R. K. (1973). *The sociology of science*. Chicago: Chicago University Press.
- Messariss, P. (1998). Visual aspects of media literacy. *Journal of Communication, 48*(1), 70-80.

- Metzger, M. J. (2004). Privacy, trust, and disclosure: Exploring barriers to electronic commerce. *Journal of Computer-Mediated Communication*, 9(4).
- Meyrowitz, J. (1998). Multiple media literacies. *Journal of Communication*, 48(1), 96-108.
- Miller, K. (2005). *Communication theories: Perspectives, processes, and contexts*. New York: McGraw-Hill.
- Miller, V. (2008). New media, networking and phatic culture. *The International Journal of Research into New Media Technologies*, 14(4), 387-400.
- Moore, G. C., & Bensabat, I. (1991). Development of an instrument to measure the perceptions of adopting and information technology innovation. *Information Systems Research*, 2(3), 192-222.
- Morozov, E. (2011). *The dark side of internet freedom: The net delusion*. New York: PublicAffairs.
- Morris, M., & Venkatesh, V. (2000). Age differences in technology adoption decisions: Implications for changing work force. *Personnel Psychology*, 53(2), (375-403).
- Moscardelli, D. M., & Divine, R. (2007). Adolescents' concern for privacy when using the Internet: An empirical analysis of predictors and relationships with privacy-protecting behaviours. *Family and Consumer Sciences Research Journal*, 35(3), 232-252.
- Mosco, V. (2009). *The political economy of communication* (2nd ed. ed.). London: Sage.
- Mossberger, K., Tolbert, C. J., & Stansbury, M. (2003). *Virtual inequality: Beyond the digital divide*. Washington, DC: Georgetown University Press
- Motulsky, H. J. (1995). *Intuitive biostatistics*. Oxford: Oxford university Press.
- Murdock, G., & Golding, P. (1974). For a political economy of mass communications. In P. Golding & G. Murdock (Eds.), *The political economy of the media*. Cheltenham: Edward Elgar.
- Murthy, D. (2013). *Twitter: Social communication in the Twitter age*. Cambridge: Polity Press.
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242-266.
- Nathanson, A. I. (1999). Identifying and explaining the relationship between parental mediation and children's aggression. *Communication Research*, 26(2), 124-143.
- Nathanson, A. I., Eveland, W. P., Park, H., & Paul, B. (2002). Perceived media influence and efficacy as predictors of caregivers' protective behaviors. *Journal of Broadcasting & Electronic Media*, 46(3), 385-411.
- Neo, E., & Calvert, P. (2012). Facebook and the diffusion of innovation in New Zealand public libraries. *Journal of Librarianship and Information Science*, 44(4), 227-237.
- Nielsen, J. (2006). Participation inequality: Encouraging more users to contribute. Retrieved from <http://www.nngroup.com/articles/participation-inequality/>
- Nissenbaum, H. (2009). *Privacy in context: Technology, policy, and the integrity of social life*. Stanford: Stanford University Press.
- Norton, P., & Wiburg, K. M. (1998). *Teaching with technology*. New York: Harcourt Brace.
- Noveck, B. S. (2009). *Wiki government*. Washington, DC: Brooking Institution Press.
- Nowak, G., & Phelps, J. (1992). Understanding privacy concerns: An assessment of consumers' information-related knowledge and beliefs. *Journal of Direct Marketing*, 6(4), 46-60.

- O'Keeffe, G. S., & Clarke-Pearson, K. (2011). The impact of social media on children, adolescents, and families. *Pediatrics*, *127*(4), 800-804.
- O'Reilly, T. (2006). Web 2.0 Compact definition: Trying again. Retrieved from <http://radar.oreilly.com/2006/12/web-20-compact-definition-tryi.html>
- Oblinger, D. G., & Oblinger, J. L. (2005). *Educating the net generation*. Washington DC: Educause.
- Oliveira, G. H. M., & Welch, E. W. (2013). Social media use in local government: Linkage of technology, task, and organizational context. *Government Information Quarterly*, *30*(4), 397-405.
- Osimo, D. (2008). Web 2.0 in government: Why and how? Luxemburg: European Commission - Joint research centre - Institute for prospective technological studies (IPTS). Retrieved from <http://ftp.jrc.es/EURdoc/JRC45269.pdf>
- Palen, L., & Salzman, M. (2002). *Voice-mail diary studies for naturalistic data capture under mobile conditions*. Paper presented at the The 2002 ACM Conference on Computer Supported Cooperative Work, New Orleans, Louisiana, USA.
- Papacharissi, Z. (2009). The virtual geographies of social networks: A comparative analysis of Facebook, LinkedIn and ASmallWorld. *New Media & Society*, *11*(1&2), 199-220.
- Papacharissi, Z. (2010a). Privacy as a luxury commodity. *First Monday*, *15*(8).
- Papacharissi, Z. (2010b). *A private sphere: Democracy in a digital age*. Cambridge: Polity Press.
- Papacharissi, Z., & Easton, E. (2013). In the habitus of the new: Structure, agency, and the social media habitus. In J. Hartley, J. Burgess & A. Bruns (Eds.), *A companion to new media dynamics*. Malden: Wiley-Blackwell.
- Park, N., Fee, K. F., & Valenzuela, S. (2009). Being immersed in social networking environment: Facebook groups, uses and gratifications, and social outcomes. *CyberPsychology & Behavior*, *12*(6), 729-733.
- Pasquier, D. (2001). Media at home: Domestic interactions and regulation. In S. Livingstone & M. Bovill (Eds.), *Children and their changing media environment: A European comparative study* (pp. 161-177). Mahwah, NJ: Lawrence Erlbaum Associates.
- Patchin, J. W., & Hinduja, S. (2008). Cyberbullying: An exploratory analysis of factors related to offending and victimization. *Deviant Behavior*, *29*(2), 129-156.
- Patchin, J. W., & Hinduja, S. (2010). Cyberbullying and self-esteem. *Journal of School Health*, *80*(12), 614-621.
- Paulussen, S., Courtois, C., Vanwynsberghe, H., & Verdegem, P. (2011). Profielen van mediageletterdheid: een exploratie van de digitale vaardigheden van burgers in Vlaanderen. In M.-A. Moreas & J. Pickery (Eds.), *Mediageletterdheid in een digitale wereld*. Brussel: Studiedienst van de Vlaamse Regering.
- Pavlickova, T. (2013). Trust in the author: Identity, expertise and reputation. *CM - časopis za upravljanje komunikacijem*, *8*(26), 33-50.
- Perloff, R. M. (2003). *The dynamics of persuasion, communication and attitudes in the 21st century (2nd edition)*. Mahwah, NJ/London: Lawrence Erlbaum.
- Perris, C., Arindell, W. A., & Eisemann, M. (1994). *Parenting and psychopathology*. New York, NY: Wiley.

- Phelps, J., Nowak, G., & Ferrell, E. (2000). Privacy concerns and consumers' willingness to provide personal information. *Journal of Public Policy & Marketing*, 19(1), 27-41.
- Picazo-Vela, S., Gutiérrez-Martínez, I., & Luna-Reyes, L. F. (2012). Understanding risks, benefits, and strategic alternatives of social media applications in the public sector. *Government Information Quarterly*, 29(4), 504-511.
- Picone, I. (2011). Produsage as a form of self-publication. A qualitative study of casual news produsage. *The New Review of Hypermedia and Multimedia*, 17(1), 99-120.
- Pierson, J. (2006). Domestication at work in small businesses. In T. Berker, M. Hartmann, Y. Punie & J. Ward (Eds.), *Domestication of media and technology* (pp. 205-223). New York: Open University Press.
- Potter, J. (2004). *Theory of media literacy: A cognitive approach*. Thousand Oaks, CA: Sage.
- Potter, J. (2010). The state of media literacy. *Journal of Broadcasting & Electronic Media*, 54(4), 675-696.
- Potter, J. (2011). *Media literacy - 5th ed.* United States: Sage.
- Prensky, M. (2001). Digital natives, digital immigrants Part 1. *On the Horizon*, 9(5), 1-6.
- Prieur, C., Cardon, D., Beuscart, J.-S., Pissard, N., & Pons, P. (2008). The strength of weak cooperation: A case study on flickr. Retrieved from <http://arxiv.org/ftp/arxiv/papers/0802/0802.2317.pdf>.
- Pritchard, A., & Cartwright, V. (2004). Transforming that they read: Helping eleven-years-olds engage with Internet information. *Literacy*, 38(1), 26-31.
- Putnam, R. D. (1993). *Making democracy work*. Princeton, NJ: Princeton University Press.
- Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy*, 6(1), 65-78.
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon & Schuster.
- Pynoo, B., Kerckaert, S., Goeman, K., Elen, J., & van Braak, J. (2013). *MICTIVO: monitoring ICT integration in Flemish education: theoretical background and set-up*. Paper presented at the 15th biennial EARLI conference for research on learning and instruction, Munich, Germany.
- Quan-Haase, A. (2012). *Technology and society: Social networks, power, and inequality*. Don Mills: Oxford University Press.
- Quandt, T. (2012). What's left of trust in a network society? An evolutionary model and critical discussion of trust and societal communication. *European Journal of Communication*, 27(1), 7-21.
- Rainie, L., & Wellman, B. (2012). *Networked: The new social operating system*. Cambridge, MA: MIT Press.
- Rappaport, J. (1987). Terms of Empowerment/Exemplars of Prevention. *American Journal of Community*, 15(2), 121-148.
- Raynes-Goldie, K. (2010). Aliases, creeping, and wall cleaning: Understanding privacy in the age of Facebook. *First Monday*, 15(1).
- Restivo, S. (2011). *Red, black and objective: Science, sociology, and anarchism*. Surrey, UK: Ashgate.

- Rheingold, H. (2008). Using participatory media and public voice to encourage civic engagement. In L. Bennett, D. Hohn & T. Catherine (Eds.), *MacArthur Foundation series on digital media and learning* (pp. 97-118). Cambridge, MA: MIT Press.
- Rheingold, H. (2012). *Net smart: How to thrive online*. Cambridge: MIT Press.
- Rogers, E. (1995). *Diffusion of innovations*. New York: Free Press.
- Rogers, E. (2001). The digital divide. *The International Journal of Research into New Media Technologies*, 7(4), 96-111.
- Rogers, E. (2003). *Diffusion of innovations (5th edition)*. New York: The Free Press.
- Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *Journal of Psychology*, 91(1), 93-114.
- Roloff, M. (1981). *Interpersonal communication*. Beverly Hills: Sage.
- Rosen, L. D., Cheever, N. A., & Carrier, J. M. (2008). The association of parenting style and child age with parental limit setting and adolescent MySpace behavior. *Journal of Applied Developmental Psychology*, 29(6), 459-471.
- Schauer, B. (2005). What puts the '2' in web 2.0? Retrieved from http://www.adaptivepath.com/images/publications/essays/What_puts_the_2_in_Web_20.pdf
- Schierz, P. G., Schilke, O., & Wirtz, B. W. (2010). Understanding consumer acceptance of mobile payment services: An empirical analysis. *Electronic Commerce Research and Applications*, 9(3), 209-216.
- Scholz, T. (2008). Market ideology and the myths of Web 2.0. *First Monday*, 13(3).
- Schumacher, P., & Morahan-Martin, J. (2001). Gender, internet and computer attitudes and experiences. *Computers in Human Behavior*, 17(1), 95-110.
- Scott, J., & Carrington, P. J. (2012). *Social network analysis*. London: Sage.
- Sen, A. (1999). *Commodities and capabilities*. Oxford: Oxford University Press.
- Sen, A. (2003). Development as capability expansion. In S. Fukuda-Parr & A. Kumar (Eds.), *Readings in human development. Concepts, measures and policies for a development paradigm* (pp. 3-16). Oxford: Oxford University Press. (Reprinted from: NOT IN FILE).
- Share, J., Jolls, T., & Thoman, E. (2004). Five key questions that can change the world. Santa Monica, CA: Center for Media Literacy.
- Sheehan, K. B., & Hoy, M. G. (1999). Flaming, complaining, abstaining: How online users respond to privacy concerns. *Journal of Advertising*, 28(3), 37-51.
- Shin, W., Huh, J., & Faber, R. (2012). Tweens' online privacy risks and the role of parental mediation. *Journal of Broadcasting & Electronic Media*, 56(4), 632-649.
- Shirky, C. (2008). *Here comes everybody*. London: Penguin.
- Sholle, D., & Denski, S. (1995). Critical media literacy: Reading, remapping, rewriting. In P. McLaren, R. Hammer, D. Sholle & S. S. Reilly (Eds.), *Rethinking media literacy: A critical pedagogy of representation* (pp. 7-31). New York: Peter Lang.
- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. Hoboken, NJ: John Wiley & Sons.
- Siapera, E. (2012). *Understanding new media*. London: Sage.
- Silverblatt, A. (1995). *Media literacy: Keys to interpreting media messages*. Westport Praeger.

- Silverblatt, A., Ferry, J., & Finan, B. (1999). *Approaches to media literacy: A handbook*. Armonk, NY: M.E. Sharpe.
- Silverstone, R. (1991). From audiences to consumers: The household and the consumption of communication and information technologies. *European Journal of Communication*, 6(2), 135-154.
- Silverstone, R., & Hirsch, E. (1992). *Consuming technologies: Media and information in domestic spaces*. London: Routledge.
- Silverstone, R., Hirsch, E., & Morley, D. (1992). Information and communication technologies and the moral economy of the household. In R. Silverstone & E. Hirsch (Eds.), *Consuming technologies: Media and information in domestic spaces* (pp. 115-131). London: Routledge
- Smythe, D. W. (1981/2006). On the audience commodity and its work. In M. G. Durham & D. M. Kellner (Eds.), *Media and cultural studies*. Malden, MA: Blackwell.
- Snead, J. T. (2013). Social media use in the U.S. executive branch. *Government Information Quarterly*, 9(2), 107-121.
- Solove, S. J. (2007). "I've got nothing to hide" and other misunderstandings of privacy. *San Diego Law Review*, 44(289), 745-772.
- Solove, S. J. (2011). *Nothing to hide: The false tradeoff between privacy and security*. New Haven, CT: Yale University Press.
- Song, F. W. (2010). Theorizing Web 2.0. information, communication and society. 13(2), 249-275.
- Stakrud, E., & Lobe, B. (2010). Evaluation of the implementation of the safer social networking principles for the EU: General Report. Luxembourg: European Commission Safer Internet Programme. Retrieved from http://ec.europa.eu/danmark/documents/alle_emner/information/100209_3final_report_en.pdf
- Stewart, J. (2007). Local experts in the domestication of information and communication technologies. *Information, Communication & Society*, 10(4), 547-569.
- Street, B. V. (1995). *Social literacies*. London: Longman.
- Street, J. (1992). *Politics and technology*. New York: Guilford Press.
- Stutzman, F. (2006). *An evaluation of identity-sharing behavior in social network communities*. Paper presented at the Idmaa and IMS Code Conference, Oxford, OH.
- Stutzman, F., Capra, R., & Thompson, J. (2011). Factors mediating disclosure in social network sites. *Computers in Human Behavior*, 27(1), 590-598.
- Stutzman, F., & Kramer-Duffield, J. (2010). *Friends only: Examining privacy enhancing behavior in Facebook*. Paper presented at the Computer-Human Interface Conference, Atlanta, GA.
- Sullivan, A. (2001). Cultural capital and educational attainment. *Sociology*, 35(4), 893-912.
- Talboom, S., & Pierson, J. (2013). *Understanding trust within online discussion boards: Trust formation in the absence of reputation systems*. Paper presented at the Trust Management VII 7th IFIP WG 11.11 International Conference IFIPTM 2013, Malaga, Spain.

- Talja, S. (2005). The social and discursive construction of computing skills. *Journal of the American Society for Information Science and Technology*, 56(1), 13-22.
- Tapscott, D., & Williams, A. D. (2006). *Wikinomics: How mass collaboration changes everything*. New York: Penguin.
- Tarasow, T., Aristodemou, E., Shitta, G., Laouris, Y., & Arsoy, A. (2010). Disclosure of personal and contact information by young people in social networking sites: An analysis using Facebook profiles as an example. *International Journal of Media and Cultural Politics*, 6(1), 81-102.
- Taylor, S., & Todd, P. (1995). Decomposition and crossover effects in the theory of planned behavior: A study of consumer adoption intentions. *International Journal of Research in Marketing*, 12(2), 137-155.
- Thomas, G. (1989). *Revivalism and cultural change*. Chicago: University of Chicago Press.
- Thompson, R. L., Higgins, C. A., & Howell, J. M. (1991). Personal computing: Toward a conceptual model of utilization. *MIS Quarterly*, 15(1), 125-143.
- Tichenor, P. A., Donohue, G. A., & Olien, C. N. (1970). Mass media flow and differential growth in knowledge. *Public Opinion*, 34(2), 159-170.
- Tichy, N. M., Tushman, M. L., & Fombrun, C. (1979). Social network analysis for organizations. *The Academy of Management Review*, 4(4), 507-519.
- Tong, T. S., van der Heide, B., & Langwell, L. (2008). Too much of a good thing? The relationship between number of friends and interpersonal impressions on Facebook. *Journal of Computer-Mediated Communication*, 13(3), 531-549.
- Tönnies, F. (1988). *Community & society*. New Brunswick, NJ: Transaction Books.
- Trepte, S., & Reinecke, L. (2011). *Social network site use and self-disclosure online: A model of reciprocal influences*. Paper presented at the 61th Annual Conference of the International Communication Association (ICA), Boston, VS.
- Trottier, D. (2012). *Social media as surveillance: Rethinking visibility in a converging world*. Surrey: Ashgate Publishing Limited.
- Tufekci, Z. (2008). Can you see me now? Audience and disclosure regulation in online social network sites. *Bulletin of Science, Technology & Society*, 28(1), 20-36.
- Turkle, S. (2011). *Alone together: Why we expect more from technology and less from each other*. New York: Basic Books.
- Tyner, K. (1998). *Literacy in a digital world*. Mahwah NJ: Lawrence Erlbaum.
- Unsworth, K., & Townes, A. (2013). Social media and e-government: A case study assessing Twitter use in the implementation of the open government directive. *Proceedings of the American Society for Information Science and Technology*, 49(1), 1-3.
- Utz, S., & Krämer, N. (2009). The privacy paradox on social network sites revisited: The role of individual characteristics and group norms. *Cyberpsychology*, 3(2), Article 2.
- Valcke, M., Bonte, S., De Wever, B., & Rots, I. (2010). Internet parenting styles and the impact on Internet use of primary school children. *Computers & Education*, 55(2), 454-464.
- Valcke, M., Schellens, T., Van Keer, H., & Gerarts, M. (2007). Primary school children's safe and unsafe use of Internet at home and at school: An exploratory study. *Computers in Human Behavior*, 23(6), 2838-2850.

- Valente, T. (1996). Network models of the diffusion of innovations. *Computational & Mathematical Organization Theory*, 2(2), 163-164.
- Valenzuela, S., Park, N., & Kee, K. F. (2009). Is there social capital in a social network site?: Facebook use and college students' life satisfaction, trust, and participation. *Journal of Computer-Mediated Communication*, 14(4), 875-901.
- Valkenburg, P. (2002). *Screen-kids: Theories about children and media*. Amsterdam: Boom.
- Valkenburg, P. (2009). Online communication among adolescents: An integrated model of its attraction, opportunities, and risks. *Journal of Adolescent Health*, 48(2), 121-127.
- Valkenburg, P., Krcmar, M., Peeters, A., & Marseille, N. (1999). Developing a scale to assess three styles of television mediation: "Instructive mediation," "restrictive mediation," and "social coviewing". *Journal of Broadcasting & Electronic Media*, 43(1), 52-66.
- van der Maesen, L. J. G., & Walker, A. C. (2002). *Social quality: The theoretical state of affairs* (Vol. 24). Amsterdam: European Foundation on Social Quality
- van Deursen, A. (2010). *Internet skills. Vital assets in an information society*. University of Twente. Enschede.
- van Deursen, A., & van Dijk, J. (2009). Improving digital skills for the use of online public information and services. *Government Information Quarterly*, 26(2), 333-340.
- van Dijck, J. (2013a). *The culture of connectivity: A critical history of social media*. New York: Oxford University Press.
- van Dijck, J. (2013b). "You have one identity": Performing the self on Facebook and LinkedIn. *Media, Culture & Society*, 35(2), 199-215.
- van Dijck, J., & Nieborg, D. (2009). Wikinomics and its discontents: A critical analysis of Web 2.0 business manifestos. *New Media & Society*, 11(4), 855-874.
- van Dijk, J. (1991). *De netwerkmaatschappij: sociale aspecten van nieuwe media*. Houten, the Netherlands: Bohn Stafleu van Loghum.
- van Dijk, J. (2005). *The deepening divide: Inequality in the information society*. London: Sage.
- van Dijk, J., Peters, O., & Ebbers, W. (2008). Explaining the acceptance and use of government internet services: a multivariate analysis of 2006 survey data in the Netherlands. *Government Information Quarterly*, 25(3), 379-399.
- Venkatesh, V., Morris, M., Davis, G., & Davis, F. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.
- Vermunt, J. K., & Magidson, J. (2006). Latent Class Analysis. Retrieved from <http://www.statisticalinnovations.com/articles/Latclass.pdf>
- Vickery, G., & Wunsch-Vincent, S. (2007). *Participative web and user-generated content: Web 2.0, wikis and social networking*. Paris: OECD.
- Vieweg, S., Hughes, A. L., Starbird, K., & Palen, L. (2010). *Microblogging during two natural hazard events: Why Twitter may contribute to situational awareness*. Paper presented at the ACM CHI Conference on Human Factors in Computing Systems, Atlanta, GA.
- Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies. *Journal of Curriculum Studies*, 44(3), 299-321.
- Wagner, N., Hassanein, K., & Head, M. (2010). Computer use by older adults: A multi-disciplinary review. *Computers in Human Behavior*, 26(5), 870-882.

- Wajcman, J. (2002). Addressing technological change: The challenge to social theory. *Current sociology*, 50(3), 347-363.
- Walrave, M., & Heirman, W. (2011). Cyberbullying: Predicting victimisation and perpetration. *Children & Society*, 25, 59-72.
- Walrave, M., Vanwesenbeeck, I., & Heirman, W. (2012). Connecting and protecting? Comparing predictors of self-disclosure and privacy settings use between adolescents and adults. *Cyberpsychology*, 6(1), Article 3.
- Wang, P., & Petrison, L. A. (1993). Direct marketing activities and personal privacy: A consumer survey. *Journal of Direct Marketing*, 7(1), 208-210.
- Wang, R., Bianchi, S. M., & Raley, S. B. (2005). Teenagers' Internet use and family rules: A research note. *Journal of Marriage and Family*, 67(5), 1249-1258.
- Ward, K. (2006). The bald guy just ate an orange. Domestication, work and home. In T. Berker, M. Hartmann, Y. Punie & J. ward (Eds.), *Domestication of media and technology* (pp. 145-163). New York: Open University Press
- Warren, R. (2001). In words and deeds: Parental involvement and mediation of children's television viewing. *Journal of Family Communication*, 1(4), 211-231.
- Warren, R., Gerke, P., & Kelley, M. A. (2002). Is there enough time on the clock? Parental involvement of children's television viewing. *Journal of Broadcasting & Electronic Media*, 46(1), 87-111.
- Warschauer, M. (2003). *Technology and social inclusion: Rethinking the digital divide*. Cambridge, MA: The MIT Press.
- Wasserman, I. M., & Richmond-Abbott, M. (2005). Gender and the Internet: Causes of variation in access, level, and scope of use. *Social Science Quarterly*, 86(1), 252-270.
- Waters, R. D., & Williams, J. M. (2011). Squawking, tweeting, cooing, and hooting: Analyzing the communication patterns of government agencies on Twitter. *Journal of Public Affairs*, 11(4), 353-363.
- Weber, M. (1978). *Economy and society*. Berkeley, CA: University of California Press.
- Weiss, A. (2005). The power of collective intelligence. *netWorker*, 9(3), 16-23.
- Weiss, R. (1994). *Learning from strangers: The art and method of qualitative interview studies*. New York: Free Press.
- Wellman, B., & Berkowitz, S. D. (1988). *Social structures: E network approach*. Cambridge: Cambridge University Press.
- Wellman, B., & Haythornthwaite, C. (2002). *The Internet in everyday life*. Oxford: Blackwell.
- Wellman, B., Quan-Haase, A. Q., Boase, J., Chen, W., Hampton, K., & Diaz, I. I. (2003). The social affordances of the Internet for networked individualism. *Journal of Computer-Mediated Communication*, 8(3), 1-43.
- Wellman, B., Quan Haase, A., Witte, J., & Hampton, K. (2001). Does the Internet increase, decrease, or supplement social capital? Social networks, participation and community commitment. *American Behavioral Scientist*, 45(3), 436-455.
- Westin, A. F. (1967). *Privacy and Freedom*. New York: Atheneum.
- White, T. B. (2004). Consumer disclosure and disclosure avoidance: A motivational framework. *Journal of Consumer Psychology*, 14(1-2), 41-51.
- Williams, R. (1983). *Keywords: A vocabulary of culture and society*. London: Fontana.

- Wirtz, B., Schilke, O., & Ullrich, S. (2010). Strategic development of business models: implications of the Web 2.0 for creating value on the Internet. *Long Range Planning*, 43(2-3), 272-290.
- Wood, C., Quinn, J., & Kashy, D. (2002). Habits in the everyday life: Thought, emotion and action. *Journal of Personality and Social Psychology*, 83(6), 1281-1297.
- Woodall, J. R., Warwick-Booth, L., & Cross, R. (2012). Has empowerment lost its power? *Health Education Research*, 27(4), 742-745.
- Youn, S. H. (2008). Parental influences and teens' attitudes toward online privacy protection. *Journal of Consumer Affairs*, 42(3), 362-388.
- Young, A. L., & Quan Haase, A. (2009). *Information revelation and Internet privacy concerns on social network sites: A case study of Facebook*. Paper presented at the Fourth International Conference on Communities and Technologies, Penn State University, University Park, PA, USA.
- Zettl, H. (1998). Contextual media aesthetics as the basis for media literacy. *Journal of Communication*, 48(1), 81-96.
- Zhan, Y., Wang, P., & Xia, S. (2011). *Exploring the drivers for ICT adoption in government organization in China*. Paper presented at the Fourth International Conference on Business Intelligence and Financial Engineering (BIFE), Wuhan, Hubei, China.
- Zurkowski, P. G. (1974). *The information service environment: Relationships and Priorities*. Washington, DC: National Commission on Libraries and Information Science.

NEDERLANDSE SAMENVATTING

In de huidige samenleving vormen sociale media een belangrijk onderdeel van het dagelijks leven. Het effectief en efficiënt gebruiken van deze technologieën is echter niet altijd even vanzelfsprekend. Zorgwekkend is dat de consequenties van het niet of onvoldoende kunnen gebruiken van deze sociale media steeds groter worden.

In **Hoofdstuk 1** van dit proefschrift wordt aangetoond dat sociale media een steeds belangrijkere rol spelen in de samenleving, niet enkel op sociaal vlak, maar eveneens op cultureel, politiek en economisch vlak. Naast individuele personen zoeken steeds meer diensten en bedrijven toenadering tot sociale media. Hierbij lijkt de veronderstelling te leven dat sociale media voor iedereen in gelijke mate toegankelijk en gemakkelijk in gebruik zijn. Maar hoe mensen deze media kunnen inzetten in hun dagelijks leven hangt af van de competenties waarover ze beschikken. Deze competenties staan centraal in dit proefschrift en worden aangeduid met het concept 'sociale mediageletterdheid'. Binnen dit proefschrift is de centrale onderzoeksvraag opgebouwd rond wat sociale mediageletterdheid precies is en hoe we dit kunnen meten. Daarbij willen we kennis en inzichten verzamelen over de stand van zaken inzake sociale mediageletterdheid in Vlaanderen en nagaan welke factoren de ontwikkeling van sociale mediageletterdheid kunnen bevorderen (of tegenwerken). Maar vooraleer we sociale mediageletterdheid kunnen meten, moeten we duidelijkheid scheppen over het concept 'sociale mediageletterdheid', wat een samentrekking is van de begrippen 'sociale media' en 'mediageletterdheid'.

Aangezien er geen eenduidigheid over de term 'sociale media' bestaat, staat het ontrafelen hiervan centraal in **Hoofdstuk 2**. Aan de hand van een grondige literatuurstudie, belichten we sociale media vanuit drie perspectieven: een kritisch perspectief, een technologisch-structureel perspectief en een gebruikersgericht perspectief. We erkennen het belang van deze drie perspectieven om sociale media ten volle te begrijpen. Sociale media zijn niet enkel bedrijven die uit zijn op winst of technologieën die bepaalde vorm van interactiviteit mogelijk maken. Het zijn ook media die bepaalde voordelen hebben voor de gebruikers. In Hoofdstuk 2 wordt via deze drie perspectieven ook ingegaan op zowel voor- als nadelen van de

manier waarop sociale media werken. We doen dit om beter inzicht te verwerven in waarom sociale media, voor gebruikers maar ook niet-gebruikers, opportuniteiten maar ook mogelijke risico's kunnen betekenen. Omdat we niet alle sociale media platformen en de daaraan gerelateerde geletterdheidspraktijken met één proefschrift kunnen onderzoeken, focussen we op twee specifieke sociale mediaplatformen: Facebook en Twitter. We hebben specifiek gekozen voor Facebook en Twitter omdat zij door hun populariteit en dominantie bepalen wat gangbaar is en wat de normen zijn voor andere sociale media. Toch zijn ze heel verschillend inzake hun business model, architecturale kenmerken en de manier waarop ze gebruikt worden. Daarnaast zijn ze ook concurrenten op de beurs, wat het eveneens interessant maakt om beide platformen in beschouwing te nemen.

Hoofdstuk 3 besteedt aandacht aan hoe mensen effectief omgaan met deze sociale media via het concept van 'mediageletterdheid'. Hoewel er al heel veel invullingen van mediageletterdheid bestaan en heel veel gerelateerde concepten (bv. Internetgeletterdheid, informatiegeletterdheid, digitale geletterdheid) door elkaar gebruikt worden, zijn elk van deze begrippen niet gedetailleerd genoeg om toegepast te worden op sociale media. De literatuurstudie in Hoofdstuk 3 over het concept mediageletterdheid en aanverwante concepten en theorieën leert dat er een grote verscheidenheid bestaat aan invullingen van mediageletterdheid, maar dat er weinig overeenstemming is over de precieze betekenis van het begrip mediageletterdheid en al zeker niet over de betekenis van sociale mediageletterdheid. Deze abstractie en onenigheid veroorzaakt meer verwarring dan duidelijkheid, wat op zich een reden kan zijn voor een tekort aan metingen van mediageletterdheid. Op basis van deze literatuurstudie wordt er in Hoofdstuk 3 een conceptueel kader ontwikkeld om sociale mediageletterdheid te kunnen vatten en bijgevolg ook te kunnen meten. Centraal in dit conceptueel kader staat sociale mediageletterdheid, waarbinnen we drie types competenties kunnen onderscheiden die van belang zijn voor sociale media. Er wordt een onderscheid gemaakt tussen de competenties om sociale media te kunnen bedienen of de zogenaamde technische competenties (1); de kritische inhoudelijke competenties of cognitieve competenties (2); en de emotionele competenties (3) of attitudes van mensen tegenover het platform zelf en de gebruikers op dit platform. Het beschikken over de technische competenties alleen is niet voldoende om effectief en efficiënt met sociale media te kunnen werken. Daarvoor heeft men ook cognitieve competenties nodig. Beide competenties kunnen echter niet los worden gezien van de emotionele competenties, die mee bepalen wat mensen doen en wat ze denken. Deze drie competenties worden in het proefschrift per mogelijke activiteiten op sociale media (bv. informeren, communiceren, content creëren en problemen oplossen) verder verfijnd naar specifieke en eenduidige indicatoren. Deze laatste stellen we voor als voorbeelden van competenties omdat sociale mediageletterdheid heel snel mee evolueert met de technologie zelf en bovendien iets heel persoonlijk is dat men niet los kan zien van de leefwereld van individuen waarin sociale media gebruikt worden. Dit conceptueel kader is tegelijkertijd abstract genoeg om te vertalen naar ander sociale media-platformen (anders dan Facebook en Twitter) en gedetailleerd genoeg om meetbaar te zijn. Een ander voordeel van deze conceptualisering is dat de aandacht niet alleen uitgaat naar het informerend en probleemoplossend gedrag van mensen, zoals bij veel van voorgaande definities van mediageletterdheid, maar dat er ook aandacht is voor het actieve gebruik van

sociale media, namelijk communicatie en content creatie. Binnen het conceptueel kader hebben we ook aandacht voor mogelijke factoren die een impact kunnen hebben op de sociale mediageletterdheid van mensen en de gevolgen of het resultaat van sociale mediageletterdheid.

Gestuurd door dit conceptueel kader van sociale mediageletterdheid, belichten we in **Hoofdstuk 4** de methodes om sociale mediageletterdheid te meten. De voor- en nadelen van deze methodes en de toepassing ervan op sociale mediageletterdheid worden voorgesteld in de vorm van een 'toolkit'. Deze toolkit kan ook dienen als inspiratiebron voor andere onderzoekers en organisaties om sociale mediageletterdheid te meten. Na het aantonen dat de voordelen van de ene methode een nadeel van de andere methode kan zijn (of vice versa), pleiten we voor een multi-methodische aanpak voor het meten van sociale mediageletterdheid. Deze aanpak is gericht op zowel het meten van sociale mediageletterdheid als het verklaren en het begrijpen waarom mensen tot een bepaald profiel van sociale mediageletterdheid behoren. We beseffen echter heel goed dat er wegens tijd- en budgetoverwegingen vaak geopteerd wordt voor de surveymethode. In Hoofdstuk 4 hebben we dan ook verschillende proxy variabelen geïdentificeerd om sociale mediageletterdheid te meten aan de hand van een survey.

In **Hoofdstuk 5** hebben we, in vier verschillende papers, verschillende methodes om sociale mediageletterdheid te meten, getest op twee doelgroepen – namelijk Vlaamse adolescenten en werknemers. De meting van sociale mediageletterdheid, de (ongelijkmatige) verdeling hiervan in de doelgroep en de factoren die hierop een impact kunnen hebben staan centraal in elke paper. Uit de resultaten blijkt dat een groot deel van de Vlaamse adolescenten en werknemers moeite heeft om zich uit te rusten met voldoende competenties om sociale media op een effectieve en efficiënte manier te gebruiken. Sommigen hebben een gebrek aan technische competenties, wat kan gezien worden als een tijdelijk probleem (tot er meer ondersteuning voorzien wordt of totdat sociale media gemakkelijker worden in gebruik). Een gebrek aan cognitieve en emotionele competenties kan echter veel moeilijker weggewerkt worden, omdat deze het resultaat zijn van een lang proces van socialisatie op school, thuis en/of elders. De resultaten wijzen op een verschuiving inzake digitale ongelijkheden, en dit op vlak van competenties. Het wegwerken van deze ongelijkheden is veel complexer dan wanneer de digitale kloof zich enkel bevindt op het vlak van toegang. In ons onderzoek zijn we ook op zoek gegaan naar factoren die de ontwikkeling van sociale mediageletterdheid kunnen versterken. Hieruit blijkt duidelijk dat ouders en de architectuur van het sociaal media-platform belangrijke factoren zijn in de ontwikkeling van sociale mediageletterdheid bij adolescenten. Bij werknemers speelt de organisatiestructuur en het sociale mediabeleid op het werk een heel belangrijke rol in hun ontwikkeling van sociale mediageletterdheid.

Ter afsluiting wordt in **Hoofdstuk 6** gereflecteerd op de theoretische, methodologische en empirische bijdragen van dit proefschrift. Gebaseerd op de empirische bevindingen, worden op het einde van Hoofdstuk 6 een aantal aanbevelingen besproken om het probleem van een ongelijke verdeling van sociale mediageletterdheid aan te pakken.

ENGLISH SUMMARY

In contemporary society, social media are an important part of many people's lives. However, the effective and efficient use of social media is not always self-evident. What is worrying is that the stakes for not being able to keep up with these technologies are growing higher.

Chapter 1 of this dissertation shows that social media increasingly play an important role in people's social lives, but also in their cultural, political, and economic lives. In addition to individuals, there is increasing use of social media by services and companies. There appears to be an assumption that social media are accessible and easy to use for everyone. However, the ways in which people use these media in their daily lives depend on the competencies they have at their disposal. These competencies are the main focus of this dissertation, and are termed 'social media literacy'. The central research question of this dissertation is: How can we both conceptualize and measure social media literacy? This will allow gathering knowledge about the diffusion of social media literacy in Flanders, and what factors can facilitate (or hinder) its development. However, before we are able to measure social media literacy, we need to conceptualize it.

First, we must understand what the terms 'social media' and 'media literacy' mean. Since there is great ambiguity about the concept of 'social media', the unravelling of this concept forms the central focus of **Chapter 2**. Based on a thorough literature review, we discuss social media from three different perspectives: a critical, technical-structural, and user-centric perspective. We recognize the importance of these three perspectives for fully understanding social media. Social media platforms should not be seen simply as companies that aim to make profit, or technologies that enable certain activities; they are also tools that offer a number of benefits on behalf of their users. Relying on these three perspectives, we discuss both advantages and disadvantages of social media. We do so because we want to acquire insights in why social media may entail opportunities and potential risks, both for users and non-users. As it is impossible to investigate all social media platforms and their related literacy practices within one dissertation, we focus on two platforms: Facebook and Twitter. These platforms were selected not only because of their popularity and dominance but, most importantly, because the owners and users of these services have been extremely outspoken in articulating the norms and rules for online social communication. Because of their leading position in the

social media landscape, both platforms set the standard for their current and future competitors. Nonetheless, they differ in their architectural features and the ways in which they are used. Furthermore, both social media platforms are listed on the stock market, which makes them competitors, and this is an extra argument why it is interesting to investigate both Facebook and Twitter.

In **Chapter 3**, we discuss how people effectively deal with social media through the concept of 'media literacy'. Although many interpretations of media literacy and related concepts have already been proposed, these seem to be insufficiently detailed for application to social media. The literature review on media literacy and related theories demonstrates a great variety of interpretations of media literacy, and a corresponding lack of consensus about what media literacy exactly means, particularly in relation to social media literacy. This abstraction leads to more confusion than clarity, which might be a reason for the shortage of adequate measurements of media literacy. Based on the literature review, we propose a conceptual framework to measure social media literacy. For social media literacy itself, we differentiate between the so-called technical competencies required to operate social media applications (1); critical cognitive competencies to deal with the content on social media (2); and emotional competencies (3) or the attitudes of people towards the platform itself and its users. These technical competencies alone are not sufficient to use social media in effective and efficient ways: people also need cognitive competencies. Furthermore, neither of these competencies can be separated from the emotional competencies that help determining what people do and what they think. Within the dissertation, these competencies are further refined by people's possible activities on social media (e.g. information, communication, content creation, and problem solving) into specific and measurable indicators. These indicators are presented in Chapter 3 as examples of competencies, because social media literacy rapidly evolves together with the technology itself. This conceptual framework is sufficiently abstract to refine and specify the competencies to other social media platforms (others than Facebook and Twitter) and/or target groups. The framework, however, should simultaneously be detailed enough to allow concrete measurements. Another advantage of this conceptualization is that we focus not only on information-gathering and problem-solving behaviour, as with many previous definitions of media literacy, but also on the active use of social media in the form of communication and content creation. Within the conceptual framework, we also consider possible factors that may impact people's social media literacy and the consequences of social media literacy.

Elaborating on the conceptual framework of social media literacy, **Chapter 4** outlines different methods that can be used to measure social media literacy. We present these methods and their applicability to social media literacy in the form of a toolkit. This toolkit, which presents different advantages and disadvantages of every method, including concrete example questions, helps to determine an appropriate methodology based on results, time, budget or other constraints. After introducing the relative (dis)advantages of various possible methods, we argue in favour of a multi-method approach to measure social media literacy. This approach is aimed at measuring social media literacy as well as explaining, and understanding why people have a certain profile of social media literacy. However, we are well aware that, due to time and

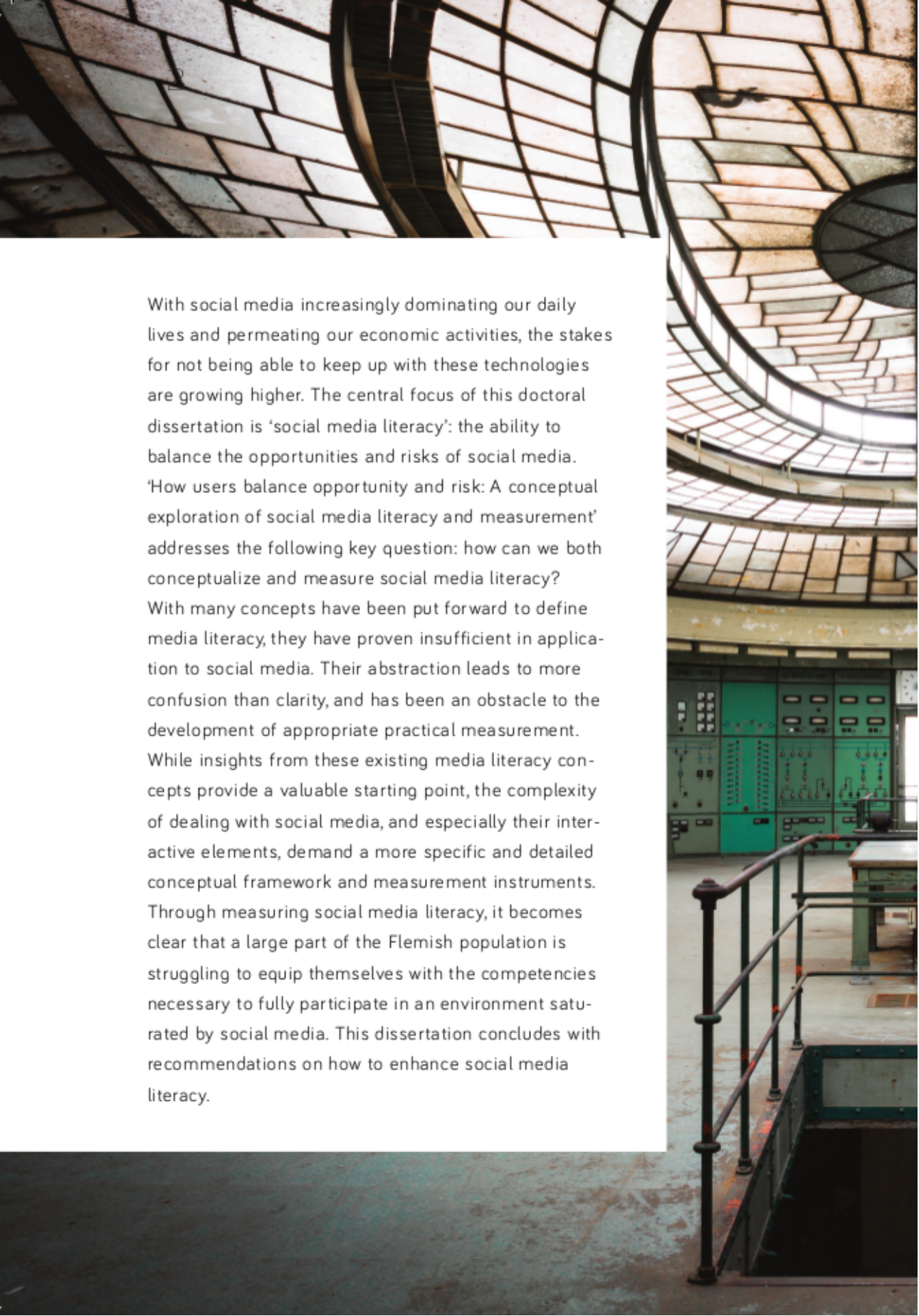
budget considerations, scholars and other organizations often rely on the survey method to measure people's competencies. By means of a step-by-step comparison with other methods, we identify in Chapter 4 so-called proxy variables for measuring social media literacy using the survey method.

In **Chapter 5**, we use four papers to apply different methods to measure social media literacy among two target groups: Flemish adolescents and employees. Central to each paper is the measurement of social media literacy, the (unequal) distribution thereof within the target groups, and the factors that may facilitate (or hinder) the development of social media literacy. The results reveal that a large part of the Flemish population is struggling to equip themselves with the necessary competencies to fully participate in the networked society. Some users lack technical competencies, which can be considered a temporary problem (until more support or easier ways emerge to use social media platforms). However, the lacking cognitive and critical emotional competencies are more difficult to deal with, as they relate to a combination of education, socialization in the home, and intellectual capacities. These results point to an evolution in digital inequalities, especially on the level of competencies. In order to reduce these inequalities, we require insights into the factors that can facilitate social media literacy. From our studies, we can conclude that parents, as well as the architectural features of the social media platforms, are important indicators impacting adolescents' levels of social media literacy. For employees, the organizational structure and social media policies in the workplace are important determinants of their social media literacy.

To conclude, **Chapter 6** reflects on the theoretical, methodological, and empirical contributions of this dissertation. Based on the empirical findings, we also provide recommendations for improving social media literacy.

With social media increasingly dominating our daily lives and permeating our economic activities, the stakes for not being able to keep up with these technologies are growing higher. The central focus of this doctoral dissertation is 'social media literacy': the ability to balance the opportunities and risks of social media. **How users balance opportunity and risk: A conceptual exploration of social media literacy and measurement** addresses the following key question: how can we both conceptualize and measure social media literacy?

With many concepts have been put forward to define media literacy, they have proven insufficient in application to social media. Their abstraction leads to more confusion than clarity, and has been an obstacle to the development of appropriate practical measurement. While insights from these existing media literacy concepts provide a valuable starting point, the complexity of dealing with social media, and especially their interactive elements, demand a more specific and detailed conceptual framework and measurement instruments. Through measuring social media literacy, it becomes clear that a large part of the Flemish population is struggling to equip themselves with the competencies necessary to fully participate in an environment saturated by social media. This dissertation concludes with recommendations on how to enhance social media literacy.



With social media increasingly dominating our daily lives and permeating our economic activities, the stakes for not being able to keep up with these technologies are growing higher. The central focus of this doctoral dissertation is 'social media literacy': the ability to balance the opportunities and risks of social media. 'How users balance opportunity and risk: A conceptual exploration of social media literacy and measurement' addresses the following key question: how can we both conceptualize and measure social media literacy? With many concepts have been put forward to define media literacy, they have proven insufficient in application to social media. Their abstraction leads to more confusion than clarity, and has been an obstacle to the development of appropriate practical measurement. While insights from these existing media literacy concepts provide a valuable starting point, the complexity of dealing with social media, and especially their interactive elements, demand a more specific and detailed conceptual framework and measurement instruments. Through measuring social media literacy, it becomes clear that a large part of the Flemish population is struggling to equip themselves with the competencies necessary to fully participate in an environment saturated by social media. This dissertation concludes with recommendations on how to enhance social media literacy.