

# WHO CARES? CONTENT SHARING ON SOCIAL NETWORKING SITES: A GROUNDED THEORY STUDY

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## Abstract

*Users of Social Networking Sites (SNS) consume SNS content by means of online social streams such as the newsfeed system on Facebook. In this regard, a Facebook newsfeed content may comprise different kinds of user generated content, but also editorial content provided by fan pages, business pages or advertisers. Before being displayed on the Facebook newsfeed, contents are automatically pre-selected based on information filtering algorithms. Information filtering algorithms, in the form of Facebook's edgerank system, are challenged to address the growing diversity of SNS content, but also the preferences of individual users. Distinct knowledge about the preferences of users for different kinds of SNS content can efficiently improve or complement established information filtering techniques. In this study we investigate factors that determine the attractiveness of SNS content for users. Thereby, we contribute a new facet in the understanding and support of users' needs with regard to their consumption of SNS content. Our results allow improvement of existing information filtering techniques and to anticipate information flows on SNS (e.g. for the sake of viral marketing). We have developed our results based on a grounded theory study founded on 37 qualitative interviews with Facebook users.*

*Keywords: Social Networking Sites, Content Relevance, Grounded Theory Model.*

# 1 INTRODUCTION

Social Networking Sites (SNS) allow its users to meet, to form a social network, to communicate, to generate and to share (personal) information (Beer 2008). Thereby, SNS connect a large number of individuals while covering an ever-broadening spectrum of our society. This makes SNS an important platform in many peoples' daily lives, and eventually for society as a whole (Qualman 2011). The amount of information shared via such SNS is overwhelming. In 2011 alone, the average Facebook user generated approx. 90 pieces of content per month and was connected to 130 Facebook friends (Burbary 2011). In total, a Facebook user could theoretically be presented with up to 11,700 postings per month or 390 postings per day originating from their network of friends. In addition, the diversity of information distributed via SNS is constantly growing (Bakshy 2012). The "online social stream" of such information (Chen et al. 2011) comprises multiple types of content such as personal information, (group) discussion postings, news, published media (e.g. video and audio), or event announcements. In conclusion, the sheer mass and diversity of available information on SNS is inevitably leading to information overload of users (Borgs et al. 2010).

The problem of information overload is not new and has already been observed and discussed in different disciplines (Eppler 2004). A common approach to handle information overload, also in collaborative or social scenarios, is the application of information filters and recommender systems (Shardanand & Maes 1995; Melville et al. 2002). For SNS providers addressing this issue is specifically vital in order to retain their user base. For instance, Facebook pre-selects content using its "edgerank" algorithm (Kincaid 2010; Taylor 2011) before it is eventually displayed in a user's newsfeed. In order to create information filters that match the interests of users, it is crucial to understand the user themselves (e.g. profile, interests, habits, relations, etc.). First research in this field was conducted by Peak et al. (2010) and Chen et al. (2011) about how users determine the attractiveness of SNS content for themselves. Nevertheless, the large body of existing literature on SNS (Boyd 2012) indicates that SNS users behave individually in many different facets, and so additional research on the topic is needed. Consequently, we aim to draw a more detailed picture on how users of SNS determine the importance and attractiveness of SNS content for themselves. In this paper in hand, we raise the following research question:

*What factors determine the attractiveness of content shared via SNS?*

In order to answer this research question, we have chosen an exploratory research approach, following the Grounded Theory Methodology (GTM). This is because evidence from literature indicates that users' perception and appreciation of content is typically determined by a complex set of factors. For instance, factors could be the relation between the SNS user and the author of a post (Granovetter 1973; Gilbert & Karahalios 2009), a user's general motivation to participate on an SNS (Krasnova et al. 2008; Joinson 2008) or the users' interest in a topic of a specific post (Chen et al. 2010). Consequently, without the need for pre-defined hypothesis, the GTM approach allows us to consider various facets that have not or merely to some degree been addressed by existing literature. In order to collect the necessary data for our study, we have focused on interviewing Facebook users. Facebook is currently the world's largest and most popular SNS (HowManyAreThere.net 2012). Furthermore, Facebook offers a comparably sophisticated set of privacy and data sharing functionalities, which allows Facebook users to define and differentiate between groups of Facebook friends - even if it is just for the sake of information filtering (Bonneau and Preibusch 2009; Kietzmann et al. 2011).

The remainder of this paper is structured as follows. In Section 2, we highlight related work and the theoretical background of our study. Section 3 outlines our research design, which is based upon the GTM. We present the findings of our study in Section 4 and subsequently discuss them in Section 5. Section 6 concludes our paper while providing an outlook on further research.

## **2 THEORETICAL BACKGROUND AND RELATED WORK**

The topic of information filtering on SNS combines different disciplines and streams of research. This originates from the diversity and amount of content shared on SNS, the diversity of SNS user characteristics, and the diversity of relations connecting users to one another.

A multitude of researchers have been addressing several aspects related to filtering large amounts of data so far. Literature on information filtering (Hanani et al. 2001) and on recommender systems (Adomavicius & Tuzhilin 2005) comprise several concepts related to information overload. Such concepts include techniques like content-based filtering (Jung 2006), collaborative filtering (Billsus & Pazzani 1998), or hybrid approaches (Balabanovic & Shoham 1997). Whereas collaborative filtering usually relies on the wisdom of crowds, techniques of social filtering (Malone et al. 1987) allow consideration of individual personal relations among members in a community. A central prerequisite for the success of all filtering approaches is to understand the interests and expectations of users (Stadnyk & Kass 1992).

Compared to classical application areas of information filtering and recommender systems, such as product recommendations at amazon.com, content on SNS is much more diverse. Although it can be filtered by topics (Bernstein et al. 2010), the individual relation between creator and receiver of SNS content plays an additional role (Wellman & Wortley 1990; Backstrom et al. 2011). Literature indicates the existence of different factors underlying interpersonal relationships that have an effect on consumption and distribution of information by SNS members. Granovetter (1973) highlights the effect of different relation types on the distribution of information for offline social networks. Subsequently, Gilbert and Karahalios (2009) have transferred this and related concepts to online social networks. Their results also highlight the importance of homophily (McPherson et al. 2001) and source credibility (Birnbaum and Stegner 1979) as factors explaining the valuation of received content.

In general SNS are a challenging ground for information filters and content recommender systems. In order to effectively apply them, information filters have to be adapted according to the preferences and behaviour of its users. First quantitative research is available on how members perceive and value SNS content (Peak et al. 2010; Chen et al. 2011). However, given the diversity of contents shared on SNS, the individual motivation to use the SNS (Krasnova et al. 2008; Joinson 2008), and the complexity of social relations, as outlined above, we aim for a deeper understanding of that matter. Thereby we want to add a new facet to the enhancement of filtering algorithms based on social network information (Liu & Lee 2010), on users' perception of social media content (Naaman et al. 2010) and to understand the diffusion of content on SNS (Brown et al. 2007).

## **3 RESEARCH METHODOLOGY**

In the paper given, we have investigated factors that determine or are able to influence the attractiveness of content shared via SNS for users. Thereby, we add a new facet of understanding on how individuals perceive different types of content shared on SNS. While we acknowledge the existing work that has been conducted so far, we aim for a deeper understanding of that matter in order to extend and connect existing theories in the field. We aim to reveal the patterns that drive Facebook users to consider posted content interesting enough for them in order to actually consume it. Due to the various factors potentially determining this decision, our data collection and data analysis is based on the GTM (Corbin & Strauss 2008). This allows us to consider facets that have not or only to some degree been considered in existing literature.

### **3.1 Data Collection**

The number of SNS has grown rapidly in the course of the last 15 years and it is still growing (Boyd & Ellison 2007; HowManyAreThere.net 2012). From these existing SNS, we have chosen Facebook as the subject of our study because of its large set of data sharing functionalities (Kietzmann et al. 2011),

its major user base (Owyang 2008, 2009, 2010), its economic relevance in comparison to other existing SNS (eMarkete.com 2011), and Facebook's general socio-economic impact (Qualman 2011).

We conducted 37 semi-structured interviews with Facebook users in three interview rounds between March and June 2011. Besides the questions regarding the attractiveness of social content, we also asked questions on the users' attitudes towards their Facebook friends – since a large proportion of the posted content presented to a user originated directly from those contacts. Our sample selection strategy was open and based on random sampling, as we strived for analytical generalizability. The sample comprises interviewees of different nationalities in the Western World, but with a focus on German informants (25 Germans, 4 British, 3 Americans, 2 Finns, 1 Canadian, 1 Italian, 1 Dutch). The interviewees range in age from 15 to 47 years, with 26 being male and 11 being female interviewees. Their networks of connected Facebook friends range from 11 to 1,581 and the interviewees offer a Facebook experience ranging from a few days up to five years.

Literature indicated that there is a potential bias in individuals' replies in questions concerning or affecting their privacy (Braunstein et al. 2011). As we also asked questions on the interviewees' relation to connected friends, we collected our first slice of data using Facebook channels on the Internet Relay Chat (IRC, <http://www.irc.org/>). This protected the anonymity of the interviewees and allowed us to generate a valid analytical benchmark for our subsequent face-to-face interviews. The first slice of data comprised 13 chat protocols, summing up to 46 pages of text. The second and third data slices comprised respectively eight and 16 semi-structured face-to-face interviews with Facebook users. On average, each of the face-to-face interviews lasted about 30 minutes. Every interview was audio-recorded and transcribed, summing up to 220 transcript pages of text. After the second slice of data and the analysis of the third slice of data, we jointly concluded that theoretical saturation had been reached (Guest et al. 2006).

### **3.2 Data Analysis**

The data collection and analysis were conducted in parallel. Preliminary results were analysed and already discussed in between the three interview rounds. The collected insights were compared to already existing insights in order to identify as well as to explain potential contradictions. Based on these insights, the interview-guide was adapted and extended dynamically. Following the cycle of constant comparison (Corbin & Strauss 2008) allowed us to obtain a consistent understanding about those factors, which determine the perception of users about posted Facebook content. The process of data analysis was clustered in two parts. First, within the open coding process we analysed the data material for recurring patterns, ideas, and concepts (Corbin & Strauss 2008, p. 65). This included a process of abstraction in which we identified a few important concepts, which serve as (core) categories or properties of these categories. Other concepts were identified as specific dimensions of the properties of categories (cp. Section 4.1). In the second step of the process, we analysed the data with particular focus on the relationship of categories to one another by using axial coding (Corbin & Strauss 2008, p. 195). This process finally concluded in a conceptual model, which will be presented in Section 4.2.

## **4 STUDY FINDINGS**

### **4.1 Categories: Newsfeed Post, Contextual Relevance and Personal Relevance**

#### *4.1.1 Core Category: Newsfeed Post*

When the interviewees were asked about the factors determining the attractiveness of newsfeed posts on Facebook, one of our first observations was that members refer to different *types of posted content*. In this context, three sub-categories of the category *newsfeed post* can be differentiated: Editorial content, referenced content and social content.

As the first sub-category, we define *editorial content* as any newsfeed content that does not originate from a Facebook friend. A typical example is a newsfeed post initiated by a Facebook fan page to which a Facebook user has subscribed. Content originating at subscribed commercial pages or ads is referred to as editorial content as well.

The second sub-category is labelled *referenced content* and includes any newsfeed content that is shared by a Facebook friend without this friend being the actual creator of the content. Here, examples are posted web links, videos, streamed music, etc.

The third and final sub-category denotes *social content* and comprises any newsfeed content that is posted by a Facebook user reflecting personal thoughts, opinions, ideas, messages, activities or user generated media. Text posts, comments, likes, profile updates, befriending, personal photos or personal videos serve as further examples of this sub-category.

Figure 1 provides an example of a newsfeed post which is composed of distinct content elements. Each content element is of a particular type and has an individual author.



Figure 1. A Facebook newsfeed post can include different content elements. Each content element has an individual type (editorial, referenced or social) and has an individual author.

The *newsfeed post* constitutes the core category of our study, with editorial content, referenced content and social content as its sub-categories. Consequently, we put these sub-categories at the centre of the study since we are interested in the factors determining or influencing the attractiveness of each sub-category, and consequently the attractiveness of a newsfeed post as a whole.

While analysing the factors of attractiveness of newsfeed posts for interviewees, we noticed that these are determined by (i) a Facebook user's interest in the topic of a content element and (ii) by the author of the content element, i.e. which particular Facebook friend has posted this content:

*"On the one hand, it is important whether I am interested in the topic of a newsfeed post. On the other hand, it is also important whether I am interested in the Facebook friend who initiated the newsfeed post."* (Interviewee Bernhard).

In the following, we provide an analysis and conceptualisation of these two categories of attractiveness. The category *contextual relevance* provides a conceptualisation for (i) whereas the category *personal relevance* reflects (ii).

#### 4.1.2 Category: Contextual Relevance

*Contextual relevance* constitutes whether or not a Facebook user personally considers a newsfeed element to be interesting or attractive. This is independent from the author since members are particularly interested in posts that are in any way personally related to them.

*“The content needs to have a relation to me, no matter how or what this relation is. Only then is it getting really interesting.”* (Interviewee Ralph).

In order to structure the underlying large set of interviewee responses, we built up on the concept of “context” as discussed by Dey et al. (2001). Thereby, we define *context* as any information that can be used to characterise a Facebook user’s current situation in life. Consequently, we have defined a *newsfeed post* to be *contextually relevant* if it comprises of content elements matching the context of the Facebook friend (of friend).

In this regard, we have identified four different context types that Facebook users consider to be relevant. The four dimensions of the category *contextual relevance* are *interest specific context*, *location context*, *everyday life context* and *social context*.

**Interest specific context:** Each Facebook user has a set of topics in which they are interested in. In the following, we summarise and denote those as *interest specific context*. Many interviewee statements on the attractiveness of editorial and referenced content are comparable to such as the following statement:

*“I’m interested in soccer. If someone has posted an interesting link or a video then I’ll have a look at it.”* (Interviewee Zara).

Likewise, topics that do not fit to the interests of a Facebook user are considered to be less attractive:

*“I’ve got some friends that are studying cultural anthropology. They frequently post opinion articles from a German news magazine and I’m absolutely not interested in seeing this. I ask myself who else besides them is interested in reading this.”* (Interviewee Dana).

The spectrum of topics users can be exposed to when reading their newsfeed can be large, depending on the pages they have subscribed to and on the interests of their network of friends:

*“People post different news from different types of media, I could even categorise my friend network based on who is posting what [...] examples for categories are yellow, sarcastic, humour or science.”* (Interviewee Adam).

In conclusion: A newsfeed post matches the interest specific context of a Facebook user if it touches a topic a Facebook user is interested in.

**Location context:** Newsfeed posts can include physical location information or at least refer to specific locations. We have identified two dimensions of location context, which are determined by the current location of a Facebook user as well as affiliated places to that user:

- *Current location:* Facebook users are interested in newsfeed posts relating to their current location. For instance: *“I like it when people post their current location. If they are just around the corner I am able to spontaneously decide whether I’ll go there as well.”* (Interviewee Quentin).
- *Affiliated places:* Facebook users are interested in information referring to places they feel affiliated with. Besides their current residence, many interviewees still feel affiliated to places they have once lived or have grown up in: *“I’m still interested in the place where I grew up. I’m happy to receive any information on what’s going on there now.”* (Interviewee Zara).

A newsfeed post meets the location context of users if it affects their current location or places they feel connected to. Whereas the location context of a Facebook user changes constantly, the set of affiliated places remains overall stable during time or changes only occasionally.

**Everyday life context:** Newsfeed content is considered to be contextually relevant if it can be related to the everyday life of a Facebook user. We noted two dimensions of *everyday life context*. These

dimensions can be distinguished based upon the fact that they either notify about specific dates, events and deadlines or provide general information about everyday life matters. Consequently, newsfeed content is contextually relevant if it provides a Facebook user with background information about their everyday life or highlights specific events or opportunities for action:

- *Upcoming appointments, events and deadlines:* Newsfeed posts that highlight specific events, dates or deadlines that are relevant for Facebook users and may initiate an (inter-)action with a Facebook friend. For instance: *“Newsfeed messages are especially interesting to me if they remind me to do something important, e.g. to register for exams at my university.”* (Interviewee Hans).
- *Background information:* Newsfeed posts allow Facebook users to get a better understanding about matters, which concern them in their everyday life. For instance: *“I’ve subscribed to the Facebook page of my employer. Actually I’m not very interested in every detail of what is posted there. But I want to stay informed.”* (Interviewee Paul).

In the review of the collected responses, the dimensions *educational life (school, university)*, *professional life (present and previous jobs)* and *leisure time (events)* turned out as the most important dimensions with regard to the everyday life of a Facebook user. However, we acknowledge that further dimensions exist that are of particular interest to Facebook users in their everyday life.

**Social context:** Content is considered to be contextually relevant for a Facebook user if other users, who contributed or have been involved with this content, are known to this Facebook user:

*“I’m more interested in posts of friends that are hanging around with other people I know.”* (Interviewee Oliver).

In this context, a commonly mentioned example is a newsfeed post, which is documenting other friends’ befriending activities:

*“I’m more interested in the befriending activities of my good friends. I know many of those people they connect to, so I do as well.”* (Interviewee Steve).

Such newsfeed posts matching the social context of a Facebook user are able to provide additional meaning to what has been shared:

*“I’m rather interested in photos which close friends are posting. I might be on one of the photos as well. Photos posted by acquaintances are less interesting. Most often I don’t know any of the people on their photos.”* (Interviewee Yasmine).

#### 4.1.3 Category: Personal Relevance

Personal relevance refers to the question of whether a Facebook user is interested in the originator of a given newsfeed content – independent of the actual topic of the newsfeed post. An originator is a network member directly connected to the reader of the newsfeed content. A newsfeed post is displayed in a user’s newsfeed stream because a connected friend has created a newsfeed post (author of the newsfeed post), interacted with the newsfeed post (e.g. via sharing, commenting or liking) or because the friend has been put in relation to the content (e.g. tagging on photos).

From this insight, two concepts have emerged. They determine the degree to which a Facebook user will be interested in receiving newsfeed posts from a given author:

**Offline interaction:** Content is considered to be personally relevant if there is a recent or regular offline connection between the Facebook user and the originator of the content. Independent from the actual topic of a newsfeed post, Facebook users are particularly interested in posts by friends they recently or regularly interact with:

*“I’m interested in people I recently have been in touch with. These don’t necessarily have to be good friends.”* (Interviewee Cathryn).

A commonly mentioned reason for the latter statement is that Facebook users can adapt their offline behaviour or use this newsfeed post as a conversational anchor:

*“Posts by friends that I meet in my everyday life are much more important because I am able to immediately react to it. For instance, let’s assume something bad happens, I can then decide whether I want to give emotional support or whether I avoid talking about things related to this.”* (Interviewee Dana).

Likewise, if there is only an occasional offline contact, many interviewees report that it is not worth spending too much time to be informed about other friends’ lives:

*“Regarding acquaintances, there is only little chance that I’ll meet them personally. Accordingly I don’t have a chance to talk to them about what they have posted.”* (Interviewee Neal).

**Relational closeness:** On Facebook, the term “friend” implies a mutually confirmed connection between two individuals. In relation to that, our analysed data confirms what had already been indicated by literature (Gilbert & Karahalios 2009; Hangal et al. 2010) – most networks of friends on Facebook are composed of contacts, which are in different relations to each other. We identified that “relational closeness” of a Facebook user to the originator of a content element determines the degree to which this user considers the posting to be interesting. Thereby, most respondents differentiated between newsfeed posts originating from “close friends” and newsfeed posts originating from just “acquaintances”. In this regard, a typical statement is:

*“I’m more interested in what my closest friends are doing.”* (Interviewee Carlton).

We noted that a characteristic of *close friends* is that they share different contexts of a Facebook user’s life (contextual relevance). For instance, close friends might have an overlap in their leisure activities (everyday life context) or in their social networks (social context). Therefore, their offline interaction frequency is also potentially high. Apart from this, Facebook users are more interested in taking part in the life of close friends than in the life of their acquaintances.

*“I know much more about my good friends. Maybe I know the 100 most important things about the life of a good friend but only the ten most important things about an acquaintance.”* (Interviewee Oliver).

With regard to *close friends*, the set of the most important things Facebook users are interested in was varying between our interviewees. For acquaintances, all interviewees agreed to be interested in major changes in their life, but not in the details. Typical major changes are “[...] has a new job or changed the relationship status” (Interviewee Jaquez), or “[...] got married, became a parent, or changed the place of residence” (Interviewee Neal). Consequently, content originating from acquaintances is personally relevant in the case that it reports major changes in life.

## **4.2 Conceptual Model: Factors Affecting the Attractiveness of Newsfeed Posts**

Newsfeed posts can comprise different content elements of individual type and author (cp. Section 4.1.1). The attractiveness of a newsfeed post as a whole depends on the attractiveness of the single content elements constituting the newsfeed post. Contextual relevance (cp. Section 4.1.2) and personal relevance (cp. Section 4.1.3) determine to which degree a user considers a content element to be attractive. Figure 2 summarises the findings of Section 4.1 by conceptualising the relation between the three sub-categories of newsfeed elements (editorial content, referenced content and social content) and the two identified categories of relevance (contextual relevance and personal relevance).



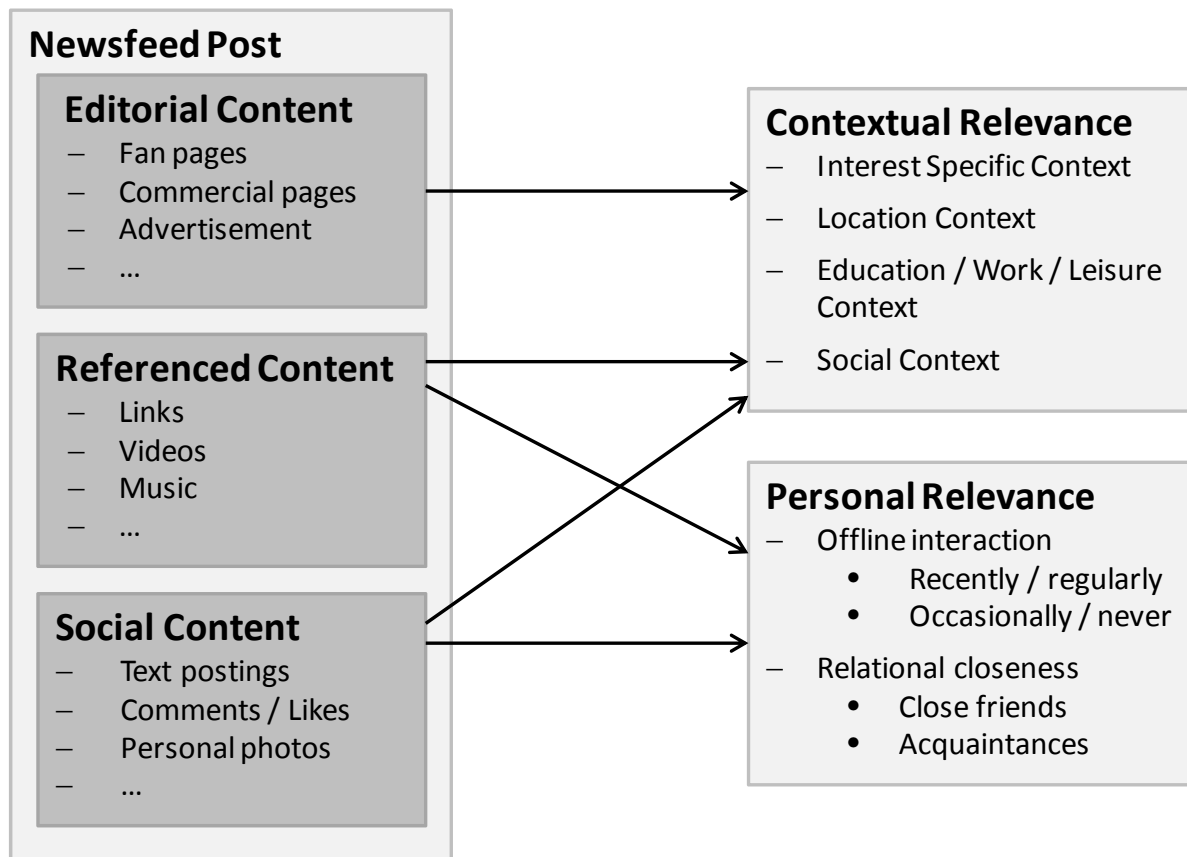


Figure 2. Conceptual Model on the Attractiveness of Newsfeed Posts for a Facebook User.

*Editorial content* is considered to be attractive if it fits to the context of a Facebook user. For instance, members subscribing to the Facebook page of their employer in order to receive information about their work. Furthermore, other Facebook users might subscribe to the fan page of a TV-show or sports club because it matches their interest or leisure context. Finally, as the author of the editorial content is usually not part of a user's network of friends, personal relevance does not influence the attractiveness of editorial content.

*Referenced content* refers to content posted by a Facebook friend without this friend being the original author or intellectual property owner of what has been posted. As in the case of the editorial content, the degree of contextual relevance will determine the attractiveness of a referenced content. For example, a user might be interested in funny YouTube videos that have been posted, while he or she is less interested in a particular music video another friend has posted. Independent of whether the user is interested in a post because of its contextual relevance, the degree of personal relevance of the originator of a content element determines the degree to which users are interested in it as well. This distinguishes referenced content from editorial content. For example a user might be interested in receiving information from friends who they interact with in their daily life just to have a conversational anchor.

*Social content* is comprised by personal thoughts, opinions, ideas, messages, actions or personal media of its originator. However, the attractiveness of social content is not just a matter of personal relevance. To a large extent the attractiveness of social content is related to the question of the degree of contextual relevance. For example, a newsfeed post by a colleague who is not among the strong tie relationships might be contextually relevant because the topic of the post meets a user's interest specific or work related context.

A newsfeed post can consist of one or more content elements of a different type. The attractiveness of the newsfeed post as a whole is composed of the attractiveness of its single elements. A newsfeed post

that is not contextually relevant can become attractive if other Facebook members are involved who the user considers to be personally relevant. Vice versa, content originating from friends a user does not consider to be personally relevant can become attractive if it turns out to be contextually relevant for the user.

#### **4.3 Opportunities for Information Filtering on Facebook and SNS in general**

Based on the insights gained from Section 4, we have highlighted and discussed the opportunities originating from understanding the factors, which determine the attractiveness of Facebook content for its users. In this regard, it is important to start by analysing, which of the factors identified and depicted in Figure 2 can actually be measured by Facebook in order to allow an information filtering system to take advantage of them.

While walking through the “Contextual” and “Personal” relevance categories in Figure 2, we find that possible offline interactions between Facebook friends are the only factors hard to identify and measure by Facebook, since they happen solely in the offline world. All other relevance factors can be, to the best of our knowledge, inferred from the information available about a Facebook user. For instance, a common location context of two users could be derived from the known residence of a Facebook user and the geo-location tag attached to the posted content of the other Facebook user.

With the ability of Facebook to explicitly or implicitly determine most of the factors influencing the attractiveness of posted content for its users, the potential applications of this knowledge can be further examined. First, our results provide the means to at least mitigate the “information overload” problem, which constituted the genuine motivation of this paper in hand. Since the current Facebook “edgerank” system is mainly based on quantitative research observing user activities (Backstrom et al. 2011; Taylor 2011; Bakshy et al. 2012), our research results can complement this filtering system with the knowledge about general factors determining the attractiveness of posted Facebook content for a user.

Along with filtering out irrelevant content for Facebook users, benefits for displayed advertisements on Facebook are manifested. Since advertisements can be (among others) targeted based on a topic users are interested in (Constone 2012). Consequently, being able to distinguish between relevant and irrelevant content in a user’s newsfeed can significantly affect the effectiveness of advertisements on Facebook.

At the same time, having understood the concept of relevance of content for users, allows Facebook to foster the performance for viral marketing campaigns (VMC) as well. For the success of VMC, it is important to seed a commercial message at communication hubs (CH) (i.e. highly active users connected to a large number of other users) and this part of a network to consider this message relevant in order to spread it further (Bampo et al. 2008). Whereas such CHs and their attached “network of friends” can typically be identified using quantitative methods (Hinz et al. 2011), our developed understanding about the attractiveness of content on an individual user basis is still able to complement this approach. Given an identified CH and network of friends, our research can help to distribute the commercial message within the network of friends at a CH; in addition it aids to identify new links to currently weakly-tied networks of friends in order to increase the reach of the commercial message.

## **5 DISCUSSIONS AND IMPLICATIONS**

Information filtering on SNS distinguishes from other fields of information filtering by the diversity of available contents. SNS provide a platform for a large number of users while offering various multi-facetted (inter-)action opportunities. The integration of third party services and websites even broadens the spectrum of shared content. Besides the diversity of content, information filters are also challenged by the diversity of SNS members, who could have very different stakes in participating on

an SNS. The literature on information filters and recommender systems offers many techniques to assist users in managing the amount of information they are exposed to.

Our study shows that content-based filtering, collaborative filtering and social filtering are appropriate means to address information overload on SNS. However, these techniques need to carefully consider the individual context and relationships of each member. Thereby, the study in hand helps SNS providers to understand the latter aspects and act upon them accordingly.

With regard to the outlined related work, our work adds a new facet of understanding to the meaning of “strong ties” as defined by Gilbert and Karahalios (2009). From the analysis of our data we have revealed that most interviewees stated to be more interested in reading content originating from their strong tie friends than from their acquaintances. This confirms the concept of tie strength and gives reason to improve information filters based on this construct, e.g. as investigated in (Chen et al. 2011). However, we also noted that statements on the attractiveness of close friends’ content are often connected to statements on overlaps in the context of users. This means, that close friends are not just interested because they are in a close social relation to a member, but also because they usually share more aspects of their real life as oppose to their acquaintances. Consequently, newsfeed content originating from close friends has a higher probability to be contextually relevant (e.g. because close members share leisure time, interests, or have a common social network).

Newsfeed posts can be composed of a different amount and type of content (editorial content, referenced content or social content). The findings of this study show, that each single component of a newsfeed post can be considered attractive or not – on an individual scale, depending on its contextual and personal relevance to a user. For example, editorial content which does not meet the interest of a user can become attractive when it is commented or discussed by other members, who this user considers to be personally relevant. Consequently, filtering algorithms should split up newsfeed content into its individual elements and judge on the attractiveness of the whole newsfeed post based on the accumulated attractiveness of its single content elements. With regard to the different facets of context, it should be highlighted that there are some contextual factors which change dynamically over time (e.g. current location, upcoming appointments, events and deadlines) whereas other facets of context remain rather stable (e.g. interest specific context, social context). As a result, information filters should include this time aspect particularly for dynamically changing context aspects in their algorithms.

The design of our study has focused on Facebook users in Western countries. Although, we believe that our general results will hold for other parts of the world as well, we acknowledge the fact that this might restrict the generalizability of our study. Furthermore, some results might only hold for the specific design of the Facebook platform. However, given the level of abstraction to which we could generalize our findings, we claim that the results are transferable to other SNS and social media in general. This claim is supported by the statements of many interviewees, who reported to behave similarly on other SNS and social media.

## **6 CONCLUSION AND OUTLOOK**

Understanding which factors determine users’ perception and valuation of SNS content appears to be one of the most complex questions in the field of information filtering and social media to date. By elaborating the different facets of contextual relevance (cp. Section 4.1.2), we have identified a first group of factors determining a user’s interest in a given content. These facets refer to different notions of how users can be interested, affected or involved in SNS content. With the factors of personal relevance (cp. Section 4.1.2), we have identified a second group of factors that particularly focuses on the relation between the user (consumer) and the creator of SNS content. The results of this study provide the ground for further quantitative studies in this area. For instance, one could investigate the impact and cross effects between different content type combinations in newsfeed postings with regard to its relevance for a SNS member. While we acknowledge the limitations of our approach, we would not have been able to produce these substantial insights without the application of grounded theory

techniques. The results allow to improve and specify existing information filters, but can also serve as a baseline for tailoring advertising campaigns that are intended to spread virally on SNS. In particular, a quantification of the different contextual factors and the influence of contextual relevance versus personal relevance would provide valuable insights on the matter. Nonetheless, the results of this paper need further specification in order to be transferable into testable constructs, propositions, hypotheses or design guidelines. Consequently we encourage others to comment and challenge our results.

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