Who’s my audience again? Understanding audience management strategies for designing privacy management technologies

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Abstract
Social network site users are often confronted with invisible audiences. Although various settings for managing audiences are available, we argue that these do not always match the users’ interpretations. This study explores the audience-management strategies of 18 young adults when categorizing their (invisible) audiences in Facebook, using card sorting as a research method. Approximately 1254 out of 1800 people (cards) were categorized based on the shared-community strategy, in which the participants referred to multiple community roles. The theoretical framework of Symbolic Interactionism and the Communication Privacy Management Theory are used to frame the problematic nature of invisible audiences. Implications for designing privacy-management technologies are discussed.

1. Introduction
Early research in the field of social network sites (SNSs) suggests that users are often unaware of privacy risks (Acquisti and Gross, 2006; Stutzman, 2006). Moreover, users’ attitudes often seem to contradict their disclosure behavior. This has been labeled as the privacy paradox (Barnes, 2006). Recent studies, however, show a more positive development. More experience with SNSs has a positive effect on disclosure behavior (Lewis et al., 2008) and awareness (Christofides et al., 2009). Taking into account the positive features of SNSs, Tufekci (2008) indicates that American undergraduates try to optimize the boundary between publicity and privacy. Users are also increasingly making use of the available privacy settings when disclosing (Hinduja and Patchin, 2008; Jones et al., 2008; Tufekci, 2008), even though variations in age (Park, 2013), gender (Lewis et al., 2008) and skills (boyd and Hargittai, 2010) have been found. Various privacy-management strategies are used on SNSs. Lampinen et al. (2011) differentiate between preventive and corrective strategies, both on the individual and collaborative levels, while boyd and Marwick (2011) emphasize teens’ usage of social strategies (e.g., social steganography) next to structural ones (e.g., privacy settings).

Although research indicates that more skills tend to stimulate privacy-enhancing behavior (boyd and Hargittai, 2010), many settings remain underused (Strater and Lipford, 2008) or fail to address the expectations of users (Liu et al., 2011). Furthermore, based on longitudinal data, Stutzman et al. (2012) found that network-driven changes in the interface settings of...
Facebook inverted users’ privacy management of public disclosures, thereby indicating the importance of design in affecting the decisions of users.

In the current study, we question the design of the privacy settings provided by SNSs for the privacy problem of invisible audiences. boyd (2008) points out that when teens are presenting themselves online, not all audiences are visible. Even though lists of one’s audience are available, “a cognitive limit may dampen the number of people that one can attend simultaneously” (Litt, 2012: p. 332). Hence, the imagined audience and the actual one do not necessarily overlap completely. We argue that it is necessary to capture how users perceive their audience and which audience-management strategies they employ when designing privacy-management technologies. Using card sorting as a research method (e.g., Stone et al., 2005; Courage and Baxter, 2005) we focus on how our participants categorize and perceive their Facebook audience. We use the theory of Symbolic Interactionism (SI) to frame the problematic nature of invisible audiences and the Communication Privacy Management Theory (CPM) to clarify the need of boundary coordination for managing privacy.

2. Theoretical foundations

In the following subsections, we describe our theoretical framework. We argue that the architecture of SNSs creates the dynamic of invisible audiences, which makes it difficult for users to define the situation and put their privacy rules into practice by means of boundary coordination.

2.1. The architecture of SNSs

The technical properties of SNSs are creating new dynamics (boyd, 2008). Alongside collapsed contexts and the blurring between public and private spheres, boyd (2008) describes the dynamic of invisible audiences. Different audiences that are typically separated in an offline environment are merged into one big audience, through which it becomes difficult to know who has access to one’s contributions on SNSs. According to Goffman (1959: p. 49), “audience segregation, or the need to direct one’s self-performance to one specific audience, is an essential part of impression management and helps to convey the sense that both performer and actor’s relationship to the current audience have something special and unique about them.” We do not regard audience segregation as essential per se because users can employ various social strategies when disclosing (e.g., boyd and Marwick, 2011). Being cognizant of one’s audience, on the contrary, does seem essential (Litt, 2012), which we will explain in Section 2.2. On this topic, Papacharissi (2010: p. 308) states that “the multiplication of social audiences does not imply a lost sense of place, but does necessitate performances that are more aware, so as to make sense to a variety of audiences.” Bernstein et al. (2013: p. 1), however, found that “social media users consistently underestimate their audience size for their posts, guessing that their audience is just 27% of its true size.”

By default, users have the task to manage multiple identities all at once, e.g., daughter, friend, and colleague. SNSs have invested in technologies for managing one’s audiences once accepted into the friend list. For example, on the popular SNS Facebook, the settings of groups and lists can help the user in demarcating his or her audience and manage privacy. The privacy settings of the groups have three different options: open, closed, and secret.1 Within the first option, anyone can see the group, its members, and their posts. Within the second option, postings are only visible to group members. Within the last option, only members see the group, group members, and their posts. Facebook lists give the user the possibility to better manage the big group of people in the friends list by making sub-lists of people and attaching privacy settings.2 These tools have the purpose of keeping contexts separated. In analyzing these tools, De Wolf and Pierson (2012) found that their respondents did not categorize their audience in lists. The perception toward the smartlists, lists created automatically by Facebook, was especially negative. These were perceived as too large, not always correct, and not relevant. Moreover, the respondents did not want to make the effort to create them. The findings of Vitak (2012) suggested that users with a big and diverse network of people were more likely to use advanced settings provided by SNS providers in managing their audiences; however, only a minority of users actually used these settings. Hull et al. (2010) and Barkhuus (2012) also found that dividing people in SNSs into subgroups was not done, due to unawareness of the user or because they required too much effort from the user. Drawing similar conclusions for other SNSs, such as aspects Diaspora and circles on Google Plus, Schwartz (2012: p. 10) states that the “contextualizing features fail to adequately reflect the dynamic and complex face-to-face privacy regulation and boundary control.” Then again, Kairam et al. (2012) found that early adopters did make use of the selective sharing options on Google Plus.

In sum, literature indicates that the audience-management technologies provided are not sufficiently used or do not have the features to solve the problematic nature of invisible audiences.

2.2. The definition of the situation

In this section, we elaborate on the concept of the definition of the situation to clarify the necessity of knowing one’s audience when disclosing. We begin by eliciting the Symbolic Interactionism (SI) school of thought, where the concept of the definition of the situation originated.

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1 https://www.facebook.com/about/groups [accessed on March 21, 2013].
SI stresses the reciprocal relationship that exists between the individual and the group in which he or she is embedded. It studies the way the social world is created through the interaction of individuals and their environment (Collins, 1994). Identity formation conceptualized here is not an individual project, but a socially constructed one, which constitutes an essential component of the self (Mead, 1934; Cooley, 1902; Thomas, 1951). According to Mead (1934: p. 91), the founding father of SI, the self “is something which has a development; it is not initially there, at birth, but arises in the process of social experience and activity, that is, develops, in the given individual as a result of his relations to that process of a whole and to other individuals within that process.”

A core concept within SI is the definition of the situation. Hewitt (2007: p. 74) appoints the various elements to which the definition of the situation relates: “tells who is present in a situation, what conduct to expect from others and what to do themselves, how events are likely to unfold over the course of the situation, where the situation is located in relation to other situations, and what goals are to be pursued by self and others.” According to Thomas (1951), the definition of the situation teaches us how to behave properly and provides us with a code of behavior. He emphasizes the role of social entities in the construction of social reality, which in turn determines one’s behavior. Like Blumer (1969), he believes that meaning emerges from group interaction. The way the definition of the situation is constructed goes hand in hand with Mead’s (1934) view on individuals as signifying entities. It is through role-making and role-taking that one can become self-aware.

In discussing Meadian principles, Gonos (1977: p. 857) states “humans are symbolizing beings, who, in interaction, make attributions and hold out expectations of others, who in turn amalgamate these to form a self capable of formulating meaningful reciprocal lines of action.” Not knowing one’s audiences, we argue, impedes the capability of users to have a clear definition of the situation. In return, this can cause privacy issues, such as a boss reading negative announcements about himself or herself by one of his or her employees, an audience the latter probably did not have in mind.

SI underlines the uniqueness of situations, whereby a Weberian method of verstehen is used to study social phenomena (Gonos, 1977). Although we find the concept of the definition of the situation useful in describing the problem of invisible audiences, we do disapprove the overemphasis of SI on nominalism. In this regard, we find the frame analysis as formulated by Goffman (1974) very useful. His “aim is try to isolate some of the basic frameworks of understanding available in our society for making sense out of events and to analyze the special vulnerabilities to which these frames of reference are subject” (p. 10). Goffman is often mischaracterized as an adherent of SI, according to Gonos (1977). His concepts and methodology in researching social reality often refer to structuralism. “Situation is a password that opens up an interactionist (or social action) approach, the basic principles of which are Weberian, while frame poses an apparatus for a kind of structuralism for which Goffman is heavily indebted to Durkheim” (Gonos 1977: p. 855). While on first glance the notions of frame and situation seem similar, the latter attempts “to be cognizant of the rules for cognition and communication that are bound up with the production of any world” (Gonos, 1977: p. 858), whereas SI in the strict sense denies such possibility.

The Communication Privacy Management Theory (CPM) has extensively studied and validated privacy management, as will become clear in the next section, indicating that a system of rules or frame—at least for privacy management—does exist.

### 2.3. Privacy as boundary coordination

In this section, we elaborate the notion of boundary coordination and privacy rules, following Communication Privacy Management Theory (CPM).

Building upon the Boundary Regulation Theory of Altman (1975), Petronio (1991, 2002) developed a framework to understand and contextualize disclosure. “CPM is an evidence-based theory contending that privacy management functions as a dialectic such that individuals’ need to both disclose private information to others to fulfill social needs as well as conceal private information from others in order to fulfill protection and autonomy needs by not granting access” (Child et al., 2012: p. 1860). Similar to the perspective of SI on the self, CPM states that privacy only has meaning through social interaction. CPM uses the metaphor of thick and thin boundaries to illustrate how individuals manage to balance the fulfillment of social needs with protection and autonomy (Petronio, 2002). Controlling this balance is accomplished through the use of privacy rules, “which help maintain jurisdiction over the flow of information, manage the public–private dialectic, and make decisions about moving information from individual to collective boundaries of multiple co-owners” (Child et al., 2011: p. 2019).

According to Petronio (2002), privacy management depends on the process of boundary coordination, through which people manage multiple boundaries with or without others. The boundaries are coordinated by rules that allow for linkages and degrees of permeability and stipulate boundary ownership. CPM states that boundary coordination is necessary for controlling privacy rules. Over the years, the claims of CPM theory have been studied and validated in various domains, especially in family settings (Petronio, 2000, 2010; Petronio et al., 2003; Duggan and Petronio, 2009) and medical circumstances (Greene et al., 2003; Helft and Petronio, 2007; Petronio and Lewis, 2010; Petronio and Sargent, 2011). More recently, CPM has also been used to study privacy management in online environments, such as blogging (Child et al., 2009, 2011, 2012; Child and Agyalman-Budu, 2010), e-commerce sites (Metzger, 2007), and SNSs (Stutzman et al., 2011; Waters and Ackerman, 2011; Litt, 2013).

### 3. Focus of study

The architecture of SNSs creates the dynamic of invisible audiences. Knowing one’s audience when disclosing, however, is necessary to control the definition of the situation. Hence, invisible audiences impede users from having a clear definition of
the situation, through which it becomes difficult to manage boundaries—because they are not fully known—and adequately keep a balance between the disclosing and withdrawing of information. Thus, knowing one’s audience is key for the development and management of privacy rules. Our line of thought is summarized in Fig. 1.

The privacy-management settings on SNSs, we argue, need to go hand in hand with the interpretations of users. Through elaborating the strategies that users employ in managing their audiences, new privacy-management technologies can be created that make users (more) cognizant of their audiences on SNSs. As such, the first research question aims for a greater understanding of the audience-management strategies of users.

Q1: What strategies do the participants apply in categorizing their audience?

Based on the theories of SI and CPM, we assume that a better understanding of the various audiences on SNSs leads to a better practice of employing personal privacy rules. It is beyond the scope of this research to validate and generalize this claim. Rather, we explore how users perceive the relationship between audience management and the disclosure of private information. Our second research question is as follows:

Q2: How do the participants perceive and interpret the relation between audience management and controlling the personal information flow?

4. Methodology

4.1. Research sample

Our study population consisted of a selection of young adults (age 17–23) because of two important transitions they may experience during this period: the transition from high school to college or the transition from high school to work. These transitions may bring about many different audiences, e.g., college friends and colleagues. A total of 18 participants were recruited in the region of Flanders, in the city of Ghent (Belgium), both male (n = 10) and female (n = 8), with an average age of 18.4. The participants had an average of 500 people in their Facebook friend lists, indicating the presence of various (invisible) audiences. The sessions were carried out in the natural setting of the households in the period of August, September, and October 2012. Table 1 summarizes the participants’ demographics. The average length of the sessions was about 45 min. All sessions were tape-recorded and subsequently transcribed. To ensure the anonymity of the participants, we make use of pseudonyms in graphs and quotes. The participants were compensated with a cinema ticket worth €10.

4.2. Research method and procedure

Within our research, we focused on how users could manage and organize their audiences, using the research method of card sorting. Card sorting has been established as a useful method to connect the users’ mental models with the design of the technology (Stone et al., 2005; Courage and Baxter, 2005; Slegers and Donoso, 2012). In this case, the cards that had to be sorted consisted of the Facebook friends3 of the participants. We made use of MindNode, a mind mapping tool, for the card sorting session. We chose Facebook as the SNS because it is, at the moment, the most popular SNS in Flanders (Belgium).4 We argue that card sorting can be used to find associations between people and to manage the audiences present on SNSs. We consider it to be a research method that can expose the different strategies for managing one’s audiences, which in turn can be used to develop privacy technologies.

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3 When we refer to “Facebook friends,” we mean everyone who got accepted in the Facebook friends list of the participant, even if some are actually family, acquaintances, etc.

We asked the participants to send us their lists of Facebook friends a day prior to the card-sorting session. The overall goal of the session was to let the participants categorize their Facebook friends into different categories based on criteria they found relevant that made sense to them. The 100 Facebook friends of each participant were chosen at random. The card-sorting session had four consecutive phases. In the first phase, the user was asked to categorize 25 people. Fig. 2 gives a fragment of how we presented the cards to the participants. In the second phase, the user had to place another 25 people into existing, subdivided, or new categories, and we simultaneously asked the user to name the categories. In the third phase, another set of 25 people had to be placed into already existing, subdivided, or new categories. Within this phase we also probed the participants to think about their categorized audience and whether or not a further categorizing was necessary. In the fourth phase, the last set of 25 people had to be organized. We divided the card-sorting session into four phases so as not to overwhelm the participants. Overall, each participant (n = 18) categorized 100 Facebook friends. Fig. 3 gives a visualization of a possible end result. In total, the participants together categorized 1800 Facebook friends.

4.3. Data coding and analyses

Throughout the entire session, we asked the participants to think aloud, so we could better grasp their audience-management strategies and probe them with questions. To analyze the data, we coded the voiced thoughts of the participants during

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5 It is unknown if Facebook organizes the friends list in a particular order, e.g., based on interaction with that person or when he or she was accepted as a Facebook friend into the friend list. We chose to select the Facebook friends at random to avoid a selection bias.
the card-sorting sessions on the type of strategy, its perceived difficulty, changes in categorizing, and use of the categories for controlling the flow of personal information. Each time a new category was made or changed, we transcribed and coded their voiced thoughts. Our coding process is closely related to Strauss and Corbin’s approach (Strauss and Corbin, 1990). First, we coded the transcriptions of the participants in a very open way and kept a close connection between the data and codes. For example, we would code the statement “Downhill Mountain biking is really my favorite hobby. All of the people in this group are bikers too” with the labels biking and hobby. Second, we categorized and named the codes that seemed to relate. For example, biking, football, and youth movement all refer to communities in which one is involved. Finally, through constant comparison, we delineated five different audience-management strategies. Once the data were coded and organized, we were also able to compare the perceived difficulty of each strategy as well as its relationship with privacy management.

The analyses in this paper are qualitative in nature. After the 18 card-sorting sessions, we found no further categorizations or new information to answer our research questions, as formulated in Section 3. With this study we have no intention to indicate statistical significance or quantitative generalizability.

Section 5.1 discusses the five strategies that were identified. Section 5.2 discusses the relationship between audience and privacy management.

5. Results

5.1. Five strategies for managing audiences

Through the card-sorting session, we were able to identify five different audience-management strategies. The different strategies were used interchangeably. In this section, we make use of quotes of the participants during the card-sorting session to illustrate the different strategies. Table 2 gives an overview of how many cards were sorted using various strategies.

5.1.1. Shared-community strategy

During the card-sorting session, all participants referred to multiple communities from where they knew someone. Both communities of interest (e.g., youth community, music band) and communities of place (e.g., neighbors, holiday friends) could be delineated. Lilly, an 18-year old woman, illustrated this approach:

Lilly: (...) Sally I know from Artevelde (university college). (...) Charlotte I know from the dance club I used to go to as well as Emilia. (...) Randy is involved in a youth movement I'm part of. (...) 

Most participants began by using this strategy and applied it to communities they were currently involved in as well as those of the past. Not only did they categorize Facebook friends who are or were part of a certain community, but some also included those who have or had something familiar with that particular community. A conversation we had with Zackhary, a 20-year old man, illustrates this.

Interviewer: You doubted placing Julie in your own movement?
Zackhary: She is not really involved in the boys youth movement, but in the female counterpart of it.

The quotes are translated from Dutch to English.
Others were stricter in applying the shared-community strategy. Zackhary placed Julie, a non-member, in his own youth movement, while Carl, a 23-year-old man, chose not to.

Carl: This is a special case. This is someone that I met through my youth movement, but she does not really fit within this group. Maybe I’ll place her right next to it, but she is also not really involved with any youth movement I know.

The prevalence of the shared-community strategy was demonstrated each time a participant did not immediately recall one of his or her Facebook friends. Lara, a 20-year-old woman, only knew who someone was after checking her Facebook account during the session and applying this strategy:

Lara: I can’t recall who this is exactly.
Interviewer: You don’t know this person?
Lara: (…) Ah, now I know who she is. She goes to the same university as I do. (…) She follows the same classes.

5.1.2. Inner-circle strategy

We found that the participants were not only using shared communities as a strategy to manage their audiences. Some were especially keen to categorize people who knew each other into one category. This strategy often coincided with the shared-community strategy, as people within a certain community will often know each other. Anton, a 17-year-old boy, explained to us why he preferred using this strategy:

Interviewer: What do you think of the categories you made?
Anton: I find it annoying that the different persons within a group do not know each other. (…) I have a different relationship with sixth graders in comparison with fifth graders. With fifth-graders I just hang out, whereas with sixth-graders I go out to party.
Interviewer: Do you want to keep those two contexts separated?
Anton: For me that would be easier. It would be clearer. (…) They all have a different role to me and I prefer that those roles do not overlap.

5.1.3. Mutual-friend strategy

Rather than focusing on shared communities or people who know each other, some participants chose to use one Facebook friend as a common denominator to categorize others. This common denominator, usually, was a closer friend than the people who were placed within this category. The latter were perceived as acquaintances. Some placed these people separately, combining the mutual-friend strategy with the inner-circle strategy. Others placed the mutual friends all together.

Ted, an 18 year-old man, illustrated the mutual-friend strategy:

Interviewer: Who is this person?
Ted: I think I know him by Jill, but I am not really sure. I once went to a bar with this guy. (…) I think it’s also a friend of Tanguy but I do not know that for sure. (…) There are always people you have seen only once.

5.1.4. Contact-type strategy

Although the shared-community strategy was used the most, the participants also categorized others based on what type of contact they had with them. They used this method to categorize their most significant others (e.g., best friends) as well as those with whom they had almost no bond. The former went hand in hand with the inner-circle strategy. The latter did not.

Lara: This is my close friends group.
Interviewer: Is this group related to another category you already made, such as school or your youth movement?
Lara: Actually, they are all in the same school as I am.
Interviewer: But you do not place them in this category?
Lara: Sally isn’t in my school anymore. She left in the third grade of high school. But these friends are really my close friends. We occasionally go out and travel together. So… It is totally different.

Lara made it clear to us that there are people who cannot be pinned down to a particular context: those who are very close to you and who you refuse to label in terms of situations or communities. Lara’s tight circle of friends also has a secret Facebook group that is only accessible to them. An important disadvantage of this strategy, however, was noticed later on during the session when Lara had to group a person who used to belong to that tight circle, but did not anymore.

<table>
<thead>
<tr>
<th>Audience management strategies</th>
<th>Amount of cards</th>
<th>Percentage</th>
<th>Example of labels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared-community strategy</td>
<td>1254</td>
<td>69.67</td>
<td>‘Class’ ‘football team’</td>
</tr>
<tr>
<td>Mutual-friend strategy</td>
<td>119</td>
<td>6.61</td>
<td>‘Joey’s friends’</td>
</tr>
<tr>
<td>Contact-type strategy</td>
<td>301</td>
<td>16.72</td>
<td>‘Best friends’</td>
</tr>
<tr>
<td>Evaluative strategy</td>
<td>11</td>
<td>0.61</td>
<td>‘Snobs’</td>
</tr>
<tr>
<td>Mixed strategy</td>
<td>84</td>
<td>4.67</td>
<td>‘Best friends from school’</td>
</tr>
<tr>
<td>Unknown*</td>
<td>31</td>
<td>1.72</td>
<td>‘?’</td>
</tr>
<tr>
<td>Total</td>
<td>1800</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

* Not all participants recognized all of their friends, through which they categorized them as unknown.
Lara: This one is difficult to group. She used to be part of our close friends group, but not anymore. (...) I think I'll put her in the school category.

The contact-type strategy was also applied to categorize others they did not know very well. In contrast to significant others, less-close Facebook friends were grouped together even if they did not know each other. Tessa, a 17-year-old girl, mainly made use of this strategy. The following quote clarifies her approach:

Interviewer: (...) You made a categorization based on type of contact. Why didn't you make one based on school and such?
Tessa: I think because I know people from all over. (...) Like these people here, I don't know where they go to school. I have met them once, but do not really have a connection with them. I think if I would make a categorization based on school and other places I've met others, it would become too much.

Tessa used the contact-type strategy because the shared-community strategy would overwhelm her with various communities, as she claimed. Then again, we noticed that Tessa had a similar problem when making the categories based on contact, as the quote below illustrates.

Tessa: (...) This is a too-broad categorization. These are people that I have spoken to once, and these are people I know vaguely. Some of them I have never talked to, while with others I did. (...) With those I have a distant relationship.

5.1.5. Evaluative strategy

A final strategy that emerged during the card-sorting session was based on how the participants evaluated others. We could delineate positive and negative evaluations. Lizzy, a 19-year-old women, labeled the first category she made as snobs.

Interviewer: The first group you've made, you denote as snobs.
Lizzy: (laughs) These are the snobs of Ghent. My boyfriend used to work in a bar, a real bar for snobs. (...) Those people are really ridiculous. They spend 100 euros for a bottle just to place it on the table so everyone can see. That's not my style.

Ted used the shared-community strategy in managing his audience, but shifted to an approach through which he evaluated people based on whether they were cool or not.

Interviewer: Do you have a good relationship with these people?
Ted: Good, but not that good. This person is in the same class as me. He's all right. (...) Jafar is also a cool dude.

5.2. Controlling the information flow through categorizations

During the card-sorting session we also posed questions on how these ready-made categories could function to control the flow of personal information. This is a step further than audience management. In general, we can state that all participants were able to distinguish close and distant categories, as well as what general information could be shared. Many participants, however, made it clear that not all people within a group are equals and referred to in-group variance.

Interviewer: Are certain groups allowed to know more about your person than others?
Peter: I don't think that I can trust an entire group. (...) At certain moments I trust certain people, but those vary quite a lot. Never an entire group though.
Interviewer: Can you indicate the groups in which those trusted persons are more prominent?
Peter: I think a lot of people from high school and a couple of my neighborhood.

Although the participants indicated in-group variance, they were able to indicate which categories may have access to personal and sensitive information, such as having feelings for another," and which ones may not. Even though the participants could not always make a connection between “information flow” and “ready-made categories,” the latter helped them in knowing who their audience was.

Interviewer: Did you find this grouping experiment difficult to do?
Anton: Sometimes it was hard. But I kind of liked it. It showed me what people are in my friends list.

5.3. Discussion and conclusion

5.3.1. Objective of the study

Previous research has shown that users do not simply accept the open nature of SNSs. On the contrary, they develop strategies, even beyond the existing privacy settings available, to manage their personal information flow and privacy in general (boyd and Marwick, 2011; Lampinen et al., 2011). Invisible audiences, however, make it difficult to have a clear definition of the situation and to ensure privacy. Although privacy-management technologies exist, managing audiences can still be an additional effort for users, which they may not be willing to make. Hence, understanding the different audience-management strategies users apply is of great value when developing privacy-management technologies.

5.3.2. Results and implications

In the present study, we examined the different strategies users applied when categorizing 100 of their Facebook friends. Using card sorting as research method, five different strategies were identified: shared-community strategy, inner-circle strategy, mutual-friend strategy, contact-type strategy, and evaluative strategy.
The prominence of the shared-community strategy in managing the cards was noticeable. Approximately 70% of the cards were labeled with a community of place or interest. Moreover, the shared-community strategy was also referred to while applying other strategies at the same time, such as categorizing best friends from school. Looking at the categorizing practices of the participants, we found that it was relatively easy to categorize others based on shared communities, while it was often harder to do so using another strategy (e.g., contact).

When studying the relationship between the ready-made categories and the flow of personal information, the participants could distinguish between those who were close to them and those who were not. They found it difficult to connect the latter with privacy measures, however, especially because they found that there are always certain people within a group whom they could trust more than others.

One of the major benefits of the card-sorting session, as perceived by the participants, was that it provided them with an overview of their Facebook friends. We argue that a simple visualization of those present in the friend list can also be privacy enhancing. The different strategies, as indicated by the participants, can be used as a framework. Then again, once the categories were made, the participants were able to make some differentiation in terms of privacy. It can be assumed that when the user is supported in making categories based on the strategies described previously, they may as well be used for privacy management. Future research that examines the relationship between audience and privacy management, however, is necessary to support this assumption.

Looking at the settings available on Facebook, Google Plus, and other popular SNSs (see Section 2.1), we noticed that not all of the audience-management strategies we delineated in this study are currently compatible with the provided access-control mechanisms. It seems that users have different criteria for managing their audiences than are currently integrated in SNSs. Moreover, a clear visualization of one’s audiences and how they are connected is completely missing.

5.3.3. Strengths and weaknesses

The present study has explored the different strategies for managing audiences. The findings, however, should be understood and implemented in the light of the strengths and limitations of the research approach.

On a theoretical level, combining the frameworks of SI and CPM, we clarified the problematic nature of invisible audiences on SNSs. Specifically, we argue that invisible audiences impede users from grasping the definition of the situation. When it is not possible to adequately define the situation, no boundaries can be drawn between situations, which would be necessary for managing privacy rules.

On a research level, we have gone beyond studying current practices of SNSs and focused on how users could organize their audiences, thereby questioning the technologies of SNS providers. Our research approach, which can be labeled as bottom up, has three main strengths: It questions the privacy policies of SNS providers; it broadens the scope of privacy research; and it brings the user into the development of new privacy solutions. CPM states that boundary management is necessary for developing and managing privacy rules (Petronio, 2002). This research looked at how users perceive the boundaries between their audiences on SNSs, so that technologies can be made in accordance with how users perceive and manage their audiences and not the other way around.

Our research has limitations. Although our method of study (card sorting) allowed users to make a clear visualization of their audiences and facilitated finding connections, there were some disadvantages. Instead of using the entire friend list, we limited the number of Facebook friends to 100. Some participants, however, still found it a challenging task and did not create new categories near the end of the session, although they claimed that they should have done so. Others indicated that their categories might have been different if they would have been presented with another Facebook friend first. Moreover, each Facebook friend was represented by one card only. Some participants indicated that they would want to add some people to multiple categories. Others found it annoying that certain people stood separately, after which they decided to merge them with other categories.

We counted the labels of the categories to measure the prevalence of the different strategies. Some participants, however, made further categorizations based on other strategies without labeling them differently, limiting these figures. Because the inner-circle strategy is always used with another strategy—e.g., football team members and their friends, who are strictly speaking not football players, but do know each other, were labeled with the community label of football team—we have no concrete figures on how many cards were categorized using the inner-circle strategy.

Within the grouping experiment, we made use of friend lists from Facebook. It has yet to be determined whether these strategies are also applicable to other people and other SNSs, such as the professional SNS LinkedIn. Future research should focus on various SNSs as well as populations other than young adults. Moreover, SNS providers, third-party apps, and advertisers could also be labeled as part of one’s audience and integrated into the card-sorting session, all the more because research indicates that users are often not aware of these silent listeners as being a part of their audience (Stutzman et al., 2012).

References


De Wolf, R., Petronio, S., 2012. Privacy beyond the individual: analysing group based access control models on social network sites from a user perspective. IAMCR, Durban (South-Africa).


