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Social Media and Public Libraries

Exploring Information Activities of Library Professionals and Users

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Abstract

Social media has become a part of many people's everyday lives. In the library field the adoption of social media has been widespread and discussions of the development of "Library 2.0" began at an early stage. The aim with this thesis is to study the interface between public libraries, social media, and users, focusing on information activities. The main research question is: How is the interface between public libraries and social media perceived and acted upon by its main stakeholders (library professionals and users)?

The background of Library 2.0 is strongly associated with the development of the Web and social media, as well as with the public libraries and their user-centered and information technological development. The theoretical framework builds on the research within the area of Library and Information Science concerning information behavior, information practice, and information activities. Earlier research on social media and public libraries is also highlighted in this thesis.

The methods survey and content analysis were applied to map the interface between social media and public libraries. A questionnaire was handed out to the users and another questionnaire was sent out to the library professionals. The results were statistically analyzed. In the content analysis public library Facebook pages were studied. All the empirical investigations were conducted in the area of Finland Proper.

An integrated analysis of the results deepens the understanding of the key elements of the social media and public library context. These elements are interactivity, information activities, perceptions, and stakeholders. In this context seven information activities were distinguished: reading, seeking, creating, communicating, informing, mediating, and contributing.

This thesis contributes to develop the research concerning information activities and draws a realistic picture of the challenges and opportunities in the social media and public library context. It also contributes with knowledge on library professionals and library users, and the existing differences in their perceptions of the interface between libraries and social media.

Keywords: Public libraries, social media, information activities, library professionals, users.

Abstrakt

Sociala medier har blivit en del av många människors dagliga liv. Inom biblioteksfältet har man varit snabba att ta sig an sociala medier och man började tidigt diskutera utvecklingen av "Bibliotek 2.0". Målet med denna doktorsavhandling är att studera samspelet mellan allmänna bibliotek, sociala medier och användare med fokus på informationsaktiviteter. Den övergripande forskningsfrågan är: Hur uppfattar intressenterna (bibliotekspersonal och användare) samspelet mellan biblioteken och sociala medier och hur agerar de i detta samspel?

Bakgrunden till Bibliotek 2.0 är starkt förknippad med utvecklingen av webben och de sociala medierna och givetvis med de allmänna biblioteken och deras användarorienterade och informations-teknologiska utveckling. Avhandlingens teoretiska ansats bygger på den forskning som gjorts inom området för biblioteks- och informationsvetenskap gällande informationsbeteende, informations-praktiker och informationsaktiviteter. I avhandlingen lyfts också fram tidigare forskning kring sociala medier och bibliotek.

De metoder som har använts i denna avhandling för att kartlägga samspelet mellan bibliotek, sociala medier och användare är enkätundersökning och innehållsanalys. En enkät delades ut bland biblioteksanvändarna och en annan skickades ut till biblioteks-personalen. Resultaten analyserades med statistiska metoder. I inne-hållsanalysen ingick allmänna biblioteks Facebook-sidor. Alla under-sökningar var koncentrerade till Egentliga Finland.

En integrerad analys av resultaten fördjupar förståelsen kring de centrala delar som ingår i den kontext sociala medier och allmänna bibliotek bildar tillsammans. Dessa är interaktivitet, informations-aktiviteter, perceptioner och intressenter. I denna kontext kunde sju informationsaktiviteter urskönjas: läsa, söka, skapa, kommunicera, informera, förmedla och medverka.

Denna avhandling bidrar med att utveckla forskningen kring informationsaktiviteter och den ger en realistisk bild över de möjligheter och utmaningar som finns i denna kontext. Den bidrar med kunskap om både bibliotekspersonal och biblioteksanvändarna och de olikheter som finns i deras uppfattningar om samspelet mellan bibliotek och sociala medier.

Ämnesord: Allmänna bibliotek, sociala medier, informations-aktiviteter, bibliotekspersonal, användare.

" Nobody said it was easy. Nobody said it would be so hard"

The Scientist, Coldplay

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I have always dreamt of writing a book. I would, however, never have guessed that the book would be a doctoral thesis. The writing of this thesis has been a long journey into the known and unknown parts of Library and Information Science, into the world of academics, and it has been a trial of all my abilities. I would not have started this journey, and certainly not completed it, without all the support I have received.

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1 Introduction

This study takes on the challenge of investigating the interplay of people's information activities within two important spaces. These two spaces are the social web and the public library.

Many of us have a distinct picture of what a public library is and the feeling of stepping into a library, sensing sounds and scents. The public library has long been a very tangible place. A library is a building, a large collection of information and knowledge in the form of books, as well as a range of other formats such as newspapers, CDs, and DVDs. Libraries are built where people are and provide physical spaces for reading, studying, and socializing. Public libraries have existed for hundreds of years and are perceived as trustworthy. People, however, also move around in another environment, the Web, doing the same things they can do in the library: seeking information, reading, and interacting. The Web is, in comparison, young and its trustworthiness is more or less constantly questioned. These two spaces are still not separated from each other, the Web is in the library and the library is on the Web, and their reciprocal interplay will be highlighted throughout this thesis.

Libraries are no strangers to the Web environment. They have long utilized it for their catalogs and databases and seen its value and risk as an information mediator. The Web is now more than solely a mediator of information, like the libraries, it has evolved into spaces for social interaction. Increasingly, people are using the Web to interact with each other through information instead of solely with information. This is made easier by the ideas of Web 2.0 and different social media tools such as social network sites, video/photo-sharing sites, folksonomies, RSS, and blogs (see Figure 1.1 for descriptions of these tools). This has also opened up new ways for the public libraries to expand their spaces beyond the walls of the physical libraries.

The impact of social media on public libraries is labeled Library 2.0 and has been called everything from a revolution, to an evolution and to simply being hype. The new challenges and opportunities inherent in combining the social media context with the public library context into a Library 2.0 context entail more than enough research material. The choice of focus for this thesis has fallen on public library stakeholders and both their intended and realized information activities using social media tools in the Library 2.0 context.

The aim is to draw together and highlight three important elements of Library and Information Science (LIS): libraries, information, and the social Web. This is a combination that needs more attention in the LIS research literature. The interconnections between these elements are here investigated through information activities using a socio-cognitive perspective. The focus on information activities separates this study from others focusing on aspects such as technology and marketing. This study of the Library 2.0 context and its inherent information activities is located in the country of Finland. Finland has a long tradition of keen public library use as well as comprising the notion of an information society, and is therefore an adequate setting for this study.

1.1 Aim and research questions

The overall aim of this study is to investigate the interface between users, public libraries, and social media and the inherent information activities. The objective is to map how the contexts of social media and the public library might converge into a Library 2.0 context and to provide empirical knowledge on related opportunities and challenges. The main research question is: *How is the interface between public libraries and social media perceived and acted upon by its main stakeholders?* This question is divided into the following more specific questions:

1. How are the public library professionals dealing with Library 2.0?
   - What are the motivations of public library professionals to adopt, develop, and maintain social media services?

- What kind of support do library professionals have and what skills do they need to implement and maintain social media services in public libraries?
- How do library professionals engage in information activities in the social media setting?

2. How are the users experiencing Library 2.0?
   - What are the expectations of users concerning library activities and social participation on the Web?
   - What are the motivations of users engaging in information activities in the interface between social media and public libraries?
   - How do the users intend to utilize social media services in public libraries and what are the actual information activities of users in this context?

3. What are the stakeholders' perspectives of social media and public libraries?
   - Do users and library professionals differ in their perception of Library 2.0 services and are there differences concerning their information activities in this context?

The research questions are addressed utilizing two research methods. A survey study aimed at users and library professionals, and a content analysis of public library Facebook pages. The content analysis is focused on actual information activities while the emphasis in the survey study is more on intentions and perceptions. The methods complement each other to gain more comprehensive answers to the research questions.

This study takes on a socio-cognitive view starting with understanding the context, moving on to the activities through which the actors are understood. It falls in between the information behavior approach and the information practice approach and therefore aims at contributing to form an initial understanding of information practices inher-

ent in Library 2.0 as well as the information behavior of the two stakeholder groups investigated.

1.2 Structure of the thesis

This thesis consists of two parts: a theoretical and an empirical. The theoretical part is composed of three chapters (Chapter 2-4). First, in Chapter 2, the development of social media and public libraries are investigated, constituting the context of Library 2.0. In Chapter 3, both information and information activities are discussed to frame the theoretical underpinnings of the thesis. Chapter 4 is focused on the stakeholders, the changes in librarianship, and the role of the user in the library and on the social Web. Each chapter ends with a summary.

The empirical part contains chapters about method and material, results, analysis, and discussion. In the method chapter, the choice of methods is explained as well as data gathering and limitations of the surveys and content analysis. In Chapter 6, the results of the questionnaires are presented along with the results of the content analysis. Chapter 7 is a key chapter where the results are integrated with earlier literature and analyzed starting from a socio-cognitive view. Finally, in the discussion, answers to the research questions are considered, and the implications of this study are discussed along with suggestions for further research.

Blogs: Originates from web logs and are texts of different length called posts and contain opinions, information, personal diary entries or links. Blogs are difficult to define because of the diversity of blogs and audiences. Popular blog services are Blogger and WordPress.

Content sharing sites: Sites built around sharing content such as pictures, videos, or music, examples are Flickr and YouTube.

Instant messaging (IM): A type of online chat, where messages are sent and received in real-time. A popular IM service is Skype.

Micro blogs: Micro blogs are texts written with a limited number of characters (140 or less) and can, as ordinary blogs, be used to express opinions, share information and links etcetera. The most popular micro blogging site is Twitter.com.

Podcasts and vodcasts: Podcasts were originally called audio blogs and are audio recordings or streams of for example talks, interviews, and lectures. Vodcasts are video blogs.

RSS-feeds: RSS stands for Really Simple Syndication and it is a group of formats that make it possible to receive updates to the content on RSS-enabled websites without having to visit them. All that is needed is a RSS-aggregator (reader), a software or website that merges the feeds to one place. RSS are especially useful for keeping up-to-date with blogs.

Social bookmarking: Allows people to share their bookmarks with each other as well as organize (tag), store, and search for bookmarks. Bookmarks are references to online resource. Examples of bookmarking sites are Digg.com, StumbleUpon.com, and CiteULike.org.

Social network sites: Social networks are sites were people share information, make connections as well as showing offline connections online. They are often used to creating online identities and communicating. Popular networks are Facebook, Google+, and LinkedIn.

Tags: Tags are keywords anyone can assign to describe and organize content. A folksonomy is a collection of tags created by an individual, often for personal use.

Wikis: A wiki is a web page or a set of web pages that allows people to collaboratively build a web site without having any knowledge of markup languages. The most known wiki is Wikipedia.org.

Virtual worlds: Virtual worlds are computer-simulated environments where people can interact with one another and different objects. An example of a virtual world is SecondLife.

Figure 1.1 Social media tools

2 The Web, public libraries, and social media

The Web, public libraries, and social media are a part of the information society. Public libraries and the Web have been seen as important information mediators in this society and continue to influence the way in which people handle information.

The notion of an information society can be traced back to the 1960s although the origin is not quite clear (Duff, Craig, & McNeill, 1996). There are two competing assumptions used to explain the information society. The leading opinion is that there is more information today than ever before and therefore we live in an information society. The competing conjecture is that the character of information today has changed the way we live, creating what we now call an information society (Webster, 2006). Other labels to describe this society have been suggested: the post-industrial society, the knowledge society, the network society, and the interactive society (Alsbjer, 2008). There is also debate about a culture of convergence. This entails the idea that media and information are no longer bound to certain artifacts, but instead cross both physical and online boundaries (Jenkins, 2006).

This chapter is concerned with establishing a background to social media and its use in the public library setting. The chapter begins with an outline of the rapid development and breakthrough of the Internet and the Web. Following this, there is a closer examination of Web 2.0 and the social media as regards characteristics, tools, and the criticism offered against the notion. The development and role of the public library will be examined in chapter 2.3. This is followed by a more extensive overview of social media in libraries and the Library 2.0 concept, including both theoretical and practical aspects.

2.1 The Internet and the Web

The Internet and the information society as a whole is increasingly an essential part of people's everyday lives. The Internet is referred to as a "network of networks" and it has transformed communications and commerce through the interconnections between computer networks. It is at the same time a medium for interaction and collaboration between people and their computers, in addition to being a tool for information dissemination using a range of different formats. The Internet can be described as a collection of technologies as well as a collection of communities ("Internet", 2009; Leiner et al., 2003).

The idea of a global network was put forward in the beginning of the 1960s and the research work that followed led to the creation of the predecessor ARPANET. ARPANET grew into the Internet with the implementation of the Transmission Control Protocol/Internet Protocol (TCP/IP) during the 1970s. It was also during the 1970s that electronic mail (email) was introduced. The Internet was a well-established technology by the mid-1980s, used mainly by research and developer communities but starting to be discovered by other communities as well. The real breakthrough came with the development of the World Wide Web (Haigh, 2011; "Internet.", 2009; Leiner et al., 2003; O'Regan, 2008).

It was in the year 1989 that the World Wide Web (the Web) began to be developed by Tim Berners-Lee and his colleagues at CERN (European Organization for Nuclear Research). They standardized the communication between clients and servers by creating the Hyper-Text Transfer Protocol (HTTP) and they also created a text-based browser that was released in 1992. It was, however, in 1993 that use of the Web spread to a wider audience with the help of the web browser Mosaic. Mosaic was developed by the National Center for Supercomputing Applications at the University of Illinois (USA) and it was the first graphical browser (point-and-click). Since then the Web has become the leading information retrieval service of the Internet (O'Regan, 2008; "World Wide Web", 2009). Even if the utilization of the Web started to increase among the general public,, the production of web services demanded a higher knowledge of technology. Web sites could, for example, only be built and updated by writing code, using HTML, or by using fairly expensive programs (Holmberg, Huvila, Kronqvist-Berg, Nivakoski, & Widén-Wulff, 2009b, pp. 36-37). This created an imbalance in the intended social possibilities of the Internet.

Throughout the development of the software underlying the Internet and the Web, much of the progress has also been dependent on the development of the hardware. Initially, computers were massive and expensive machines that were not likely to be found in anybody's home. During the 1980s, computers made many advances in regard to size, effectiveness, and usability and were soon important devices both at work and for personal use. Since the 1990s and the beginning of the 2000s, the form of computers has developed into, for example, mobile phones, handheld computers, smartphones, and tablets (Holmberg et al., 2009b, pp. 28-29). Computers are developing alongside the Web and instead of having one device which includes all functions, the trend is to have several devices so that the content (the information) converges between the devices (Jenkins, 2006).

The investments in the Web were high from the middle of 1990s to the early years of the 2000s. The profits were, however, not forthcoming and the dot-com bubble burst (O'Regan, 2008). According to O'Reilly Media, this crash only made room for a new set of web services gathered under the name of Web 2.0 (O'Reilly, 2005). The crash did not have any obvious negative effect on the number of web users, which has continued to grow. In Finland, 90 per cent of the adult population used the Web in 2012 (Suomen virallinen tilasto, 2012). Figures from Internet World Stats show that 63% of the European population use the Web and that it is used by 34% of the total population of the world (Internet World Stats, 2012). Today, the Internet and the Web have a strong influence on the activities in our society, including information activities, while at the same time these activities also influence the shaping of the Internet (Nolin, 2010).

2.2 Web 2.0 and social media

The concept of Web 2.0 was popularized by the company O'Reilly Media in 2004, as a way to describe the turning point web development took after the IT-crash. Web 2.0 as a concept dates back to the late 1990s (DiNucci, 1999). The actual definition of Web 2.0 has been heavily debated and there have also been voices claiming it was a futile notion from the beginning (P. Anderson, 2007b; O'Reilly, 2005).

Web 2.0 can be seen as a wordplay referring to the version numbers used for different programs, such as Firefox 16.0.1. It is not, however, a new standard version of the Internet or a new specification for applications or systems (Black 2007; Joint 2009). It is instead a somewhat 'catchy' word for social media's impact on the Web. The differences between Web 2.0 and the earlier Web, sometimes called Web 1.0, can be seen as being constituted by the technological, structural, and sociological aspects. The essential difference is that in Web 1.0, the content creators were few, while in 2.0, anyone can be a content creator and numerous technical aids have been developed to maximize the potential of content creating activities (Cormode & Krishnamurthy, 2008). In the literature surrounding Web 2.0, there is extensive use of the term "content", but there are few attempts to investigate its relationship to information, data, and knowledge (see Chapter 3.1 for a closer discussion of the concepts).

Kaplan and Haenlain (2010, 61) 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". They further clarify the relationship between social media, Web 2.0, and "user generated content". Web 2.0 is seen as the ideological and technological foundation of social media. User generated content is, in turn, all the ways in which people use social media. Web 2.0 is according to this definition a broader concept than social media. Social media is, however, also often used as a synonym for Web 2.0 (Anttiroiko & Savolainen, 2011). Furthermore, there is also the notion of the social Web (also used as a synonym for social media) that was introduced as early as 1998 and therefore is a forerunner to both Web 2.0 and social media, nevertheless, they all highlight the social nature of the Web (Ding et al., 2009).

2.2.1 Principles and tools

Web 2.0 is a broad concept that is linked to economics, technology, and new ideas about the connected society (P. Anderson, 2007a). Tim O'Reilly (2005) has presented seven principles to explain Web 2.0. These principles are the Web as a platform, harnessing collective intelligence, data is the next Intel inside, the end of the software release cycle, lightweight programming models, software above the level of a single device, and finally, rich user experiences. P. Anderson (2007a; 2007b) has later transformed O'Reilly's seven principles into six key ideas of Web 2.0. These are individual production and user generated

content, harnessing the power of the crowd, data on an epic scale, architecture of participation, network effects, and openness. Collective intelligence and the power of the crowd has also been called the wisdom of the crowd and essentially means the value people contribute to the content by commenting, rating, writing reviews, linking, and tagging etcetera (Holmberg et al., 2009b). Hintikka (2007) summarizes Web 2.0 as a notion that mainly consists of new successful methods, which everyone can use and put together into new operations. The ideas and methods are new but the actual techniques behind them are old. The success behind Web 2.0 services can be explained by their ease of use, people's growing experience of computers, and the possibility to choose personal features (Hintikka, 2007).

Web 2.0 is usually described by the tools and technologies it is associated with such as blogs, wikis, and RSS-feeds (see Figure 1.1 for descriptions) and they are also referred to as social media/social web tools, technologies, or applications. The important features of social media sites where these technologies are at play are the users' central role, the ability to form connections between users, and the ability to post content in different forms (P. Anderson, 2007b; Cormode & Krishnamurthy, 2008; Curran, Murray, Norrby, & Christian, 2006; Stephens & Collins, 2007). The social media tools still differ from each other and there have been some attempts to categorize the tools. Kaplan and Haenlein (2010) categorize social media tools according to their levels of social presence and self-presentation. High in self-presentation are blogs, social networking sites, and virtual social worlds. Low in self-presentation are collaborative projects (for example Wikipedia), content communities (for example YouTube), and virtual game worlds. Social presence is high in virtual worlds and virtual game worlds, and on a medium level on social networking sites and in content communities; social media sites with low social presence are blogs and collaborative projects (Kaplan & Haenlein, 2010). To place social media in an information perspective, the categorization made by Chua and Goh (2010) is helpful. They studied social media tools in both public and academic libraries in North America, Europe, and Asia. Their starting point was a classification combining information work and social media. Blogs and wikis were classified as information acquisition, RSS as information dissemination, social tagging as information organization, and instant messaging and social networking services as information sharing.

Blogs and social network sites

There are two major social media tools that can be scrutinized further to draw a clearer picture of the ideas presented above and the activities they enable. These are blogs and social network sites which are probably the most characteristic and well-known tools in the social media context. These have played key roles in the implementation of social media in libraries. Blogs (originating from the term web log) already existed in the 1990s, but started to reach the larger public around 2004 after which they became a significant part of the Web 2.0 phenomenon. In a blog, one creates posts of different lengths that can contain text or pictures or other types of content. Some blogs consist mainly of links, others are similar to personal journals, or are created by organizations to inform customers and market themselves. Important features of blogs are the opportunities for readers/viewers to comment on the posts, and perhaps, even more so, to easily link to blog posts and share them across networks. Blogs strive to publish posts regularly, for example, once a day. Other social media tools and technologies are also closely connected to blogs such as RSS-feeds, tags, and mash-ups (P. Anderson, 2007b; Farkas, 2006; Lankes, Silverstein, & Nicholson, 2007). Blogs are, in fact, not easily described because of their diversity and blogs have, furthermore, developed into different forms such as micro blogs, video blogs, and podcasts (for short definitions see Figure 1.1) and these forms have also reached a high level of popularity.

The second social media tool scrutinized here is the social network site, focusing on Facebook, which is currently the leading social network on the Web and plays a part in the empirical investigations of the present study. Social network sites also originate from 1990s and their main function is to articulate and make visible people's social networks. Social network sites are most commonly used to communicate with people who are already a part of an individual's extended social network (have some kind of offline relationship) and not specifically to interact with new people. These sites are different from virtual communities. Virtual communities are primarily organized around interests and they originate from the 1970s. These communities are often constituted by different discussion forums. In other words, social network sites are based on people and virtual communities are based on interests (boyd & Ellison, 2007). One of the earliest social network sites was SixDegrees, followed by Friendster, MySpace, and Facebook. There are also social network sites surrounding professional connections such as LinkedIn. Facebook was founded in 2004, and promotes its service as "helps you connect and share with people in your life" (Facebook, 2012). It has over 800 million members over the

world and 2.2 million (over 40% of the population) are Facebook members in Finland (Internet World Stats, 2012). In 2007, Facebook launched a feature called pages, allowing organizations and companies to create profiles (earlier these actors had formed Facebook groups). The Facebook pages enable organizations to share different types of content and create connections with their followers; any user of Facebook can become a fan of the page and take part in contributing activities of different kinds. This connection can also be visible to the friends of those who are fans of the pages, however, this is dependent on a so-called news feed algorithm that weeds the content available on the site. Facebook pages offer different ways to facilitate interactivity and increase participation. The different features of a Facebook page are presented further in Figure 2.1.

Pages: Organizations, businesses, and other public actors can create a Facebook page and share, inform, and connect with people through this page. This is similar to the profiles created by individuals on Facebook. Individuals can become fans of the organization's page by clicking on a "like" button.

The wall and wall posts: This is the place on the page where content/information is posted, shared, and commented on. The wall post can be shared by both the administrator of the page and any other member of Facebook. The Facebook members who like the page can view the wall posts in their personal news feed.

Status updates: These are the most common wall posts, often consisting partly of text (but can also be photos, videos, links) and are written by the administrator of the page. Status updates can be commented on by Facebook members and there is also the possibility of clicking on a "like" button to show appreciation.

Events: This is a way to organize gatherings. The Facebook event is shown as a wall post and it is also a subpage where there is information about the event. The administrator can invite people to these events, and they can choose to answer yes, or maybe, or no to the invitation. It is also possible to have a separate wall on the event page where anyone can discuss the event.

Links: Links to content on the Web appear as wall posts on the Wall but can be posted without adding any text.

Photos/videos: There is the possibility of posting photos/albums and videos on the wall. These also appear as wall posts and can be posted without adding any text.

Notes: Notes are subpages and give the possibility of writing longer entries about different subjects. A link to a note can be shared as a wall post on the wall, where a small part of the note is made visible.

News feed: The center of members' home page, which shows a constantly updating list of wall posts shared by people and pages one has chosen to be friends with or like. The news feed is, however, managed by a news feed algorithm (also known as EdgeRank) which determines what content the member are interested in. It takes into account such factors as the author of the post, number of comments, and type of post.

Figure 2.1 Facebook features (Facebook, 2012)

2.2.2   Criticism of Web 2.0 and social media

Web 2.0 is often called a marketing buzzword, and the concept has received a lot of criticism. Even Sir Tim Berners-Lee, one of the main developers behind the World Wide Web, has dismissed the concept as "a piece of jargon" in an interview in 2006 (Laningham, 2006). In the interview, Berners-Lee points out the fact that from the very beginning the intention of the Web was social: connecting people with people.

Other voices have focused more on the implications of social media use. Much discussed in the United States and on the Web was a book by Andrew Keen (2007): *The Cult of the Amateur. How Today's Internet is Killing Our Culture*. In this book, Keen is highly critical of Web 2.0 and the way its participatory nature destroys our culture by diminishing the importance of professionals. *First Monday* (a peer-reviewed journal on the Internet) devoted an issue with articles on critical perspectives of social media and Web 2.0, where Web 2.0 is said to be about exploitation of immaterial free labor for capitalistic gain. Another argument presented was that what seems to be free and user-generated really is created and rated by a small group of individuals. Personal security is also an issue and in several Web 2.0 services personal information may be exploited for commercial interests ("First Monday", 2008). Cormode and Krishnamurthy (2008), pinpoint the following problems with Web 2.0: privacy, security, and the digital barriers that emerge between social networks and create divisions between people. There is also a long line of more technological related risks with Web 2.0 applications (Rudman, 2010).

Researchers in the LIS field are also starting to address the information-related problems inherent in social media. Many of these are issues that have been recognized earlier: information divides, digital divides, information overload, and poor information literacy skills. Library professionals are also worried about the impermanence of information and the difficulties in organizing, as well as lack of organization of information (Bawden & Robinson, 2009; Serantes, 2009).

The concept Web 2.0 might be considered hype but the concept Web 3.0 also exists, even though it has never reached the same widespread

popularity. The significant impact of social media should still not be ignored, although it is at the same time important to acknowledge the inherent problems. These problems do in fact provide a context where the knowledge of library and information professionals is needed.

2.3 The public library

Public libraries are information organizations that predate the notion of the information society, and have long traditions in comparison to the Web. The real breakthrough of public libraries came with the invention of the art of printing, although libraries existed, in some form, for hundreds of years before that (Carlquist, 2008). The first Finnish public library was founded in the year 1794 and from the 1860s and onwards the establishment of public libraries in Finland became widespread. The Finnish public libraries were influenced by the American library ideology in the beginning of the 20th century (Hietala, 2001; Vatanen, 2001). The influences from the American ideology and the welfare state ideology is something all the Nordic public libraries have in common (Mäkinen, 2001). In 2010, there were 293 main libraries and 277 branch libraries in Finland (Ministry of Education and Culture, 2011).

The traditional descriptions of public libraries have been bound to both physical places and containers of organized physical materials (Brophy, 2001; McGarry, 2003). Libraries as important physical spaces are also still of interest among Library and Information Science researchers (Audunson, Essmat, & Aabø, 2011; Buschman & Leckie, 2007). There are also examples of great investments in building new libraries around the world (Jochumsen, Hvenegaard Rasmussen, & Skot-Hansen, 2012). Jochumsen et al. (2012, 588) describe the physical public library as transformed "from a more or less passive collection of books and other media to an active space for experience and inspiration and a local meeting point".

The role of the public libraries is still discussed and questioned from time to time, partly because of their strong image of being physical spaces. The discussions often surround issues concerning collections,

the organization of information, the provision of information, and the role of libraries in the digital age (Waller, 2008).

2.3.1   The role of the public library

Public libraries are known for providing a wide range of services directed towards a diverse public (Aabø, 2005). Often it is only what can be called the higher purposes that are similar throughout libraries in different social, cultural, and geographical environments. These higher purposes are democracy, equality, and the dissemination of culture and knowledge, and are in accordance with the five, now classic, laws of library science.

The five laws of library science were created by S. R. Ranganathan (1931). The first law of library science is *books are for use*. This is the opposite of books are for preservation, which was the old way to look at libraries. Ranganathan (1931) saw the outcome of this first law as revolutionary. The second law is *books are for all*. The point was that everybody, no matter social class or gender, should have the right to education. The third law is *every book its reader* and it implies that the library should through different means (for example open shelves, catalogs, and reference service) match books with readers. The fourth law is *save the time of the reader*. The goal with this law is to organize the library work so that the first three laws can be followed. The fifth law: *a library is a growing organism* refers to the libraries quantitative and qualitative changeableness. Ranganathan (1931) further states that the most important parts of the organism are the books, the readers, and the staff. These laws are an early example of a user-centered library perspective (Brophy, 2000). However, Wilson (2008b, p. 457) says that throughout the history of libraries "Virtually every development in the field has been concerned with making it easier for the user to access documents or information."

Public libraries are affected by larger societal changes. Evjen and Audunson (2009) pinpoint three of these changes: political and ideological changes, globalization and the growth of the multicultural society, and the digital development. Libraries choose to adapt to these changes in order to remain relevant. The purposes of the Finnish public libraries, according to the Library Act (1998), are equality, democ-

racy, and the promotion of education to all citizens free of charge. Further, it states that the libraries should "aim at promoting the development of virtual and interactive network services and their educational and cultural contents". In Finland, the Ministry of Education and Culture is responsible for drafting the political guidelines for libraries. The actual library and information services are arranged by local authorities at the municipality level ("Library Act", 1998). The Ministry of Education and Culture has presented the Finnish public library strategy for 2015 in the report *Undervisningsministeriets bibliotekspolitik 2015* (Undervisningsministeriet, 2009). In this publication, the importance of personal service in the libraries physical and virtual environments is stressed. A need is also expressed for something more than the traditional library services in order to produce valuable services in the information society of today. Almgren and Jokitalo (2010) also point out the principle of equality in the Finnish public libraries and how the libraries strive to be everything to everybody. The Finnish libraries are in a situation where they need to renew and follow the times, the users' changing needs, and the development of the media, so as not be marginalized when resources and budgets are cut. They are further challenged to support and maintain their basic tasks and traditions alongside new types of services (Almgren & Jokitalo, 2010).

2.3.2   Public libraries and ICT

The public libraries' relationship to the new types of media has always led to lively discussions. In the 1920s - 1950s, American public libraries had already started to use new technology to expand and promote library services (Preer, 2006). At that time, this was through radio broad casting and movies, but there were critical voices pointing out that these were distractions and threats. However, they served as forerunners to the information and communication technologies (ICT) that have become a part of the public library services during the last five decades.

There was a significant development of information and communication technologies in the libraries during 1970s, 1980s and 1990s. Computerized processes in libraries had already started during the 1960s with systems for catalog record creation, and punch card systems in the circulation area. The Library of Congress had also established

MARC, Machine-Readable Cataloging (Deegan & Tanner, 2002; Martell, 2003; Saarti, 2006; Saarti, 2008).

During the 1970s, the important technological changes were the conversion of existing catalog records into a machine-readable form and the creation and revision of shared records. In Finland, the first systems for loans were developed in the 1970s. Characteristic for this time was offline computing, a few computers, expensive technology, and a very small number of technologically skilled individuals (Martell, 2003; Saarti, 2006; Saarti, 2008; Tedd, 2007).

The technological development started to move more rapidly in the 1980s. Computer hardware became more easily accessible and inexpensive, and personal computers were introduced. Online public access catalogs (OPACs) and other databases could now be accessed online. Information management systems for handling all library processes, that is integrated library systems, were developed and taken into use. ICT was now a part of the everyday library work and thereby questions about digital divides started to receive more attention (Deegan & Tanner, 2002; Martell, 2003; Saarti, 2006; Saarti, 2008; Tedd, 2007).

In the beginning of the 1990s almost all library functions, from cataloging to interlibrary loans, were automated or computerized in some aspect. The greatest change was still the emergence of the Web. In Finland, a government project made it possible for public libraries to quickly start using the Web as a part of the daily library work and to provide access points to their users. The libraries took on an active innovating role in the growing information society (Deegan & Tanner, 2002; Martell, 2003; Saarti, 2006; Saarti, 2008).

The implementation of ICT in libraries has eventually led to some new concepts that are not always easily distinguished from each other. These are the digital library, the electronic library, the virtual library, the hybrid library, and the library without walls. The following is a very short description of these important concepts in order to acknowledge them. The digital library is often described as a managed and organized collection of digital objects arranged to serve the user communities. The electronic library is generally seen as synonymous with the digital library. The hybrid library is instead concerned with bringing multiple formats together, from digital to printed information sources, in the context of a library. Finally, the virtual li-

brary can be seen as synonymous with the library without walls. The concepts are concentrated on the fact that information is no longer bound to specific spaces and information from different sources can be brought together digitally (Deegan & Tanner, 2002). Each concept is surrounded by its own area of research; however, it is not in the scope of this thesis to study these any further. Library 2.0 could be considered as an addition to these concepts, although the focus has partly changed from the information to the people managing the information and, in this study, to people's information activities.

Investments regarding the Internet in public libraries have been and still are subjects of criticism, both from the library field and in the media. The Internet is seen by some as being purely entertainment and of lower value than the service surrounding books. It has also been seen as incompatible with the mission of public libraries (Bertot, Jaeger, McClure, Wright, & Jensen, 2009). (See section 4.1 for a more thorough compilation of the library professionals' attitudes towards technological changes.) D'Elia, Jörgensen, Woelfel, and Rodger (2002) present three possible scenarios for the future relationship between the Internet and the public libraries. The first scenario is, what they call, status quo, which means that the libraries and the Internet will continue serving different markets, and resources on the Internet will complement the resources of the library. The second scenario is change; the public library will revise its mission and its services to stay relevant and be able to serve Internet users as well as library users. The last scenario is called obsolescence, which means that public libraries will stop existing because the Internet will reduce the need for them. These scenarios summarize the earlier discussions in the field concerning the Internet and public libraries.

2.4 Library 2.0: social media in libraries

The public librarian Michael Casey coined, in 2005, the concept Library 2.0 on his blog Library Crunch (Black, 2007). This can be seen as a step in line with the second scenario put forward by D'Elia et al. (2002): to keep the library relevant by utilizing the possibilities of the Web. The definition and use of the concept Library 2.0 was, like Web 2.0, followed by a lively and unresolved debate (Black, 2007).

Serantes (2009) divides the LIS literature on the idea of Library 2.0 into three perspectives. The first perspective is concerned with directly applying Web 2.0 to the library by following O'Reilly's (2005) principles of Web 2.0. The second perspective focuses on developing Library 2.0 more in the line with the library's missions and activities, creating an independent concept. The third perspective is about taking a critical approach to Library 2.0, which, according to Serantes, has been rather neglected in LIS literature. There has actually been resistance to this concept from the beginning and this can be illustrated by the fact that the Wikipedia article on Library 2.0 was nominated for deletion in 2006 ("Library 2.0", 2006).

It seems that the use of Library 2.0 was at its maximum during the years 2007-2008, after which it occurred increasingly less in the publications of library and information professionals (Crawford, 2011). At the same time the implementations of social media into libraries has gathered more recognition. There are a noticeably higher number of publications written by library professionals than by LIS researchers. Aharony (2011) also found that the number of peer-reviewed articles is quite modest. The social media tool that has received the most recognition in the literature is the blog, while tag applications have received the least recognition. Most of the articles on tag applications are, however, peer-reviewed (Aharony, 2011). In the following sections the literature is divided into literature of a defining nature and literature concerning practical implications and case studies, of which the latter seems to be the most common in the reviewed LIS literature. Here definitions are regarded first, followed by an overview on how Library 2.0 can be implemented in practice.

2.4.1   The construction of Library 2.0

Even if the voices for using the term Library 2.0 are diminishing, the concept marks an interesting time in the library field. The ideas about Library 2.0 were mostly debated using the very same tools that were being advocated; namely blogs, social networks and other social media tools. Active in the discussions were library and information professionals from North America but interest was also high in the Nordic countries, the United Kingdom, Australia, and several other places around the world. Library 2.0 has also been discussed through more traditional platforms, such as professional and academic journals, and printed books; although interestingly, the number of peer-reviewed

articles still remains low (Aharony, 2011). The ideas of Library 2.0 have had a global impact on the library field and concern both public and academic libraries of all sizes.

In an attempt to collect statements from blog posts on Library 2.0, Crawford (2006) found a total of seven definitions and sixty-two views. He saw a division among the bloggers on whether Library 2.0 is a natural evolution or a revolution in the library field. Crawford came to the conclusion that there are two Library 2.0s: Library 2.0 and "Library 2.0". Library 2.0 includes both new and older software tools that are useful for providing improved and new library services. The other "Library 2.0" is, according to Crawford, simply a bandwagon and hype. Cullen (2008) sees a division also in the professional library literature into two camps. One camp that emphasizes the importance of adapting the principles of Web 2.0 into library services, and one which approaches Library 2.0 with more caution, weighing benefits against risks.

Library 2.0 definitions articulated in the blogs of library and information science professionals are, for example, Fichter's (2006) formula: "Library 2.0 = (books 'n stuff + people + radical trust) x participation". A longer definition comes from Brevik (2006): "Library 2.0 is the natural evolution of library services to a level where the library user is in control of how and when she gets access to the services she needs and wants".

Maness (2006) was one of the first who, in an article, mentioned a theory of Library 2.0. He also provides one of the more precise definitions: "The application of interactive, collaborative, and multi-media web-based technologies to web-based library services and collections". Black (2007, p. 12), on the other hand, broadly describes Library 2.0 and Web 2.0 as "simply attempts to describe the changes the web has brought to society". Casey and Savastinuk (2007) see participatory services and change as the most important parts of Library 2.0 and they emphasize that it is a question of both virtual and physical library services. Lankes, Silverstein, and Nicholson (2007) define the concept as an attempt to apply Web 2.0 technologies to the purpose of the library, together with goals for greater community involvement. They were also one of the first to suggest an alternative concept to Library 2.0: "participatory networking". Nguyen, Partridge, and Edwards (2012) also support the notion of a "participatory library".

It is clear that these definitions focus on different parts of Library 2.0. Some focus on Web 2.0 technologies, while others emphasize library services or user participation. One of the most comprehensive pictures of Library 2.0 and its components is the model of Library 2.0 (Figure 2.2) presented by Holmberg, Huvila, Kronqvist-Berg, and Widén-Wulff (2009a).
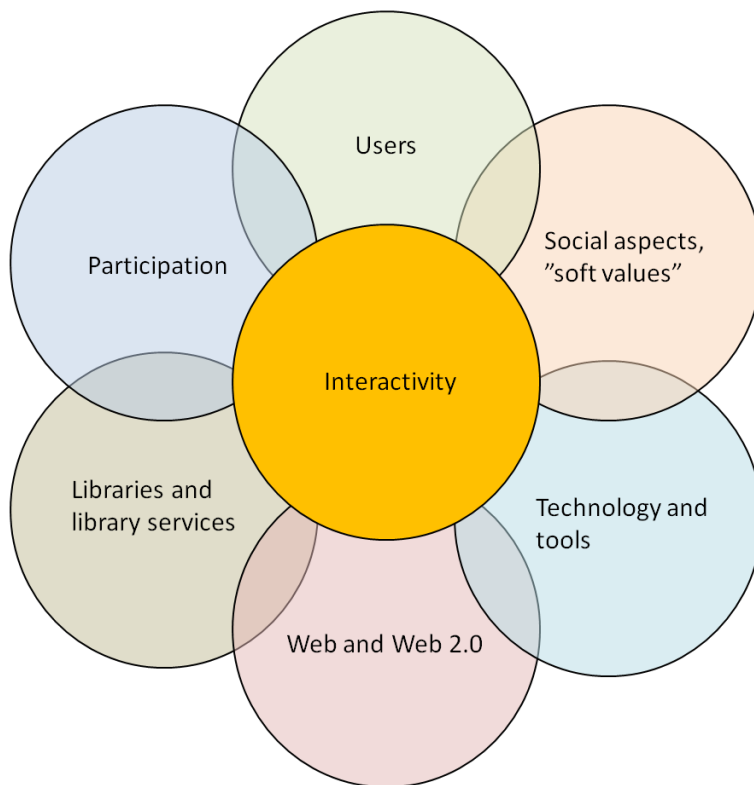
Figure 2.2 The building blocks of Library 2.0 (Holmberg et al., 2009a)

This model of Library 2.0 consists of seven building blocks: interactivity, participation, users, social aspects, technology, Web 2.0, and libraries. These components or building blocks were empirically determined through co-word analysis. The material used for the analysis were written answers to the question "What is Library 2.0?" given by

29 Nordic (mainly Finnish) practitioners and researchers in the field of library and information science (Holmberg et al., 2009a). The seven components of Library 2.0 are interconnected and they are all needed to obtain a complete picture of what Library 2.0 entails. This model incorporates all the aspects of the definitions presented earlier: the technical aspect, the social dimensions, and the library services. Interactivity is the main element and interconnector between these components. Drawing on this model, Holmberg et al. (2009a, p. 677) have come to the conclusion that "Library 2.0 is a change in interaction between users and libraries in a new culture of participation catalyzed by social web technologies". In this study the interplay between the building blocks of Library 2.0 are highlighted through earlier research, theory, and empirical investigations.

Carlsson (2012) points out that the rhetoric surrounding Library 2.0 set out two alternatives for libraries: adapt to technological changes or become obsolete. Instead of supporting the view of public libraries as passive followers of these changes, Carlsson (2012, p. 201) sees the libraries as active co-constructors of technology. The definitions of Library 2.0 accounted for above tend to highlight the positive aspects of social media, neglecting some of the issues presented in section 2.2.2. The value of a concept such as Library 2.0 can be debated, but it has brought important issues to the agenda. Issues concerning the role of the library today, the use of social media technologies in libraries, and the implementation of new services.

2.4.2 Public Library 2.0 in action

Besides the debate on the actual definition of Library 2.0, a great deal of the library blog space is devoted to the more practical side of implementing social media services and activities in libraries. Library professionals share information on what social web technologies they have implemented and how they are being used. Articles and books have also been written with this in mind. Library 2.0 services or activities are seen as a supplement to more traditional library activities that need to be continually evaluated and developed in collaboration with the users. Chua and Goh (2010) found that the most common social media tools implemented by libraries are blogs, followed by RSS, instant messaging, social networking services, wikis, and lastly social tagging applications. A publication published on the initiative of

agencies in Denmark, Finland, Norway, and Sweden: Nordic Public Libraries 2.0 (Holmgaard Larsen, 2010) contains good examples of Library 2.0 implementations specific to the Nordic countries, as well as the development of sufficient spaces inside and outside the library.

Many social media tools can be easily and swiftly implemented and at a low cost by following the ideas of Web 2.0. The number of Library 2.0 implementations is growing from day to day in public libraries and other library contexts (Widén-Wulff, Huvila, & Holmberg, 2008). In the U.S., however, the case seems to be that small public libraries are lagging behind and the libraries with more funding are also providing more social web services (Lietzau, 2009). Rutherford (2008b) and Joint (2009) both stress the importance of having a library strategy for the implementation of social media. Rutherford (2008b) conducted a small study of early adopters responsible for social media services in their libraries and their thoughts on the implementation process. A successful implementation was dependent on the full support from management, and the fact that the investment of money and time should be justifiable, and the learning curve not being too high. The libraries also need to consider the education of both staff members and the users, and marketing techniques. Social media services seem, moreover, to be well in line with public library's missions; they help improve the service to the users and help the libraries reach their goals (Rutherford, 2008b). Evjen and Audunson (2009) further point out the question of timing. A reform, such as implementing new services, needs to coincide with the public's perception of the organization to be successful. A reform can otherwise be seen as too delayed and out of date or not in line with the organization's area of jurisdiction. From the public's point of view a successful reform is,, "perceived as timely, relevant and legitimate" (Evjen & Audunson, 2009, p. 163).

There are essentially three different ways that libraries have approached social media services and how these are also described in the literature: 1) by selectively working with a set of social web technologies side by side their static web service 2) by creating a completely new dynamic and interactive web service or 3) by creating shortcuts to the library's web service through outside web services (Cahill, 2009; Casey & Savastinuk, 2007; Farkas, 2006; Rutherford, 2008a, 2008b; Stephens & Collins, 2007; Wallis, 2007). These three approaches evidently do not exclude each other.

Most libraries choose, as their starting point, to selectively implement different social web technologies. A library blog has been the first step for many libraries in trying out social media tools. The blogs are seen as complements to the library's web service and are used to promote events, present news, and as reader's guides. The interactivity is primarily facilitated in the comment section of the blogs, although some libraries also allow users to write blog posts (for example book reviews). There are, however, libraries that have chosen to block this interactive feature out of fear of damaging content and spam. Other common tools used by libraries are audio and video blogs (podcasts and vodcasts) for interviews with authors or guided tours, wikis for subject guides or local community projects, and instant messaging (IM) for virtual reference. These social media tools enable information activities such as information sharing and mediating (for example blogs), information seeking (for example IM), and information publishing (for example wikis and blogs) to name a few. The advantages with this approach are that the libraries can remain abreast of the development of new technologies and that these tools are often easy to implement and low in cost. The drawback is that the libraries become dependent on third-party companies with complicated copyright licenses. It is also difficult to assure the safety and durability of such sites and the problem of how the library can preserve its content (Joint, 2009; Stephens & Collins, 2007). These services also require considerable marketing to reach out to regular and potential library users.

Some libraries have taken a further step by trying to create completely dynamic web sites. The essential part of which is often the implementation of an interactive catalog. The library catalog was, as mentioned in section 2.3.2, one of the first things that were computerized and the online public catalog (OPAC) was an important breakthrough. Since then developments have been slower and many catalogs today are lagging behind. In 1996 Borgman had already put forward the question "Why are online catalogs *still* hard to use?" addressing an issue she had drawn attention to as early as 1986. Borgman (1996) emphasizes the importance of implementing the results of information retrieval research and other studies on user behavior in designing online catalogs. In the 21st century, public library web sites and online catalogs still face critism. They are generally seen as too static, not taking advantage of the interactive features of the web and being used simply as an information resource about the physical libraries (Casey, 2007; Fichter, 2005; Hildebrand, 2003). A catalog 2.0 should include interactive features such as personal pages for users, rating systems, user-added tags, and reviews written by both users and professionals. These features encourage information activities such as sharing, me-

diating, creating, and publishing, as well as new ways of organizing, searching, browsing, and monitoring information. The library web site and catalog should no longer be just for locating, but also for discovering. The advantage with creating a complete social media service is that the libraries only need to deal with one system supplier, which makes the administration part easier. The security of the web site can in this way reach a higher level. The drawback with being dependent on only one system supplier is that the libraries may not be able to adopt new technology as swiftly as they would like. The system supplier would also have to be very sensitive to the libraries' needs, such as technological, usability, and information-related needs (Casey, 2007; Dempsey, 2006; Joint, 2009). This also demands that the library professionals can communicate their and the users' needs to the system suppliers. Libraries implementing this approach still have to actively promote the web service to assure its visibility on the Web, because there is no guarantee the service will attract users.

The third approach is creating shortcuts to the library's web through external web services. This builds on the idea of attracting users by establishing a presence on the sites they already use; the main tools here being different well-established social networking and content sharing sites. Some libraries have chosen to create spaces on Facebook, MySpace, and SecondLife, and there are also libraries present on photo and video sharing sites such as Flickr and YouTube. This is not an entirely new idea; libraries have, for example, taken interest in virtual worlds since the 1990s (Ostrander, 2008). Today's interest in online social networks are mainly marketing oriented, but the libraries are also trying to enable new communication channels between the library and the users and also between users. Social network sites compose an enabling environment for library professionals and users to engage in different information activities. However, research still shows that libraries mainly use their Facebook pages for disseminating information and marketing services, neglecting the communication possibilities mentioned above (Aharony, 2012). The drawback with this third approach is that many network sites have problematic terms of use and are seen by some parent organizations as security risks. This has led to network sites being blocked on library computers, both for the users and the staff. Studies also show that the users are sometimes reluctant to accept libraries in their social networks. On some social network sites, organizations, including libraries, have even been refused permission to become members (De Rosa, Cantrell, Havens, Hawk, & Jenkins, 2007; Scale, 2008; Stephens & Collins, 2007).

Anttiroiko and Savolainen (2011) conducted a literature review to find the main purposes of public libraries for implementing social media services. One of the main purposes, according to them, is communication using tools such as RSS feeds and instant messaging. Another purpose is content sharing which is mainly achieved by using blogs and content sharing sites (for example YouTube, Flickr). A third purpose is social networking and Facebook is by far the most popular service utilized by public libraries. The fourth purpose for which libraries implement social media services are for crowd sourcing, employing tag features, social bookmarks, and rating systems. Anttiroiko and Savolainen (2011) further point out that libraries should not strive to compete with popular commercial social media services. Libraries should instead strategically strive to find a suitable level and quality of interaction with users by combining an appropriate set of social media tools consistent with the library context.

Libraries who want to be successful in the implementation of social media services need to think about advocacy, listening, and training. The risks with social media implementations can be related to the following issues: sustainability, digital preservation, human factors (maintenance responsibilities), and accessibility (Kelly, Bevan, Akerman, Alcock, & Fraser, 2009). Implementing social web technologies in public libraries has still proved to have some positive impacts. Early adopters state that it has led to the creation of communities, helped to reach out to and attract new and former users, opened up communication, and allowed new measurements of usage and value (Rutherford, 2008b).

2.5 Summary

This chapter has presented the background and context of the Web, social media, and public libraries. The flow of information and the development of the Web and social media have had a significant impact at both a societal and an individual level. The web is constructed and constrained by social activities and societal contexts, which become even more evident in the notion of Web 2.0. The convergence of information through physical and online boundaries provides the public library with both opportunities and challenges.

During the latest decades, libraries have been good at utilizing the possibilities inherent in ICT, while at the same time the Web has developed and increased the social possibilities of ICT. Social media has created a different way of using technology so that the focus is placed on the interaction with users instead of the technological tools.

Web 2.0 and Library 2.0 are concepts created to describe change. Both, however, have remained partly on a practical level and partly on an idea level. There is no developed, consistent theory of either Library 2.0 or Web 2.0 within the literature of LIS. The lack of a specific theory leads to investigations of Web 2.0 and Library 2.0 from many different perspectives.

The literature is, to a great extent, focused on the possibilities, leaving little room for a discussion of the challenges. The activities of the stakeholders do, however, point to both challenges and possibilities and will be investigated further in Chapter 4. Before this subject can be considered, a more scrutinized examination of information and information activities is needed in order to give a theoretical framework to this study of social media and Library 2.0.

3   Information and information activities

It is not an obvious choice to investigate social media and public libraries from an information perspective. It is more common to look at social media as a form of technology, a communication tool, a leisure time interest, or simply as entertainment. In this study, the stance is that the actual social media tools are constantly changing and dependent on the content, in other words, on the information created, shared, and acquired. Thus, the content is investigated as information drawing on the wide array of literature available in the field of Library and Information Science (LIS). In this research field, "We always follow the information" (Bates, 1999). The focus of the present study lies on information activities and not on explicit social media tools. The goal of this chapter is to look at the theoretical underpinnings concerning information in a social media and public library context, and to indicate the value of exploring this particular perspective.

The attention of the present study is directed towards information activities inherent in social media and public libraries. Information activities are one possible way to investigate how people handle information. Research surrounding the question of how people deal with information is mainly done within the framework of information needs, seeking, and use (INSU) in LIS. Most of the research is placed under the label 'information behavior', but during recent years an increasing amount of research has also been conducted under the label 'information practice'. Figure 3.1 illustrates how the relationship between these areas is perceived in this study. INSU is the overall framework encompassing information behavior and information practice, which are the two broad research areas that both encompass theoretical notions concerning information activities. Information activities are seen, in this study, as a narrower level of investigation that provides a more tangible level of analysis than the broader areas of information behavior and information practice. In other words, information behavior and information practice are the analytical underpinnings, while information activities are the empirical concept investigated.
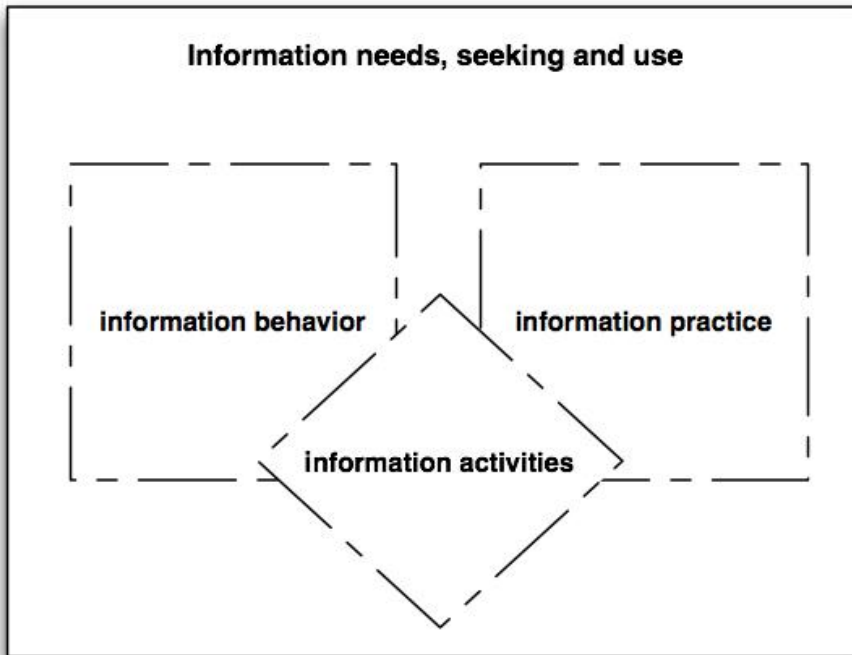
Figure 3.1 The relation between LIS approaches to studying how people deal with
information

This chapter begins by considering the information concept and how
it can be related to social media. This is followed by a description of
the theoretical assumptions underlying information activities. The
theoretical framework of both the information behavior approach and
the information practice approach are considered. An outline of the
development, and the differences and similarities between these two
approaches is also included. Finally, the implications are discussed of
the theoretical foundation used for researching information activities
in a social media and public library context. The chapter is concluded
with a summary.

3.1 The information concept

There is no sole definition of information in the field of LIS, instead there are many different suggestions as to how it can be conceptualized. Hence, there are several challenges and opportunities in understanding its connection to the public library, and to the social media context presented in the previous chapter. The choice to include a discussion of information in this chapter is to obtain a broader starting point concerning the issues related to different perspectives on information activities and social media.

Case (2012) underlines the difficulties with defining information and particularly the difficulty of forming strict definitions of the concept. He instead advocates broad definitions of information, as the concept is very basic to human understanding. Examples of such broad definitions are, according to Case (2012) "any difference that makes a difference" and Bates' (2005) "some pattern of organization of matter and energy given meaning by a living being". Here Bates' (2005, 2006a) definition will be examined further and Buckland's (1991) categorization of information. This narrow demarcation of definitions and discussions of the information concept is made as these are well known in the LIS field, and consequently provide an interesting starting point in the discussion of the social information concept in section 3.1.1. Extensive overviews of information definitions can be found in Case (2012) and Capurro and Hjørland (2003).

Bates' (2005) conceptualization of information has the aim of establishing a basis for an integrative understanding of information drawing on an evolutionary perspective, combining both social sciences and other sciences. She also emphasizes that all metatheories play a part in developing a more comprehensive understanding of information. Bates uses the following definition of information as her starting point: "Information is the pattern of organization of matter and energy". This is what Bates (2005, 2006a) calls information 1. Information 2 is defined as "some pattern of organization of matter and energy given meaning by a living being" (Bates, 2006a, p. 1042). Included are all physical, biological, and constructed patterns of organization as information. These patterns are not static, but continuously form, fragment, and dissolve. Knowledge is described as "information given meaning and integrated with other contents of understanding" (Bates, 2006a, p. 1042). Bates (2006a) also presents a set of forms of information. Two of the forms are embodied information and exosomatic information. Embodied information can be found in three

modes: in experience (experienced information), in actions (enacted information) and in communicatory expression (expressed information). There is also exosomatic information, which is stored externally to the body of living organisms. There are two modes of exosomatic information: embedded information and recorded information. Embedded information is created or altered by living organisms and is enduring. It is not intended as information but the traces left can be informative. Recorded information is communicatory or memorial information preserved in a durable medium; it can be text but also photography, film, and audio. Recorded information is a durable result of expressed information and a communicatory subset of embedded information. Bates (2008) further clarifies that her conceptualization of information is both objective and subjective, including both an observer-independent and situational sense of information. Bates (2006a) suggests that her work can be seen as an initial effort to identify the various information forms needed for the study of people in their information contexts.

Buckland (1991), in a well-cited article, has identified three principal ways the concept information is used. These are information-as-process (becoming informed), information-as-knowledge (intangible information that informs) and information-as-thing (documents, data). Buckland advocates the use of information-as-thing for several reasons. His assumption is that knowledge is intangible and personal and cannot be shared without it becoming information-as-thing. Objects or events may not always be suitable for storage and retrieval, which lead to representations of information-as-thing. Information systems are further seen as only capable of dealing with information-as-thing (Buckland, 1991). He also includes a fourth element, information processing, which entails handling, manipulating, and deriving new forms of information-as-thing. Buckland further points out that it is dependent on the situation if something is informative or not. People can, in other words, be informed (or not) by a wide variety of objects, events, and conversations depending on the situation.

Buckland (1991) and Bates (2005, 2006a) also touch upon the concepts data and knowledge. The information concept is often explained through its relationship to these concepts (Zins, 2007). The three concepts are sometimes seen as a hierarchy with data on the bottom, information in the middle and knowledge at the top (Case, 2012; Machlup, 1983). It is, however, difficult to draw clear distinctions between these and they are sometimes used as synonyms. The distinction often made is that data and information can be represented by tangible and physical objects while knowledge is always connected to

the human mind (Case, 2012; Machlup, 1983). Information has an important place in LIS and it is the basis of a long line of concepts such as information behavior, information needs, information seeking, and information source. In practice theory information rarely appears, it is instead knowledge that is in focus as practices are based on understanding and knowledge. Knowledge, however, in this theory is not seen as a cognitive construction but is instead described as an activity of a practical and collective nature. Knowledge is acquired through thought, body, sensory and aesthetic means (Cox, 2012; Gherardi, 2009). In the Web and social media context all three concepts are used, but the most common is the concept of content (for example: "upload content", "create content", "content sharing site"). Content, data, information, and knowledge are in this study seen as interconnected without any distinctive divisions. The concept mostly employed here is information because of its elementary position in human understanding, and is combined with the vast theoretical groundwork and its status in the LIS field. Information in the social media context is discussed in the following section along with the rising interest in the concept "social information".

3.1.1 Information in social media: social information

Social media is just as much about information as it is about technology. In the Web 2.0 discourse, content and data are parts of the basic principles (P. Anderson, 2007a; O'Reilly, 2005). People use social media to create, acquire, share, seek, and process information. Here the general perspectives of information developed by Bates and Buckland are first investigated in a social media context, and this is followed by a look at the concept social information and its implications for this study.

Bates' (2005, 2006a) conceptualization of information can be explored in a social media context. In social media, there is a constant information cycle that can be illustrated by a photo on a photo sharing service. The photo is Information 1 until someone views it and it becomes Information 2. When the viewer perhaps recognizes the setting shown in the picture and integrates it with other contents of understanding it becomes knowledge. The viewer can then add a comment to the picture. At first, the comment is Information 1 but when someone reads it, it quickly moves on to being Information 2 and

knowledge. This information cycle often occurs instantly on the social web. Bates' (2006a) different forms of information seem more complex in social media, which provides a distinctive information context. Recorded information is, for example, described as a durable result of expressed information. In the social media, information is recorded but its durability is an issue. The social Web constitutes an interesting context because it can record people's experienced information (if they share it), enacted information (such as viewing, commenting, grading, uploading or tagging), and expressed information (can be seen in discussion forums, chat logs, etcetera). In other words, on the social Web, embodied information easily becomes exosomatic information. There is also embedded information, i.e. content created without the purpose of being informative but that is incidentally informative to someone else. For example, a picture uploaded for fun also gives the viewer information about the behavior or practice of the individual who shared the picture. Bates' description of information as dynamic patterns of organization of matter and energy is also in accordance with the constantly changing social media context.

Buckland's (1991) view of information-as-thing is also applicable, particularly as the information present on the social media can be seen as different types of information and knowledge that through information processing becomes information-as-thing, that is it becomes readable by information systems and shareable. Social media tools have contributed to a constantly increasing flow of information-as-thing. The usefulness of all this information is questioned, for example, do people need to receive information of what their friends had for breakfast? Buckland (1991) pointed out that it is dependent on the situation as to whether something is informative or not. In other words, if someone was planning to invite a friend for lunch the information about this friend's breakfast might be useful. The situation of information could also help to partly explain the success of some social media initiatives and the failure of others or why some piece of information on the web are shared and commented on while other fail to wake any interest among other people.

Social media has during the last years led to an increased use of the concept social information in the LIS field (Widén & Holmberg, 2012). Social information can be described as information we create together, share or receive from our social networks online (but also offline). Interacting within the social media context leads, in other words, to social information. Widén and Holmberg (2012) further divide social information in LIS into three interconnected perspectives: the user perspective, the context perspective, and the content perspective. So-

cial information is a concern found within different theoretical perspectives, for example, the social informatics framework. On the other hand, the focus within social informatics is traditionally more on the social aspects of computerization and on the interaction between people and information technologies (Kling, 1999) than on how people deal with information. Therefore, the theoretical approaches of information behavior and information practice presented in section 3.2 are of greater use in the present study.

In the context of social media, it is also interesting to look at the relationship between information and entertainment. Bertot et al. (2009), for example, see social web use as entertainment and separate from other activities on the Internet such as applying for jobs or seeking government information. It is, however, difficult to draw a distinct line between information and entertainment, particularly in the context of social media. The relationship between the concepts has not been discussed to any higher degree in LIS (Case, 2012). In general, the affective influences have been overlooked while focusing on cognitive factors, although people tend to be less rational and often prefer to be informed in an entertaining manner (Case, 2012). In research on virtual communities, it has been recognized that information and recreation cannot be seen as strictly opposite (Ellis, Oldridge, & Vasconcelos, 2004). Hartel (2006) has also put forward the importance of information in serious leisure. Furthermore, there is a connection to public libraries, where fiction is provided to a much greater extent than non-fiction (Case, 2012). This indicates that it probably is not sufficient to distinctly separate information and entertainment in the Library 2.0 context.

In the present study, the social media context is seen as an information-laden environment. It is assumed that all content is potential information depending on the situation (Buckland, 1991), even if it is represented in an entertaining way. It is also assumed that the information present in social media is social information. This means that every activity in the social media is social and a potential information activity. This study is an attempt to show how social media has opened up an intriguing context for investigating information activities in libraries. The focus on activities incorporates all three social information perspectives: user, context, and content. This will be further explored in the following sections by using information behavior and information practice as a theoretical ground.

3.2 Information activities

Information activities or its synonym information actions are seldom mentioned as an explicit research area in LIS. The term started to be acknowledged during the 1980s, for example Wersig and Windel (1985) wrote an article about the need to establish a theory of information actions in information science. In the 1960s studies into different information activities such as information seeking, information receiving, and sharing, reading, writing, and publishing were already being conducted (Talja & Hartel, 2007). However, information actions or information activities have not reached any prominent position in the field because the focus has instead been on information behavior (Savolainen, 2008). Hektor (2001, p. 62) provides the following explanation of information activities and their relation to information behavior: "Information-Activities are the sets of behavior that people display [...] in their interaction with information. Basically it is a matter of seeking, gathering, communicating and giving information". Hektor further sees that information activities are social because the information is primarily external to the individual.

Most of the research concerning information activities falls under the framework of information needs, seeking, and use (INSU), and especially the information behavior approach and the information practice approach (Lundh, 2011; Savolainen, 2007). The development of INSU as a research area started with a shift in LIS from system oriented research to user studies that evolved into information needs and seeking. Somewhat later, this was expanded into notions of information seeking in context and information behavior, in order to include a broader view on information use and activities. Information practice is, according to some researchers, the next line in this progression while other sees it as a complement to the information behavior approach (Lundh, 2011; Fulton & Henefer, 2010).

In this study, the information behavior and the information practice approaches are similarly seen as complementing each other instead of competing with each other. The aim is to position information activities in between information behavior and information practice (see Figure 3.1) utilizing the theoretical work of both research approaches. The idea is, in other words, not to form a theory of information activities but to form a theoretical foundation for understanding and empirically investigating information activities. A review of the information behavior approach and the information practice approach follows

which discusses their similarities and differences and focuses on information activities.

3.2.1   Similarities and differences between the approaches

The information behavior and the information practice approach emerge from different discourses (Savolainen, 2007). The discourse surrounding information practices focuses on "the continuity and habitualization of activities affected and shaped by social and cultural factors" while the information behavior discourse concerns how needs and motives trigger how we deal with information (Savolainen, 2007, p. 126).

The boundaries between information practice and information behavior are generally not easily settled (Savolainen, 2008). Savolainen (2007) point out that there are studies that lie in between the two major perspectives, using Hektor's study of information activities as an example (although Hektor himself label his research as information behavior). There are also similarities between the concepts and perhaps even more so between the approaches of information practice and information behavior. Parts of their history and development are intertwined and some of the core concepts within the approaches are also closely related. Advocators of both approaches still participate in the same settings, publish in the same journals, and present at the same conferences (Fulton & Henefer, 2010). Furthermore, the concepts have in common the issue of ambiguity; both information behavior concept and the information practice concept have been used without deeper reflection of their meanings (Savolainen 2007, 2008; Wilson, 2008b). Savolainen sees information practice and information behavior as closely related and that they complement each other ("The behavior/practice debate…", 2009). The prime goal with the information practice/behavior debate is to draw attention to the discourses and the meaning of the concepts and not use them without thought (Savolainen, 2007).

Lundh (2011), in her doctoral dissertation, has attempted to summarize the differences between information behavior (from a cognitive view) and information practice in regard to the core concepts of information needs, seeking, and use. According to the information be-

havior approach needs are individually shaped and not always possible to articulate while the information practice approach assumes that needs are shaped in social interaction and are socially constructed. The information practice approach also emphasizes the social in seeking and use and sees them as "communicative and mediated activities that take place in situated social practices" (Lundh, 2011, p. 12). Information seeking in the information behavior approach is seen as a way to solve problems and satisfy information needs. It is a process that can involve individuals or groups and can be described as cognitive, emotional, and practical. Information use is, according to the information behavior approach, when the sought information is used to solve problems and satisfy information needs through a cognitive process (Lundh, 2011).

Information activities are the main focus of this study and the information behavior approach and the information practice approach both contribute to a better understanding of these activities. Both approaches are concerned with how people deal with information (Savolainen, 2007). The perspectives on information activities do, however, differ between the information behavior approach and the information practice approach. In the following an examination is presented of the two approaches and their contributions to studying information activities encompassing notions of contextual factors, individuals, needs and motivations, and the role of objects.

3.2.2   Information behavior

Information behavior is a prominent area of research and has reached a status of an umbrella concept in the field of LIS, although its meaning can be seen as somewhat ambiguous (Savolainen, 2008). Furthermore, there are many related concepts such as human information behavior, information seeking behavior, information searching behavior and information use behavior (Wilson, 2000). Wilson also includes information practice under the information behavior umbrella, although the advocators of the information practice approach object to this ("The behaviour/practice debate…", 2009).

Definition and scope

Wilson has put forward the following, well-cited definition of information behavior:

> … the totality of human behavior in relation to sources and channels of information, including both active and passive information seeking, and information use. Thus, it includes face-to-face communication with others, as well as the passive reception of information as in, for example watching TV advertisements, without any intention to act on the information given. *(Wilson, 2000, p. 49)*

Another broad definition is that information behavior is about "how people need, seek, manage, give and use information in different contexts" (Fisher, Erdelez, & McKechnie, 2005a, p. xix). The popularity of the information behavior concept can be partly explained by the breadth inherent in these definitions. This breadth has, on the other hand, also been seen as problematic as almost every paper dealing with information and people is included under the information behavior umbrella (Case, 2006; Fisher & Julien, 2009).

The literature concerning information behavior is vast and two extensive reviews of the area have been made by Case (2006) and Fisher and Julien (2009). Case (2006) categorizes the literature into the following groups: information seekers by occupation, information seekers by role, information seekers by demographics, and finally theories, models, and methods used to study information seekers. Most common are the studies of information seekers by occupation, although there is very little research on library professionals (Case, 2006). Fisher and Julien (2009) group the literature differently and categorize according to theme of context, specific populations, information sources, key concepts, and theoretical frameworks. None of the reviews focus on different information activities, only the information seeking is highlighted.

The cognitive viewpoint is seen, by some researchers, as the most dominant in information behavior research, but there are also many examples of studies using other metatheoretical perspectives, such as

socio-cognitive and constructionist perspectives (Batess, 2005). The broadness of the research approach is also visible in the book *Theories of information behavior* (Fisher, Erdelez, & McKechnie, 2005b) where about seventy ways of investigating information behavior are presented. Representatives of the information practice approach and other activity focused approaches can also be found in the information behavior literature (Case, 2006; Fisher & Julien, 2009; Fisher, Erdelez, & McKechnie, 2005b).

Information needs and motivations

Characteristic for the information behavior approach, particularly concerning information seeking behavior, is the notion that information needs motivate information behavior. Case (2012, p. 5) defines information needs as "a recognition that your knowledge is inadequate to satisfy a goal that you have". People may, however, not be able to articulate or even be aware of their needs. Information needs are still seldom scrutinized any further, they are just assumed to exist and be relatively uncomplicated (Case, 2012). In the literature, the most prominent ideas are that information needs arise from uncertainty (for example Belkin, Kuhlthau) and the need to bridge gaps in one's understanding (for example Dervin). Information needs are seen as internal and are difficult to observe and therefore usually recognized after an activity has taken place (Case, 2012). Wilson (2008a) does, however, point out that information needs can be shaped by contextual factors such as social roles. In other words, information behavior can be described as motivated by cognitive and social needs for information to solve problems. This further implies that information activities are triggered by needs and are goal-oriented. This notion poses some difficulties in the social media context and will be discussed in section 3.3.

Information use and information activities

Information use and information activities are closely related. Information use is quite often mentioned in the information behavior literature, but it is conceptualized in diverse ways (Kari, 2010). Information use has been far less studied than information seeking, although it should be considered as an important part of information behavior (Spink & Cole, 2006). Kari (2010) found that information use has been conceptualized, in the LIS literature, in seven different ways: as information practices, information search, information processing, knowledge construction, information production, applying information, and effects of information. Wilson (2000) divides, as men-

tioned earlier, information behavior into information seeking behavior, information searching behavior, and information use behavior. Information use is described as both physical and cognitive acts performed to integrate the outcome of information seeking with previous knowledge. Information use can, in other words, be seen as a step in the information seeking process (Wilson, 2000) or encompass almost all interactions people have with information (Kari, 2010). The ambiguous meaning of information use somewhat limits its practicality as a study object and information activities appear to be a more distinct concept.

During the latest decade, the interest in information activities has grown as well as the interest in more comprehensive theories concerning activities within the information behavior approach. Wilson (2006b, 2008a) has together with Spasser (1999) put forward the activity theory (AT), which has roots in social psychology and has been widely used in research disciplines of education and human-computer interaction. The usefulness of AT in research on information behavior is, according to Wilson (2006b, 2008a) its comprehensive view of human activity and the ability to draw attention to the different aspects of the context in which this activity takes place. In this theory, subject, objects, and tools are seen as equally important as well as the interaction between them. Based on this and the work of Engeström (1987) Wilson (2006b) put forward a process model of activity, adding elements such as external environment, cultural-historical-conditions, community, motivations and goals, norms, division of labor, and outcomes. Wilson (2008a, p. 152) also states that activity theory "would be appropriate for any investigation of library and information *practice*". According to AT, activities and actions are not synonymous, which is common elsewhere (Savolainen, 2008). Leontev, one of the founders of the activity theory, has instead drawn distinctions between activity, actions, and operations. Activities are always associated with motives and consist of actions. Actions are related to individual purposes or goals and are accomplished through operations. Operations have no goals but are instead dependent on surrounding conditions and resources; they are a mode of realizing actions, and actions realize activities. Human activity is said to only exist as actions or chains of actions (Leontev, 1978; Wilson, 2006b).

Information seeking is the most investigated information activity in the information behavior approach. There is also research concerning other specific information activities such as information retrieval, information sharing and information organization. There are, however, not many attempts to categorize different information activities. Kari

and Savolainen (2003) and Hektor (2003) have put forward two differ-ent categorizations.

Hektor (2001, 2003) has through empirical and theoretical investiga-tions categorized a comprehensive set of information activities in the context of everyday life. He starts out with four forms of information behavior: seeking, gathering, communicating, and giving information. These forms relate to seven information activities that are search and retrieve, browsing, monitoring, unfolding, information exchange, dressing, instructing, and publishing. Search and retrieve is described as a direct and active form of seeking. Browsing is partly a form of seeking and partly a form of gathering. It entails "moving in a limited environment, with some level of perceived probability of encounter-ing a resource of some value" (Hektor, 2003, p. 128). Monitoring is a gathering behavior and this activity involves gathering of incidental information from intentionally chosen sources and services that are already familiar. Unfolding is part of communicating behavior, but also partly gathering behavior. It entails a deeper engagement in the gathered or communicated information by listening, reading, or view-ing, for example, experiencing a book or a film. Exchanging infor-mation is an activity in communicating behavior and it involves giv-ing and getting messages. Getting is related to the unfolding activity and giving to the dressing activity, however, in the exchanging activi-ty the reciprocity between these two is highlighted. Dressing is both a form of communicating and giving behavior. This activity involves shaping the information into symbols, signs, or pictures so it can be externalized and shared publicly or kept private. Instructing is solely a giving behavior and Hektor (2001, 2003) describes it as a unidirec-tional activity aimed at an anonymous or general institution or a rep-resentative of an institution. The last activity categorized by Hektor is publishing and it is also a form of giving behavior. Publishing entails that the information given will reach out to the recipients who can take part in it, for example, posting a comment in a discussion group (Hektor 2001, 2003).

Kari and Savolainen (2003) incorporated information action as a back-ground element of web information seeking. They draw a strict line between information action and other types of actions or activities on the Internet such as entertainment, education, and communication. Information action is here defined as "a process in which the individ-ual performs meaningful deeds in relation to information and knowledge (a sense associated with the information) in order to achieve something" (Kari & Savolainen, 2003, 161). Kari and Savo-lainen (2003) categorize information actions as creating, disseminat-

ing, guiding, mediating, organizing, seeking, and storing. They do, however, only proceed with describing information seeking in more detail. It is noteworthy that they point out action in relation to behavior and the issues of using the behavior concept, which has been highlighted in the information practice debate in recent years.

3.2.3   Information practice

The concept of information practice has been randomly mentioned in the LIS literature since the 1960s. It was, however, not until the beginning of this millennium that a deeper discussion about the concept and its usefulness started. This has led to a formation of an information practice approach, which according to its advocators should not be recognized as a part of the information behavior approach but as an alternative research area. The information practice approach is therefore relatively new and interest in it has flourished in Australia, North America, and the Nordic countries (Fulton & Henefer, 2010; Savolainen, 2008). It is not only in the LIS field that practice has gained interest, a similar turn to practice is visible in other disciplines including philosophy, technology, sociology, and education (Schatzki, Knorr Cetina, & Savigny, 2001).

Definition and scope

Talja and McKenzie (2007) point out that all human practices are social and information needs, seeking, and use are composed of both social and dialogical elements. In the information practice approach, practice is seen as a concept on the analytical level, although within other approaches it is commonly used on an empirical level or to describe professional work (for example library practice). Savolainen (2008, p. 2-3) defines information practice as "a set of socially and culturally established ways to identify, seek, use, and share the information available in various sources such as television, newspapers, and the Internet". Practices are detectible in both work and non-work contexts (Savolainen, 2008). McKenzie (2003) has developed a model of information practice in relation to everyday life information seeking. Veinot (2007) highlights through her study of vault inspectors that information practices also exist in less obvious settings. Cox (2012, p. 177) suggests that it would be better to talk about "information in social practice" rather than information practice because information activities such as information use, creation, and seeking

are present in most practices but seldom the focus of attention among the social actors. Hartel (2006) has, for example, investigated information activities in the practice of gourmet cooking and found activities such as seeking, reading, use, non-use, producing, and talking.

The new interest in the information practice approach is a reaction against the strong positioning of the individual as the unit of analysis, common in other information science approaches (Cox, 2012; Fulton & Henefer, 2010). In information practice, the basic unit of analysis is practices or sets of actions, removing the focus from individual behavior, actions, motivations, and skills. Practices are not seen as belonging to individuals, they are rather seen as properties of different social contexts. It is a step away from cognitivism, rationalism and explaining behavior through abstract social structures such as class and gender. The individual is instead seen as a "carrier" of practices that may help in the understanding practices without being the prime unit of analysis (Cox, 2012; Fulton & Henefer, 2010; Lloyd, 2010; Tuominen, Talja, & Savolainen, 2005; Veinot, 2007). A practice-based approach can also be described as an interpretive lens in studying different occurrences without giving prominence to either objects or subjects (Huizing & Cavanagh, 2011).

The main influences on the information practice approach come from the practice theory in social sciences (Cox, 2012). Practice theory is actually not one theory but a collection of theories linked together by certain ideas. Practice theorists have in common the fact that they focus on the social elements of practices and the conviction that "it is in practices meaning is established in human life" (Schatzki, 1997, p. 284). Practice theory contributes to a deeper understanding of issues concerning social life, how it is organized, reproduced, and transformed (Schatzki, 2001). Philosophers, sociologists, and researchers that are often linked to practice theory are Bourdieu, Giddens, Wittgenstein, Garfinkel, Schutz, Heidegger, Foulcault, and Schatzki (Cox, 2012; Savolainen, 2008; Talja, 2010; Veinot, 2007).

Practice theorists conceive practices as "embodied, materially mediated arrays of human activity centrally organized around shared practical understanding" (Schatzki, 2001, p. 2). The most known and applied practice theory in LIS is communities of practice developed by Wenger and Lave (Cox, 2012). The criticism against or limitations of practice theories as a whole are that they are often applied to bounded social worlds and there are difficulties in looking at practices across communities; it is also difficult to differentiate between practices. The

diversity of the practice movement can, furthermore, be pointed out as a weakness (Cox, 2012; Huizing & Cavanagh, 2011).

Information practice is closely connected to social constructionism among the metatheoretical perspectives, in which the social and external use of information is emphasized as well as the role of language. Michael Foucault's writings are said to have contributed to the development of the information practice concept (Fulton & Henefer, 2010; Lloyd, 2010). Even though the social constructionist view is well represented it is not the only one, for example, Veinot (2007) refers to information practice research using other metatheoretical perspectives such as the socio-cognitive perspective. Lloyd (2007),in her article, combines two metatheoretical perspectives and in Talja, Tuominen, and Savolainen (2005) information practice is part of both the collectivist and the constructionist perspectives. Important methodological approaches in regard to information practices are ethnography, participant-observant methods, and case studies as well as interviews and textual analysis. A special issue of *The Library Quarterly* called attention to discursive approaches, such as discourse analysis, for investigating information practices and information seeking in context (Fulton & Henefer, 2010; Talja & McKenzie, 2007). Savolainen (2008) points to some empirical issues, particularly in studying everyday information practices. One problem is that a researcher might only state the obvious or, alternatively, give too much significance to some practices. Gherardi (2009) also points out that the term practice can be associated with something quite transferable and obvious while practices in fact are hidden and tacit, leaving them difficult to discover, measure, and observe.

Practices and information activities

Activity is not often mentioned in the practice literature, but actions occur more frequently. There is still no consensus about the definition of the action concept, however, most practice theorists conceive practices as more fundamental than actions. This implies that actions are only meaningful in the context of practice (Savolainen, 2008). Information activities can be understood as a part of information practices.

Schatzki's definition of practice, quoted earlier, emphasizes the importance of objects and embodiment. Practices can be described as composed of actions that are either bodily doings or sayings or the actions these constitute. Embodiment, the focus on bodily actions, skills, and habits is thus characteristic of the practice theory (Savo-

lainen, 2008; Schatzki, 1997). This suggests that information activities are also physically connected to the human body and are not only cognitive. It is also emphasized that practices are materially mediated, that is, objects are significant in forming practices and reciprocally being formed by practices (Cox, 2012). This notion implies that objects (tools) should also be regarded as having agency in information activities (Savolainen, 2008; Schatzki, 1997).

Even though embodiment is important, practices are seen as belonging to social contexts instead of individuals. Lave (1988) has developed the notion of context in which actions take place. Context is the interplay between arena and setting. Setting is the subjective experience of a context while arena is the objective entity of context that exists outside the individual and is out of their control. There is a dialectical relationship between the setting and the activities, generating each other. T. D. Anderson (2007) has used this notion of context to illustrate information retrieval systems and documents as settings and arenas. Lave (1988), in her practice theory, continually emphasize the relation between persons-acting and the settings, and that practices are constituted in this relationship. It is, in other words, important to consider the context information activities that take place and recognize that they are shaped by the context, but also shape the context.

Practices and actions are social and originate from social interactions between members of a community. It is practices that generate and shape wants rather than individual needs (Cox, 2012), which differs from the view taken in the information behavior approach. Lave (1988) also states that activity arises from expectations rather than goals. There is no agreement among practice theorists on the degree of routine and habit of practices and if and how they can be reshaped. According to Lave's practice theory, new practices are generated through situated activity while old practices are reproduced (Cox, 2012; Talja, 2010). Practices are processes, in other words, not stable sets of routine actions although they tend to change slowly (Savolainen, 2007, 2008).

Huizing and Cavanagh (2011) have depicted five key principles of practice theories and these can serve as a way of summarizing the information practice approach. The key principles are: including objects, stretching interaction, foregrounding dynamics, explicating knowing, and articulating practice. The material objects are recognized as active agents similar to subjects and changes occur to both in their interaction with each other. Objects and subjects are both carriers

and generators of knowledge, although objects do not have the intentions and goals distinctive for subjects. The interactions between objects and subjects shape both social order and change. The second principle, stretching interaction, is about combining the micro level settings and the macro level arenas. Foregrounding dynamics is about giving prominence to actions and practices rather than actors and organizations. The fourth principle is explicating knowing and entails the notion that knowledge is, to a great extent, constituted within practices. The last principle, articulating practice, is about looking at activities, the shared knowing and the effects on society using practice as an interpretive lens.

3.3 Information activities in the Library 2.0 context

It is also important to follow the information in the social media and public library context. The INSU research area has generally been closely connected to changes in information technology (Bates, 2010) and there is no reason why social media should be an exception. Public libraries are information organizations working closely with information technologies (see section 2.3). Wilson (2008b) further points out that there is a need for more research concerning public libraries and information activities such as seeking. Research on the information behavior of library professionals is also scarce (Case, 2006). Although the fairly obvious interplay between information, social media, and public libraries and their numerous connections, it is a challenge to combine these three broad entities. In this study, this is attempted through investigating information activities in the context of Library 2.0.

Social media and public libraries provide contexts for information activities. It is, however, probable that people do not recognize their actions as information activities (Cox, 2012). In both contexts, there are information activities such as information seeking, acquisition (reading, viewing, listening), contributing, publishing, organizing, and communicating. By combining the contexts into a Library 2.0 context makes the versatility of the different information activities even more distinct. Context is considered important in both the information behavior approach and the information practice approach, and a key element from the socio-cognitive perspective. In the information behavior approach, context is seen more as a background element than

as a study object. In other words, activities are seen as belonging to individuals even if they are shaped by the social context, while in the information practice approach neither activities nor even knowledge are the property of individuals, but instead inherent parts of social practices and contexts. Context is, in this approach, seen as actively shaping activities instead of being a background feature. Lave's (1988) division of context into settings and arenas can further be applied to Library 2.0. In the Library 2.0 context, the public libraries and the different social media services constitute the arena while the setting is a person's subjective perception of a Library 2.0 service, for example, a library blog, or a library Facebook page. Among library professionals, the constructions of Library 2.0 belong to the arena while the practical implementations are more part of the setting and together they form the context of Library 2.0. This division may also help explain possible differences between the ideal features of Library 2.0 and the actual implementations and their reception among stakeholders.

In the information practice approach, activities and actions are a vital part of practices, although the practice concept is the most significant in the approach. Fundamental too is the social nature of practices and actions. In the information behavior approach, the research into activities is more specific. Emphasis is put on certain information activities and the activities categorized within the information behavior approach also belong to the Library 2.0 context. In this context, however, the weight has been shifted from different forms of seeking activities to other activities. In Hektor's (2001, 2003) categorization of information activities information exchange, dressing, and publishing are interesting in the context of Library 2.0. Hektor's four forms of behavior: seeking, gathering, communicating, and giving information, can also be used as a starting point in this context. Even if Kari and Savolainen (2003) draw a strict distinction between information and entertainment and communication, they also point to diverse information activities such as creating, disseminating, mediating, and organizing. In addition, empirical studies such as Chua and Goh (2010) show how social media and information activities can be combined. In their study of social media applications in public and academic libraries, they classified the social media tools as different information activities. Blogs and wikis are classified as information acquisition, RSS as information dissemination, social tagging as information organization, and instant messaging and social networking services as information sharing. Hall (2011) also points out how social bookmarking and blogging contribute to different information activities such as information discovery, access, and provision. Social tagging can also be seen as assisting in organizing and browsing for information, and a complement to more traditional methods (Ding et al., 2009).

Social media is said, nevertheless, to have highlighted the shortcomings of the information behavior approach (Olsson, 2012). The main issue is the motivators for engaging in information activities, i.e. information needs. In the information behavior approach, information needs are seen as the prime motivator for action, and an activity is often described to be goal-oriented and related to problem solving. These notions are also a part of the theories that are more conscious of the social aspects in the information behavior approach such as the activity theory. The engagement in an information activity is, in other words, often explained by the individual's needs and the individual's role based on different background factors (for example work role, age, gender, class). Interactions in social media services aim for more versatile activities than solely problem solving, that is communicating, creating, sharing etcetera. These can be a part of problem solving, but this aspect is not emphasized. Very few have associated information needs with social media. If someone wrote down the following comment on a photo-sharing service: "Great picture!" it seems somewhat far-fetched to motivate this with an information need to solve a problem. Instead, the key ideas within the information practice approach might improve the understanding of such a comment. This approach has a different way of looking at what shapes activities. Activities do not come from individual needs or wants, instead they are shaped by practices or expectations and in the relationship between actors and settings (see section 3.2.3). Activities are triggered by practices, including earlier experiences and expectations and the comment can be explained as given, for example, because of a sense of reciprocity among the contributors of the photo-sharing community.

The move towards the activity theory within the information behavior approach still points to some relevant factors for understanding activities. These are cultural-historical conditions, community, norms, and division of labor (Wilson, 2006b). The tools used in Library 2.0 services might be new, but the libraries and also the Web are older and provide their own specific conditions. There are different communities at play, for example, blog communities, Facebook groups, the taggers in a folksonomy. There are also issues of combining the norms of social media services with the norms found within library organizations. The division of labor among stakeholders should also be highlighted in information activities. Following the practice theory formed by Lave (1988) Library 2.0 can be explained as the relationship between persons-acting and their settings, and how the activities are constituted in that relation. In the practice approach, it is made clear that objects/artefacts/tools have agency and can form and be formed

by practices and hence, actively and reciprocally shape activities. Burford (2012) found that the existing information practices are reshaped and reinvented by adopting new social media tools. Library 2.0 is an example of this, in other words, Library 2.0 has an emerging information practice. An interesting dichotomy is notable here. Practices are processes but they tend to change slowly while social media is characterized as constantly and rapidly changing.

Combining the information behavior approach and information practice approach when studying information activities can at first seem impracticable, but it can serve to develop a deeper understanding of information activities. The two approaches show that there is more to information activities than merely the specific activity. Activities need to be put into a context, as the objects or tools play a significant role, and activities are motivated by something: by needs and/or by practices. Another important notion found in both approaches, although more obvious within information practice, is that information activities are social. In this study of information activities, both actors and practices are seen as playing a vital role in understanding the activities in the Library 2.0 context.

3.4 Summary

This chapter began by considering information and the connections between social media and information. The idea is that the notion of information can deepen the level of understanding of what is happening on the social Web. Both the notion of social media as an information context and the situational and social nature of information were highlighted.

Information activities are put forward as the unit of analysis in this study, placing it in between the approaches of information behavior that focus on individuals and information practice that focus on practices or sets of actions. An effort is made to gather useful literature about information activities from both approaches in order to empirically investigate the information activities of stakeholders in a Library 2.0 context. The information behavior approach and the information practice approach were compared to find similarities and differences. The two approaches were then reviewed separately, including defini-

tions, scopes, and key concepts. Both approaches can contribute to the theoretical understanding of information activities in Library 2.0.

The end of this chapter was dedicated to applying the implications of the theoretical underpinnings of Library 2.0. Attention was paid to context, categories of information activities, motivations, and inherent factors such as the significance of objects. Library 2.0 involves a reciprocal interplay between information activities, tools, context, and actors. In the following chapter earlier research of the stakeholders and their activities are reviewed.

4 The stakeholders

In this chapter, the stakeholders and their use of social media tools and libraries are in focus. This study is centered on two groups of stakeholders in Library 2.0: the library professionals and the library users. The importance of these two groups in the everyday library context is evident. Their roles are not static but develop as the society and technology changes. It is outlined how library professionals, users and their activities are constituted in earlier research concerning libraries and social media.

This chapter begins with a look at the library professionals, the development of their work roles, and the impact of technology on library work. This is followed by an outline of what actually constitutes a Librarian 2.0 and the activities of a Library professional 2.0. Earlier research concerning users is presented in section 4.2. The focus lies on activities in libraries and on the Web. This is followed by a discussion about a Library user 2.0. The chapter ends with a short summary.

4.1 Library professionals

The knowledge of people working in libraries was historically seen as solely connected to bibliography: the knowledge of the authors and content of books. As time went by and European scholars took an interest in the subject, the scope was widened with the knowledge of establishing, developing, and organizing libraries. In the same way libraries have been equaled with their collections, librarianship has been about being in control of library collections (Pedersen, 2006; Torstensson, 2002). The librarians are often described as gatekeepers in the popular media, and overall there is little knowledge of the everyday tasks of librarians outside the occupation (Sinikara, 2007). Furthermore, research shows that the library professionals sometimes lack sufficient confidence in their skills and work (Sevón, 2007; Sinikara, 2007). These factors have caused a somewhat one-sided view of librarianship and the dynamic nature of the profession inherent in

daily library work has been overlooked. One way to attend to this issue is to put the focus on some other indicator of library work than collections, for example the tools used by library staff (Martell, 2003; Pedersen, 2006). In this study, the possibility of using information activities as an indicator of library work is investigated, as well as, the way these are highlighted in the social media context.

This is not a study of professionalism, but a look at the development of librarianship gives a more comprehensive picture of today's library professionals and the context in which notions of Library 2.0 and Librarian 2.0 are shaped. When the library profession was first established the important factors were library associations, journals, the creation of common classification schemes and education (Torstensson 2002). In the beginning of the 20th century, the public libraries in Finland were taken care of mostly by part-time librarians. It was a job on the side and, for example, about 40% of the library workers were school teachers. The school teachers often delegated the library work to their pupils and others had members of their family doing the work. Library education consisted only of some short provisional courses, there was no library school, and the librarians mostly worked without pay. From the 1930s librarianship was clearly a female profession. In 1945, the School of Social Sciences in Helsinki started a one-year pre-academic diploma course for librarians. It took until the year 1971 before the first chair in Library and Information Science was established at the University of Tampere. This was followed by the establishment of chairs at Åbo Akademi University in 1982 and the University of Oulu in 1988. In Finland, the departments of information studies have focused on research and on core courses such as information retrieval, information seeking, and information management. Finland's Nordic neighbors have instead also had different library schools with wide curriculums containing, for example, literature and administration without emphasis on research (Eskola, 2001; Mäkinen, 2001). Sinikara (2007) points out that the academic education of library professionals in Finland coincide with the technological development in libraries (see Chapter 2). Courses involving social media can now also be found in the Finnish academic education of library professionals.

Research literature focusing on the profession of librarians was mostly published during the 1980s and the 1990s. LIS research has since then mainly shown interest in other professional groups (Sevón, 2007; Sundin & Hedman, 2005). There have been debates about whether librarianship is a full profession or a semi-profession. This division is, perhaps, not so important today because now it is more significant to

look at the librarians' relationship to the work they do and how they handles changes in this work (Abbott, 1998). The professional development of information workers, like librarians, can be seen as a three step model. The first step is some sort of disturbance in the traditional work often brought on by a technological development. This is followed by either an internal or external competition for jurisdiction. Finally, a transformation takes place and a new balance is restored (Abbott, 1988). Changes take place within contexts; within larger social and cultural contexts, within the context of other professions and within the context of different ways to provide expertise (Abbott, 1998; Broady-Preston, 2009). Library 2.0 is also, as mentioned earlier, described as a change (Holmberg et al., 2009a).

It is a central challenge for the library profession to take on information technology, and the groups who use it (Abbott, 1998). The role of the library professional has received much attention in regard to technological change, particularly in connection to the growing use of the Internet from the middle of 1990s until today (Ashcroft, 2004; Baruchson-Arbib & Bronstein, 2002; Fourie, 2004), and literature concerning this will be reviewed next.

4.1.1 Technology and the changing role of librarians

Library professionals in general have rapidly adopted new technology and were, for example, among the first groups to realize the potential of the Web (Melchionda, 2007). Research considering the library professionals adoption of information technologies seems, however, to be surprisingly scarce (Rabina & Walczyk, 2007). The results of earlier research still points to an overall positive attitude among library professionals towards the Internet and other ICT's.

Melchionda (2007) has conducted a literature review of the role of library professionals and their attitudes towards the Web. A part of the LIS literature has focused on the negative aspects of the Internet. This literature points to the chaos of the Internet and the lack of organization of knowledge. Another issue is that users are expected to independently, without any help of professionals, navigate the world of information. Underlying these perceptions are fears of change, feeling threatened, unsure scenarios, technostress, lack of standardiza-

tion, lack of quality, and the competition of search engines and commercial tools. The majority of the literature and the library professionals do, however, see the Web as an opportunity. This positive perspective encompasses the Web as a new paradigm, a revolution, a chance for professional development and as the ultimate reference tool. There are also some ideas about a digital future, and how the information culture of the users is changing (Melchionda, 2007). The Library 2.0 debate has followed the same pattern of negative and positive perspectives towards social media.

There have been and still are discussions on the impact technology has had on the library profession. Furthermore, even the continuing existence of the profession tends to be questioned with every major digital development. The discussions do, however, usually result in a number of roles and skills library professionals need to adopt to be able to cope with the changes and stay relevant (Ashcroft, 2004; Baruchson-Arbib & Bronstein, 2002; Fourie, 2004; Martell, 2003; Melchionda, 2007). The roles librarians are expected to take on are as educators, guides, facilitators, and collaborators. This could also be expressed in activities; library professionals should engage in educating, guiding, facilitating, and collaborating. The most important skill of library professionals is, however, to remain flexible: having an open attitude towards change. The customer-oriented focus is also emphasized encouraging the library professionals to work closer with their users, forming partnerships. Overall, there is an articulated need for library professionals to be more proactive in implementing new services related to ICTs and taking on new roles (Ashcroft, 2004; Baruchson-Arbib & Bronstein, 2002; Fourie, 2004; Martell, 2003; Melchionda, 2007). The importance of traditional library services and the skills assigned to these are still indicated alongside the demands connected to the technological development (Olander & Berry, 1992). Olander (2009) has compared the views of library managers and library students concerning future library skills. She found the important characteristics to be, being cooperative, being flexible, and being open, and also being responsible and communicative. The library managers put more emphasis on being engaged and being able to cope with stress while library students emphasized being friendly, reliable, and accurate (Olander, 2009).

Libraries, like any other public organization, are set to change because they are part of societies that are continuously developing. They are "growing organisms" (Ranganathan, 1931). The library organizations shape the norms, rules and structure of librarianship (Audunson, 1999). To enable change in library work these norms have to be con-

sidered. Audunson (1999) has found that librarians who work in centralized libraries, or have worked in the field longer, are more reluctant to change. Those who are more professionally active are also more inclined to take in new ideas and norms than their more passive colleagues. Olsson (1995) has studied the impact of the technological changes on Swedish library professionals during the 1970s. She found different personal strategies for coping with the changes and that new professional roles emerged through the changes. There was a division between specialists versus generalists and between form versus content. A specialist on form is a producer of datafiles, for example a cataloguer, while a generalist on form works with system design. Olsson (1995) has found, however that the interest in technology among library professionals was so far too small for the generalist on form to be a successful strategy. A specialist on content is a subject specialist and a generalist on content is an information manager. Hjørland (2000) has further discussed and elaborated Olsson's model. He points out that the small public libraries as dependent on generalists while larger libraries have specialists.

Spacey, Goulding, and Murray (2004) have investigated the attitudes of UK public library staff towards the Web. They found that the staff's attitude was dependent on actual usage of the Web or the intention to use it. Other important factors were perceived usefulness and ease of use. The research also showed that the views of managers and colleagues influenced the attitudes towards the Web. Simon (2006) has investigated women's perceptions of technological change; half of her sample were library professionals. She found that women are often ambivalent to technical change, inclined to see both positive and negative sides with ICTs. Rabina and Walczyk (2007) have found that demographic factors (age, tenure, role, and library type) had very little effect on librarians' attitudes towards ICT innovations. They used diffusion theory to categorize adopters of technology: innovators, early adopters, early majority, late majority, and laggards. The results showed that among library professionals the number of early adopters is unusually high while the number of early majority was low. This could indicate problems in the dissemination of innovations between the different adopter groups among library professionals.

4.1.2   Librarian 2.0

Librarian 2.0 has, just as Library 2.0, been a concept well debated in blogs, magazines and journals and many library professionals are early adopters of social media (Warr, 2008). This has also led to a renewed discussion about the changing identities and skills of library professionals (Broady-Preston, 2009). Firstly, the skills and roles attributed to a Librarian 2.0 are reviewed, and then secondly, the actual use of social media among library professionals and the connection to information activities.

The roles and skills of a Librarian 2.0

"Rather than putting energy into getting the service user to understand the service, librarian 2.0 invests time in understanding the user" is Cullen's (2008, p. 57) description of a library professional 2.0. He also emphasizes the communicative orientation in library work. Stephens (2007) has created a model of the "pragmatic biblioblogger" which is a library professional who monitors, gathers, reflects, shares, comments and creates communities. In this description of Librarian 2.0, the library professionals' information activities are notably in focus and concur with some of the information activities categorized by Hektor (2001) and Kari and Savolainen (2003). This is also visible in Chawner's (2008) categorization of librarians into four roles based on their use of social web technologies. These roles are: content consumer (passive), content commenter (reactive), content creator (proactive) and content collector (current awareness). The librarians in her research are more comfortable in the consuming and collecting activities than in the creating and commenting activities (Chawner, 2008). These roles can be connected to information activities (compare Kari & Savolainen, 2003; Hektor, 2001) such as information gathering (monitoring and unfolding), information exchange, information creation and publishing, and information organization.

Huvila, Holmberg, Kronqvist-Berg, Nivakoski, and Widén (2013) have investigated how Finnish librarians characterize a Librarian 2.0. According to them the key traits of library professionals 2.0 are that they are Internet competent, interactive, user oriented, up-to-date, active, Internet minded, producer, and open. Librarian 2.0 is, in other words, an active producer who understands the Web and is open to new ways of interacting with people and tools. These traits are in accordance with the roles and skills mentioned earlier. Partridge, Menzies, Lee, and Munro (2010) have investigated what attributes Australian

library and information professionals assign to a Librarian 2.0. Through focus group interviews they found that becoming a Librarian 2.0 also depended on personality traits and they assembled a list of skills from the interviews. They found skills in communication, leadership, project management, change management, and information management to be important. Further, they highlighted the following traits: innovative, adaptable, flexible, active learner, good marketer, and having community engagement. The library professionals are, however, worried that the label Librarian 2.0 may also limit the development of the library profession over time (Partridge et al., 2010).

The social media use of library professionals

Earlier research has looked into both the motivations and the barriers for social media use among library professionals. Barriers for using social web technologies can be categorized as institutional, personal, and technological (Chawner 2008). One of the most difficult challenges for library professionals in Library 2.0 seems to be the thought of relinquishing control over information (Rutherford, 2008b). Chawner's (2008) study has also shown that age is a conclusive factor in determining the number of social web technologies library professionals use regularly; younger persons use a higher number.

Aharony (2009b) has found that those librarians who were resistant towards change also did not use social web technologies and had negative attitudes towards them. Librarians who have difficulties in accepting change are also less motivated to learn about social media, they see it as unimportant but at the same time threatening. Librarians who tend to look at new technologies as a challenge instead of a threat are also more inclined to use social web tools. Furthermore, the results show that extroverted and empowered library professionals use social web technologies more and the motivations for use are higher among those who have higher levels of computer expertise. In Aharony's study, library managers were the most open to social media use. LIS students are also keen users of some social media applications (Aharony, 2009a). Almost 90% of LIS students use wikis, about 45% use blogs. This is followed by social networks (37%), the photo-sharing service Flickr (20%), and RSS (19%). Aharony found connections between learning strategies and social media use: students that are deep learners also use social media more and find it more important and are also more motivated in their use than surface learners. A high degree of resistance to change and seeing technology as a threat also lead to low use of social media while seeing technology as a challenge and high levels of computer use lead to higher use of social media

(Aharony, 2009a).This indicates that attitudes and earlier experiences also influence social media use.

Burford (2012) has chosen to investigate information professionals' (including librarians') use of social media in their information practices. Her results are formed into six constructs: "collecting community knowledge", "an inclusive description language", "communicating, engaging, relating", "reimaging and repositioning information agencies", "autonomy, agility and innovation", and "projects: planned and orderly" (Burford, 2012, pp. 232-234). In these constructs, it is evident that social media use influences information practices on different levels. Information activities such as information gathering, organizing, exchanging, creating, and information management can be recognized in the findings of Burford (2012).

Carlsson (2012) has investigated the practices of public library professionals working with a library's Facebook presence. She has discovered that they perceive the possibilities of influencing the Facebook system as marginal and the library professionals instead adopt different coping strategies to deal with the insufficiencies of Facebook. The library professionals do, however, not see rejection as an alternative to the coping strategies. One of the main problems revealed is the conflicting purposes of Facebook as a commercial tool and the library's purpose of using it as a space for networking. The library professionals solve this issue by shaping the information on their Facebook page to fulfill their own purpose. Their renegotiation of the purpose leads to a new way of legitimizing and justifying library work (Carlsson, 2012). Library professionals are active in forming the information on Facebook, even if they have a passive outlook on being able to influence the system to any higher degree. Another investigation into how libraries used Facebook has shown that librarians still have difficulties in receiving adequate resources for maintaining the library's profile. They have instead had to work on it in their own free-time, from their own home (Holmberg et al., 2009b, p. 55).

There are indications that library professionals are more advanced in their use of social media tools when it comes to collaboration within their professional groups than in their collaboration with users. In their relationship with users, social media tools are mainly used as a substitute to other information delivery channels (Hall, 2011; Loudon & Hall, 2010). It is therefore important to investigate the users and their relationship with social media, libraries, and Library 2.0, and these are the focus of the following chapter.

4.2 Users

Users are a difficult group to identify. Public libraries aim at serving very diverse user groups and the high numbers of web usage also shows that users with varied characteristics are active on the Web. The libraries are also trying to reach out to nonusers. The concept 'user' is, at the least, complicated, which has several times been noted in the library field where library users are also called, for example, customers or patrons. The term user, defined by Oxford English Dictionary is "a person who uses or operates something" ("User", 2009) which omits the participatory, creative, and interactive elements inherent in the ideas of social media.

The shortcomings of the concept user have gained more recognition in the field of LIS (Day, 2011; Olsson, 2009). The view on users from the libraries' perspective has been quite limited. Users have mainly been seen as passive book borrowers, readers, information recipients, and audiences at the library's events. An expert-client relation has been quite evident in the professional discourse (Hedemark, Hedman, & Sundin, 2005; Holmberg, Huvila, Kronqvist-Berg, Nivakoski, & Widén-Wulff, 2009, p. 122; Talja, 2005; Tuominen, 1997). Olsson (2012) also point out that users in the information behavior approach have been reduced to uncertain beings in the need of expertise, while the users in fact are themselves experts concerning their own cultural context.

In the information practice approach, an individual is more often referred to as an actor or an agent. User is, still, an established concept that has been applied both concerning libraries (library user) and the Web (web user) and is therefore also applied in this study although the weakness of the concept is acknowledged.

4.2.1   Social media use

Here earlier research is reviewed concerning the different groups who use the Web and social media (who?), the motivations for using social media tools (why?) and the actual use of social media and its interconnection to information activities (how?).

The social media users

In research concerning web use, it is common to divide the diverse web users into groups based on personal attributes. One of the most common is age and dividing web users into generations online. Another common attribute is gender and to look at the potential differences in use by women and men. Web users have also, especially in social networking studies, been divided according to social roles such as lurkers and contributors. Literature concerning these attributes is reviewed next.

Web users have been divided into different age groups. According to Pew Internet & American Life Project people born 1977-1990 are Generation Y (also called millennials, net generation, and digital natives) and people born 1965-1976 are Generation X. Baby Boomers are people born 1946-1964 and the even older age groups are called the Silent Generation and the G.I. Generation. Their study showed that younger generations were interested in socializing and entertainment on the Web while older generations used the Web for information seeking, emailing, and buying products (Jones & Fox, 2009). Connaway, Radford, Dickey, Williams, and Confer (2008) simply divide people into baby boomers and millennials. They also put together a list of features attributed to millennials that could be of interest concerning information seeking and library services. These features are immediacy, collaboration, experiential learning, visual orientation, multitasking, results orientation and confidence. Nicholas, Rowlands, Clark, and Williams (2011) have divided age groups into three: the Google Generation (label for people born after 1993), Generation Y (people born after 1973 and before 1994), and Generation X (people born in 1973 or earlier). Generation Y are the most avid information seekers while the Google Generation does not seem to be as much engaged in seeking as the older generations. The Google Generation is, on the other hand, the quickest information seekers but they lack confidence in their answers. Generation Y is best at multitasking, the Google Generation multitask but lack the competence of Generation Y. Generation X multitasks the least. Email was most important for Generation Y and least

important for the Google Generation. Generation X was the least interested in social networking, the Google Generation rated it highest in importance while Generation Y spent most time on it. The Google Generation posted most content (videos, music, photos etcetera) while Generation X was the least interested in this activity. Blogging and working on personal web sites were not seen as particularly important and relatively little time was spent on it by any generation. This is noteworthy considering that the most implemented social media application in libraries is the blog (see section 2.4). Overall, the younger generations seem to be more active than the older. The older generation in the USA seems, however, to be quickly adapting new media and the use of social network sites among this group have increased substantially during 2007-2010 while it is beginning to decrease among teens (ages 14-17) (De Rosa et al. 2011). Rowlands et al. (2008), also claim that the differences between younger and older people's information behavior on the Web are not as large as one might think and that they are diminishing. These results do, however, imply that the most versatile social media users can be found in Generation Y.

Finnish statistics shows that 86% of the population aged 16-74 used the Internet in 2010 and 90% in 2012. People also use it regularly, 79% use it daily or almost daily. There has been a significant growth in the Internet use among the older generations during the last years. Email, Internet banking, information seeking about goods and services, and mass media sites are still the top activities (Suomen virallinen tilasto, 2010, 2012). In the USA, a study also shows that email and search engines still remain the most popular tools (De Rosa et al., 2011). In Finland, 42% of the population was a member of a social network site in 2010, in the year 2012 the number had increased to 50%. Among the younger age groups, as much as two out of three use social networks. Facebook is the most popular social network site overall. Communicating activities, such as utilizing social networks and IM, are relatively common, as well as reading blogs. Activities involving creating such as uploading content and managing blogs are instead more infrequent among the Finnish population (Suomen virallinen tilasto, 2010).

Web use is often seen in relation to gender. The Finnish statistics point out some small differences among women and men, where women are slightly keener on communicating while men play games significantly more than women (Suomen virallinen tilasto, 2010). Lim and Kwon (2010) have also found that women tend to use the Web for communication while men are more interested in entertainment and

news. Men seem to be more confident and like to take more risks than women, which is shown by the use of Wikipedia (Lim & Kwon, 2010). Hargittai and Walejko (2008) also saw differences among women and men. Men seem to post more content on the Web. These differences, however, even out when taking user skills into account. The findings particularly point out that there is a participation divide, meaning there is a need to look further into differences in user abilities and not just users' access to technology, known as digital divides (Hargittai & Walejko, 2008).

In research on virtual communities and social networks, users have been divided into different social roles. The broadest division is to distinguish between information users and information providers. More multi-layered divisions have recognized roles such as lurker, flamer, troll, ranter, newbies, and celebrities (Turner & Fisher, 2006). The role of lurkers have been especially discussed in the literature, described by some as parasites and free-loaders while others see them as an essential part of the virtual communities (Burnett, 2000; Ellis, Oldridge, & Vasconcelos, 2004). In the social media, context users have also been divided into the following roles based on their level of participation: creators, critics, collectors, joiners, spectators, and inactives (Li & Bernoff, 2011). Creators constitute the least common type, these are the ones who maintain their own web sites or blogs or upload other content on the Web (for example videos on YouTube). This is followed by collectors, who are users who tag and use RSS-feeds. In the center are the critics, those who comment, rate, and review and joiners, those who use social networking sites. The two largest groups are spectators and inactives. Spectators are the readers, viewers and listeners while inactives are the ones who engage in none of these activities (Li & Bernoff, 2011). Preece and Schneiderman (2009) has put forward a framework for the successive levels of social participation on the Web categorizing four roles. These roles are reader, contributor, collaborator, and leader. The idea is that a reader can move from the initial stage of reading to the final stage of leading. In general, people in Finland describe themselves as occasional commentators or followers; it is quite uncommon to be an active contributor (Suomen virallinen tilasto, 2012). Nielsen (2006) divides users more broadly into lurkers, intermittent contributors, and heavy contributors. He also identifies inequality in participation because lurkers seem to constitute 90% of the users, while sporadic contributors are 9% and heavy contributors are only 1%. Furthermore, it is the 1% of heavy contributors who are responsible for 90% of the content, and the other 10% comes from the intermittent contributors. Division of labor is a part of information activities (Wilson, 2006b) and Nielsen's numbers indicates that this is an issue on the social web. The social roles presented

above have, furthermore, clear connections to the information activities put forward by Hektor (2001) and Kari and Savolainen (2003) (see section 3.2.2).

Motivations for social media use

There are social and individual reasons for social media use. It is equally important to acknowledge the social and individual barriers for use. The following is a review of studies that put the motivations of social media use in focus.

In the social media literature, there are motivations for social media use such as creating content or knowledge sharing, these are often divided into intrinsic and extrinsic motivations. Intrinsic motivations are directly related to the activity at hand, if it is enjoyable, interesting, or satisfying but also commitment and a sense of obligation to contribute. Cho, Chen, and Chung (2010) have investigated what influences knowledge sharing on Wikipedia. They state that in the Web 2.0 environment knowledge is not static but a "public good", built, shared, and managed in collaboration. Social and relational context is significant in shaping the attitudes to knowledge sharing in this context. In the case of Wikipedia, altruism is a very important factor. This intrinsic motivational factor means that people share knowledge to help others and fill eventual gaps. A social factor influencing knowledge sharing is generalized reciprocity. Generalized reciprocity entails a social pressure to or an obligation to respond or give back favors that they have received from others. If one member comments on, for example, a post or picture, the receiving member should reply with a comment of their own. It can, however, lead to moral dilemmas of when to comment and tag the work of others (Cho, Chen, & Chung, 2010; Cox, 2008). A sense of belonging is another important underlying social factor to knowledge sharing intentions. If an individual feels as if he or she belongs to a community he or she is more inclined to help others, to reciprocate and become more confident in his or her knowledge self-efficacy. Similar motivations have been found in a study of knowledge sharing between customers on web-based discussion boards. The prime motivations are, in this setting, the enjoyment of helping others and reciprocity (Lee, Cheung, Lim, & Sia, 2006). Even among the non-active members of an online community studied by Merry and Simon (2012) a sense of community is important. They have, in other words, found that lurkers or non-active members and active members both experience a sense of community and that non-active members are seen as equal members of the community (Merry & Simon, 2012).

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Extrinsic motivations are instead related to the outcomes of the activity, for example, material rewards or reputation, as well as accomplishing internal goals and self-development (Cho et al., 2010; McKenzie et al., 2012). Extrinsic motivations have, however, proved to be less significant factors in knowledge sharing (Cho et al., 2010; Lee et al., 2006).

Motivation is also dependent on social norms, social network capital, perceived usefulness, ease of participation, trust, and political ideology and idealism (Cho et al., 2010; De Rosa et al., 2007). Chou (2010) has found, for example, that satisfaction with prior use of an online community motivates individuals to share knowledge. A study of Internet book review writers investigated motivations such as individuals' wish to share, socially interact, ventilate negative feelings, and being involved with the product (Huang & Yang, 2010). Product involvement, especially of books that have had some significant impact on the individual, is a strong motivator for sharing one's experiences on the Web. To ventilate negative feelings proved instead to be the least significant motivator. Hammond, Hanny, Lund, and Scott (2005) have investigated motivators for tagging and range them on a scale from selfish to altruistic. Selfish means that the users primarily tag their own content to be able to retrieve it themselves. Altruistic tagging is when users tag the content uploaded by others to make it easier for everybody to retrieve. Tagging activities are, however, much influenced by the social media tool offering the tagging possibility (Hammond et al., 2005). Personality has also been put forward as a factor influencing the engagement in social media as well as socioeconomic status (Devaraj, Easley, & Crant, 2008; Hargittai & Walejko 2008).

Lee et al. (2006) found the following barriers to social media participation: knowledge self-efficacy, effort, time, and privacy. Knowledge self-efficacy especially served as the greatest obstacle in the case of participating on discussion boards (Lee et al., 2006).The non-active members of an online community motivated their lack of activity by the fact that they are satisfied with reading/browsing, that they have nothing to contribute (knowledge self-efficacy) and are shy about posting. This indicates low confidence among non-active members of online communities. Non-activity did not, however, in this case depend on fear of unpleasant reactions or a wish to remain anonymous (Merry & Simon, 2012).

These studies can be related to the information approaches put forward in Chapter 3, where the different views of what motivates information activities were accounted for. The information behavior approach is mainly focused on personal information needs connected to problem solving while in information practice, existing practices and inherent expectations are seen as motivators. In the social media, there are traces of both kinds of motivations. General reciprocity, satisfaction with earlier experiences, and sense of community can be associated with existing practices and expectations. Individual information needs are, in contrast, visible in motivators such as knowledge self-efficacy, rewards, reputation, and self-development. The motivations and barriers for social media use are, as stated previously, a complex mix of social and individual factors.

Social web use and information activities

The Web has become an integral part of people's everyday life. It has changed the way people interact and the way they store and retrieve information. These are not all new activities, but they are performed differently (Farkas, 2006; Haythornthwaite & Hagar, 2005). Buente and Robbin (2008) has classified web use as communicating, informing, playing, and buying. In a comparison between public libraries and Internet, the latter is seen as easier and faster to access, more available, has a larger range of resources and there are higher expectations of finding what is sought. The Web also include characteristics such as the ability to immediately act on the information, information that is up-to-date, fun, enjoyable browsing, and the ability to work alone (D'Elia et al., 2002). Here follows a review of studies of the social Web and the interactions with information taking place in this context.

The development of the Internet and the Web has produced what seems like a dramatic change in the availability of information sources, which affects people's information seeking behavior (Case, 2006). Rowlands et al. (2008) have characterized the digital information seeking of today. They have found that horizontal information seeking is usual, which entails viewing one or two pages from a source and then "bouncing" out to perhaps never return again. People also spend a lot of time just navigating the site or source. They do not read in the traditional sense, it can instead be described as viewing. There is also a tendency to collect free downloads, a so called "squirreling" behavior. People cross-check quickly the information they have found through different sites to assess authority and trust. The research show, however, that the increased use and access of ICT has

not resulted in improved information skills concerning retrieval, seeking, or evaluation. Information seeking on the Web has earlier been studied as a solitary activity overlooking social elements. Researchers have later started to observe and study these elements using the label social search, which draws attention to the utilization of social interactions in the search process (Evans & Chi, 2010). Scale (2008) describes social search as either the search for people or information about people utilizing social networks, or searches allowing input from users to improve retrieval (for example by tagging and folksonomies). Tagging has the potential of improving information retrieval in certain services. There are, however, issues concerning relevance and quality in social search (Scale, 2008).

Information sharing has been investigated within the information behavior approach and there are also some examples found in the information practice approach. Pilerot (2012) sees a need for more research on information sharing in relation to the social media, although the motivations for knowledge sharing in the social media have been investigated (Cho, Chen, & Chung, 2010). Information sharing and information exchange have also been investigated in the context of virtual communities. Virtual communities are where communication and information converge, although the informational value of these communities has been questioned (Burnett, 2000; Ellis et al., 2004). There is also research concerning separate information communities that are formed by the needs of people to obtain and use information (Turner & Fisher, 2006). Burnett (2000) does, however, state that "information sharing itself is a fundamentally social act" which means he does not distinguish between information communities and other virtual communities or separate social interaction from information sharing. Earlier, Burnett (2000) created a typology of information exchange in virtual communities. He describes virtual communities as "information neighborhoods", meaning places that people position themselves where they might find useful information. Drawing on Savolainen's (1995) dimensions of everyday life information seeking, Burnett (2000) observed that both orienting information seeking and practical information seeking are present in virtual communities. His typology of information exchange is first divided into non-interactive behaviors and interactive behaviors. People with non-interactive behavior are also known as lurkers and they take on a passive role in the virtual community, for example, they read instead of write. Burnett does not, however, downplay the role of lurkers/readers. Their information gathering activities are important participation in the virtual communities. In the typology, the interactive behaviors are divided into hostile interactive behaviors and collaborative (positive) interactive behaviors. Hostile behaviors include irrelative and insulting ar-

gumentation, spamming, and passing oneself off as somebody else. Collaborative interactive behaviors include behaviors not specifically oriented toward information. This can be further divided into three types: neutral behaviors (pleasantries and gossip), humorous behaviors, emphatic behaviors. Another type of collaborative interactive behavior is behavior directly oriented to information seeking or information provision. These specific information-oriented behaviors can further be divided into announcements, specific requests for information, and directed group projects.

Södergård (2007) has investigated young people's use of a virtual community from an information scientific perspective. She has found that establishing a virtual identity is concerned with formulating and publishing information about oneself. The identity is formed by the intention of being a part of a specific community and the community environment. The young people use the community to keep contact with friends; establishing relationships with unknown individuals are hard and often need to be compensated with face-to-face interactions. The young people engage in both interactive and passive activities in the virtual community. Participating in the studied community required managing and evaluating information, however, the young people did not themselves recognize their activities as information behavior. An issue also discussed in the virtual community research is the relationship between virtual and real communities, and how they affect each other. It seems that virtual interaction strengthens both the real and virtual community and these two types of communities can interact while supporting different aspects of communication and information (Ellis et al., 2004).

4.2.2   Library use

Public libraries are appreciated for being easy to use, their low cost, the availability of printed material, the accuracy of information, helpfulness, and protection of privacy (D'Elia et al., 2002). In this section, the focus lies on earlier research concerning what can be called "traditional" library use. First, the library users are considered as a group, followed by motivations for library use, and finally a review of actual library use in connection with information activities.

The library users

Public libraries are relatively popular in Finland. Statistics from 2010 show that there were almost 10 library visits per inhabitant and that over 39% of the inhabitants are also borrowers. Visits to the physical libraries were 52.5 million and visits to the libraries' web services were about 57 million (Ministry of Education and Culture, 2011).

Research shows that library use is generally higher among the following demographic groups: women, highly educated, families with children and urban citizens (Sin & Kim, 2008). Aabø, Audunson, and Vårheim (2010) have, however, found that people with lower education use the public libraries more as a meeting place than higher educated users. Social capital was also found to be significant in the use of the library as a meeting place. There are also differences in library use between age groups (Evjen & Audunson, 2009). The younger users use the library more for specific purposes related to, for example, education while the older user group engages most in recreational reading. Nonuse of public libraries are not necessarily caused by the availability of other information resources, instead it appears that many nonusers have less access to information sources in general (Sin & Kim, 2008).

Earlier it was mentioned that library users have traditionally been seen as part of an expert-client relationship and assigned passive roles of book borrowers, information recipients, readers, etcetera (Hedemark, Hedman, & Sundin, 2005; Holmberg et al., 2009b, p. 122; Talja, 2005; Tuominen, 1997). It is important to consider these roles assigned to them by library professionals and the roles users have adopted. This is especially important when considering research showing that the roles adopted by stakeholders in physical places also have implications for the roles they play on the Web (Kavanaugh, Carroll, Rosson, Zin, & Reese, 2005). Furthermore, Aabø and Audunson (2012) have found that library users tend to "float" between roles and how they use the library spaces, which impedes assigning a static role to library users.

Motivations and expectations of library users

Research shows that libraries are still mostly seen as a physical place in the eyes of the users and the users do not easily find the libraries' digital resources (De Rosa, Cantrell, Cellentani, Hawk, & Jenkins., 2005; Fidishun, 2007). Libraries are highly synonymous with books,

and development ideas from library users almost always concern more books and longer opening hours. The view on libraries among younger users, such as high school students, is also very traditional (Pors, 2008). The librarians are, however, seen as valuable resources in search processes (De Rosa et al., 2011). Users' perception of the core values and the legitimacy of public libraries, are also quite traditional. These concern "promoting literature, offering services to everyone, promoting democracy, and representing a non-commercial space" (Evjen & Audunson, 2009, p. 168). Vakkari (2012) has found that the strongest predictors of public library use are the number of books read and the frequency of Internet use. He also reached the conclusion that web use is positively related to public library use and that they complement each other rather than compete with each other.

Both users and nonusers seem to be interested in a broad range of services including less traditional ones, despite their own traditional use (Evjen & Audunson, 2009). Users are interested in services that activate them and making them more than mere passive recipients - as long as the traditional values of the library are preserved. Connaway et al. (2008) have also studied how different age generations describe the ideal information system. Teenagers wanted the library catalog to be more like a web search engine or similar to Amazon.com (leading book vendor on the Web), but also wanted physical spaces to socialize in. People in their 20s and 30s wanted more personalized and convenient services and older generations were most interested in developing the physical library space by making it easier to use the collections. Connaway et al. (2008) reached the conclusion that libraries need to create different spaces to satisfy the different requirements; there should be both spaces for socializing and quiet spaces for studying. All the generations agreed that librarians should serve as guides and not gatekeepers.

Library use and information activities

Libraries are connected to leisure or recreation and information seeking, and popular activities are borrowing printed books and using the Internet in the library (De Rosa et al., 2005; D'Elia, Abbas, Bishop, Jacobs, & Rodger, 2007; Hayes & Morris, 2005). Observed activities in a public library are reading, writing, talking, using computers and other, not always welcomed, activities such as eating, sleeping, drinking. These unintended user activities are signs of the social nature inherent in a public library (Given & Leckie, 2003). Aabø and Audunson (2012) also describe the library as a complex space, as it is not only a public place and a space for communities but also a private space that users

feel ownership in. They point out that public libraries are used in various ways by different users and that use does not necessarily include borrowing library materials.

Vakkari and Serola (2012) have investigated the outcomes of public library use in Finland focusing on the major areas of life (everyday life, work, education, and leisure). The most common benefits of public library use are recreation, pleasure reading, and enjoyment, but also benefits in self-education and to some degree in work are reported. Women are more frequent library users and also perceive greater benefits of their library use concerning cultural interests and career. The study also showed that lower educated people and older people used the library more for everyday activities (such as household, health, travel, social relations) while higher educated use the library to support cultural interest and career. The most common benefit is connected to borrowing books, and libraries need to keep this in mind if they want to improve the outcomes of library use. Vakkari and Serola (2012, p. 43) suggest that library use should be conceptualized as "intentional actions aiming at some goal or benefit". This conceptualization follows the perspective on activities represented in the information behavior approach.

Björneborn (2008) describes an extensive study of users' information seeking behavior in two physical Danish libraries. The users themselves differentiated between goal-directed searches and enjoyable browsing for materials. The researcher describes these behaviors as convergent goal-directed behavior and divergent explorative behavior. One behavior does not exclude the other, they often follow one another and it is usual that the users to change their behavior several times as their information needs alter and develops, and depending on the options available. Björneborn identify seven ways of finding library materials: planned finding, favorite spot finding, substitute finding, supplement finding, systematic browsing, impulsive browsing, and incidental encounters. Convergent information behaviors are practically supported in libraries through tools such as catalogs and classification systems. Björneborn raises ten dimensions that help libraries support divergent information behavior and serendipity. These are unhampered access, diversity, display, contrast, pointers, imperfection, cross contacts, multi-reachability, explorability, and stopability. Even though the study was done in physical libraries, the author underlines the importance of looking at the library as an "integrative interface" connecting the human, physical, and digital into an integrated whole (Björneborn, 2008).

The foremost service among library web services is the online open access catalog (OPAC) and facilitates independent information seeking. Users and librarians approach the OPAC in the same way: with a purpose in mind (Calhoun, Cantrell, Gallagher, & Hawk, 2009). The stakeholders, however, do assign different meanings to data quality. Users appreciate enhanced content, both simple and advanced search options while librarians want enhancements concerning issues such as accurate, structured data. The explanation for the differences lies in two different ways of information organization. Users are influenced by their experiences using commercial search engines and web sites and their ways of organizing the information. Librarians are, on the other hand, influenced by traditional, professional principles of information organization (Calhoun et al., 2009).

Virtual reference services constitute one way of providing a more interactive library web service and it has been a part of the library field since the late 1990s. Virtual reference service is about information exchange concerning both content and relational aspects. Radford (2006) has discovered some relational facilitators and barriers in virtual reference service. Facilitators are the greeting and closing rituals, establishing a mutual understanding, mutual respect, and compensating for lack of nonverbal signs. Barriers are related to failure of understanding each other or failure of developing a relationship as well as problems in connection to closing the virtual reference session (fail to use closing rituals or close in a negative way, leaving the user unsatisfied). Older generations often use a more official tone in virtual reference services while younger generations use a more social and relaxed language probably due to their vast experience of the chat medium (Connaway et al., 2008). Virtual reference services are, however, seldom the first choice of information sources. Face-to-face interactions and the use of search engines such as Google seem more convenient to most users (Connaway et al., 2008).

The most prominent information activities in traditional library use are reading, seeking, and exchanging information. The social media context also highlights the engagement in other activities, such as creating, publishing, and organizing. The Library user 2.0 will be investigated next.

4.2.3 Library user 2.0

The Library 2.0 discussions have revolved around the user, but there is actually little research on Library user 2.0. Users are still often described as tech-savvy and self-sufficient (Peltier-Davis, 2009).

Nguyen, Partridge, and Edwards (2012) point out how Library 2.0 facilitates the users to take on new roles as co-creators, providers, and contributors of information. They even go so far as to describe users as "playing the role of librarians" by, for example, recommending and tagging. Jiang (2013) points out two roles of users in social library systems: social cataloger and information seeker. Jiang continues to unfold the information seeker role dividing it into searcher (task-oriented), associative browsers (utilizing tags and recommendations), and encounterers (familiarizing with the system).

De Rosa et al. (2007) have asked the general public in six different countries how likely it would be that they would participate in activities on a social networking site built by a library. The survey showed that 6% would self-publish creative work, 7% would share ideas about library services, 6% would share photos or videos, 6% would participate in online discussion groups, 7% would use it to meet others with similar interests, 6% would describe their own personal collections, and 6% would view the personal collections of others. The highest number of people, about 13% was interested in receiving notifications of new items. People who are willing to share their personal information for setting up personalized library services are scarce; although about 50% consider it very important that the library keep information about search and borrowing activities private.

Another report by OCLC asked users about the need for social content in the WorldCat catalog (Calhoun et al., 2009). Some user found social content such as user reviews, ratings, and tags helpful, but not essential. The users are interested to know something about the reviewers and editorial reviews are generally seen as of higher value than user reviews, at least for materials that were sought for academic purposes (Calhoun et al., 2009).

Social media services in libraries do not always live up to the ideas behind Library 2.0. A study of an instant messaging service in Denmark showed that the users' queries had the nature of reducing the

answering librarians to "living search machines" (Nielsen, 2009). The most positive outcome was that they reached out to new users, foremost teenagers, who are a difficult group to reach. The researcher is, however, seriously questioning if instant messaging, in this case, is actually a Web 2.0 tool. There was primarily a traditional user-centered consultation; it lacked elements of commenting, participation and dialogues between users. Tóth and Audunson (2012) have investigated two literature-related websites with social network features. They found the users to be young, highly educated women belonging to the cultural and ethnic majority and therefore drew the conclusion that this type of sites does not represent the same diversity as public libraries generally do.

Library users have difficulties in envisioning the public library without its books and walls. The libraries' role on the social web is not evident for the users and the online services of the library are not yet reaching their target group (De Rosa et al., 2011). Nevertheless, social media tools have still been proved valuable in improving library services. Social tagging has, for example, enhanced subject description also in OPACs of academic libraries. It is described as a base for collaboration between users and professionals and the socialization of users (Kakali & Papatheodorou, 2010; Lu, Park, & Hu, 2010), which can also be stated about other social media tools.

4.3 Summary

In this chapter, the focus has been on library professionals and users, their social media use, and the connection to information activities.

The work of library professions is constantly evolving. Since the 1970s the technological development has had a significant impact on library work and on how the role of the library professionals is perceived. The library professionals have been forerunners in implementing technologies while at the same time acknowledging the negative aspects of technology. They are urged to be flexible, open, and proactive. There are also many demands specifically put on a Librarian 2.0 concerning skills and personality traits. Library work and library professionals still have issues with justification, passiveness, and self-confidence. Library professionals are generally avid engagers in social

media, but studies indicate that the collaboration with users concerning social media is lagging behind.

The traditional role of a library user is recognized to be passive, which is not compatible with social media use. Social media use is growing in everyday life and has been investigated taking attributes such as age, gender, and social role into account. The differences in social media use concerning age groups and gender are diminishing and skills have proven to be just as an important factor. The social roles in social media use point to an uneven division of labor with a large number of non-actives. At the same time, fluidity between roles and the activities they entail are highlighted. Motivations for engaging in social media are dependent on both extrinsic and intrinsic motivations and there is support for both the view of the information behavior approach and the information practice approach. The actual use of social media and its connection to information activities can be seen in a changed information seeking behavior and in information sharing within virtual communities.

The role of a library user is also flexible and there are very different ways of using the public library spaces. The expectations library users have of the library services still remain traditional, although colored by influences from the Web. The interest for Library 2.0 services seems so far to be scarce among users. It is, however, an area that needs further investigation and it is one of the motivations for conducting the present study

5   Material and methods

There is no best practice in studying social media in public libraries or Library 2.0. There are, however, methods recommended for studying information practices and a vast array of methods has been used in information behavior research. The methods of this study are a survey and content analysis. Since social media and the library context includes many different aspects and this study is an exploration into a phenomenon not much investigated, it seemed more suitable to begin from a quantitative perspective that can give potential directions for more qualitative and deeper investigations.

This study assumes a socio-cognitive view. This entails approaching the object of study from the outside-in, starting from the social context. Information processes are a part of social, organizational and professional contexts, in other words social and cultural factors shape information needs, seeking, and use (Talja, Tuominen, & Savolainen, 2005; Hjørland, 2002). In the survey, this perspective is visible in the questions that focus on social information activities along with the respondents' cognition; it is also set in related social contexts. Furthermore,the material has been collected in social contexts. The survey method was chosen to acquire an initial, overall picture on the stakeholders' perceptions of social media in public libraries. The goal was to map the expectations, motivations, and intentions among the stakeholders concerning Library 2.0 services. The questionnaires were followed by a content analysis of the libraries' Facebook pages to investigate more thoroughly the Library 2.0 context and the inherent information activities. The aim is to describe and categorize the actual information activities present in a Library 2.0 service.

In this chapter, the choice of methods is first generally described. This is followed by a description of the surveys; the samples and the data gathering. The content analysis is also described and its specific implementation in this study. At the end of this chapter, a section is provided about the limitations of the study and its methods, as well as a summary of the chapter.

5.1 The choice of methods

There are both similarities and differences considering the research methods of the information practice approach and the information behavior approach (see section 3.2). There is also a considerable variety in the choice of methods for studying different aspects of social media and Library 2.0 (see Chapter 4). This leads to a vast range of data collection methods to choose from.

Within the information practice approach (section 3.2.3) ethnographical methods have been implemented, including participant-observant methods and case studies. Interviews are also widely used as well as discourse analysis (Fulton & Henefer, 2010; Talja & McKenzie, 2007). In other words, have information practices been mainly investigated through qualitative methods. The information behavior approach (section 3.2.2) has long traditions of both qualitative and quantitative research methods. The breadth of the information behavior approach is also visible in the range of research methods used. Case (2012) lists, among others, surveys, different interview methods, case studies, experiments, network analysis, content analysis, and discourse analysis.

Any one of the above mentioned methods within the information practice approach and the information behavior approach could in some way have been used to study social media in public libraries. The participant-observant method, for example, could have revealed some hidden aspects of information activities and it could have been useful for following the implementation of social media in a library. On the other hand it would have demanded a substantial amount of time and it probably would have had to be limited to a specific service. Focus group interviews and semi-structured interviews were considered, however, it would have been difficult to reach the regular library user. Discourse analysis was also contemplated as an alternative to content analysis, but the collected data were better suited for the latter method considering the explorative nature of the present study.

There are several reasons to why survey and content analysis was chosen as methods for this study. The empirical investigations took place at a time when the libraries in Finland were beginning to im-

plement and build social media services and the objective was to investigate and map perceptions and activities related to this (see section 1.1). Another important aspect was to reach both users and library professionals, as earlier studies tend to focus on only one of these groups. The survey method have also been implemented by other researchers investigating Library 2.0, for example, Aharony (2009a, 2009b), Chawner (2008), and De Rosa et al. (2007) (see sections 4.1.2 and 4.2.3). Content analysis has also been used by other researchers as a method for investigating Facebook pages (Aharony, 2012; Gerolimos, 2011; McCorkindale, 2010).

5.2 Survey

Quantitative methods can, in this fairly new area of study, generate some important issues in an exploratory manner. Surveys are one of the most common quantitative methods. In social sciences, surveys are utilized to gather data about attitudes, values, experiences, and behavior (Simmons, 2008).

In this study, two separate questionnaires (Appendix A and B) were created to collect data on social media use and perceptions of the two stakeholder groups of interest: library professionals and users. A mix of paper and online self-completion questionnaires were conducted. The questionnaires were available in three languages: Finnish, Swedish, and English. The data was collected in the autumn of 2010. The questions in the questionnaires build on earlier research and literature concerning the stakeholders and social media in a public library context (see chapters 2, 3 and 4). That is, the implementation of social media in libraries, attitudes towards technology, social media use and library use as well as information activities. The connection to earlier research is mainly presented in the integrated analysis in Chapter 7. Research method literature for social sciences was reviewed in the design process of the questionnaires. Special attention was paid to the question development and to keeping the respondents motivated by varying between different types of questions, such as closed questions, open questions, and rankings as well as careful consideration of the length of the questionnaires (De Leeuw, 2008; Groves et. al, 2009; Simmons, 2008; Trost, 2007).

In the following sections is the research setting, the sample methods of both questionnaires, and the data gathering described. A short presentation of the statistical analysis of the results is also included.

5.2.1 Research setting

The overall setting for both questionnaires was the region of Finland Proper in the south-western part of Finland. Finland is known for having a high number of library users and supporting the constant development of virtual library services (see section 2.3 and section 4.2.2). At the time of the survey, the region of Finland Proper was divided into 28 municipalities and had about 460 000 inhabitants. The largest town is Turku with about 176 000 inhabitants. Turku, over the last few years, has renewed the Main Library of the city of Turku. The libraries in the region of Finland Proper have for one or two years already managed blogs, Facebook pages, and other social media services. The public libraries collaborate on certain elements under the name Vaski. In the year 2012, for example, they introduced an interactive catalog jointly among the Vaski libraries and they also collaborate on certain blogs (Regional Council of Southwest Finland 2011; turku.fi 2011; vaskikirjastot.fi). The libraries in Finland Proper have, in other words, invested much effort into improving both physical and virtual services. The outspoken support and interest for social media services from library management in this region makes it a suitable research setting for this study.

5.2.2 The questionnaire to library professionals

The investigation of library professionals' perception of Library 2.0 was limited to library professionals in Finland Proper. The total population was chosen as respondents. They were contacted through their work email addresses and asked to participate in the study by following a web link (personal passwords were also included in the email message). The email addresses were collected on the web site Libraries.fi (2010) and checked with contact information on the libraries' own web sites. The questionnaire was sent to a total of 343 addresses.

The questionnaire was pilot tested by two librarians from outside the target population in September 2010. The questionnaire was also presented and discussed during a meeting with representatives from Turku City Main Library (these representatives were removed from the sample) and during a research seminar at Information Studies at Åbo Akademi University.

In the data gathering process, the questionnaire to the library professionals in the region of Finland Proper was sent to 344 email addresses. The addresses (343) were collected through the web site Kirjastot.fi (Libraries.fi) and double checked with the libraries' own web sites. In addition to this, one library professional sent an email to the researcher and asked to participate after hearing about the study from colleagues. Apparently, the listings of email addresses on Kirjastot.fi and the libraries' web sites were not fully up-to-date. This also became evident when 22 of the email addresses did not function, or the staff members were on a longer leave from his or her work. The actual sample, therefore, consists of 322 respondents of which 98 answered the questionnaire, a total of 30.4%. Two reminders were sent out. The low number of responses can be explained by technical difficulties with the distribution of the questionnaire; there were some difficulties with logging into the questionnaire. One can also speculate on a lack of interest and time to participate in the survey. It is quite common to receive overall low response rates concerning web surveys (Shih & Fan, 2008). The final gender distribution was 10.3% (10) men and 89.7% (87) women (one respondent did not answer the question). The age group distribution can be seen in Table 5.1 and is the following: 5.2% 15-29 year olds, 39.2% 30-44 year olds, 43.3% 45-59 year olds and 12.4% 60-74 year olds (also here one respondent did not answer the question).

Table 5.1 Respondents among library staff according to age and gender (n=96, missing=2)

Age group	Frequency (n)	Percent (%)	Men (n)	Women (n)
15-29 years	5	5.2%	1	4
30-44 years	37	39.2%	5	32
45-59 years	42	43.3%	4	38
60-74 years	12	12.4%	0	12

5.2.3 The questionnaire to users

The questionnaire to library users (Appendix B) was handed out in three different settings: Turku International Book Fair 2010, Turku City Main Library and Turku City Library's web site. The point of using three settings was to reach library users, (Main Library), web users (library web site) and people interested in literature (book fair), in order to study their perceptions and use of social media services in libraries.

Nonprobability sampling was used in all three settings. This type of sampling is more common in business research, particularly in marketing research than in the social sciences. There are some issues concerning the use of nonprobability sampling in comparison with probability sampling. These concerns are related to generalizations to the whole population, greater risk for researcher bias, and limitations to the statistical measures that can be used for analysis. The advantages of nonprobability sampling are, on the other hand, that it is more cost-effective, quicker, and useful in exploratory research (Bryman & Bell, 2005; Malhotra, 2007). It was judged to be suitable for this study as it was not, for example, possible to obtain background data on all library users (due to library policy) or all the book fair visitors. Statis-

tics of Turku City residents was used instead to plan suitable quotas according to gender and age groups in order to reach some level of representativeness (Table 5.2). The plan was to direct the questionnaire to people between ages 15-74.

Table 5.2. Turku City residents: gender distribution according to age groups (turku.fi, 2010)

Age group	Men (%)	Women (%)	Total (%)
15-29 years	48.1%	51.9%	31.1%
30-44 years	51.3%	48.7%	24.3%
45-59 years	47.5%	52.5%	24.1%
60-74 years	45.0%	55.0%	20.6%

The Turku International Book Fair took place October 1-3, 2010 and the goal was to collect 200 answers through quota sampling. At Turku City Main Library, the goal was to collect 500 responses, also using quota sampling, during the first week in October 2010 (4-10.10.2010). At the same time, the plan was to have the questionnaire available for answering on Turku Library's web site. The respondents were to be sampled through self-selection on the web site. The questionnaires were pilot tested in September 2010 by a small group of five respondents in varying age groups consisting of both men and women. The questionnaire was also presented and discussed on a research seminar at Information Studies at Åbo Akademi University and at a meeting with representatives of library professionals at Turku City Library.

The actual gathering of data differed in some aspects from the plan outlined above. At the Turku International Book Fair, 221 responded to the questionnaire during 1-2.10.2010. The questionnaires were handed out by the researcher to visitors passing by the Turku City's stand (library division). Age and gender was determined by the au-

thor's own perception. Visitors were approached with the question if they would like to participate in a study about social media in libraries and some visitors also took the initiative themselves to participate in the study. On the first day, 90 answered questionnaires were collected. On the second day, the author had one person to help distribute the questionnaires (due to the fast flow of people) and 131 persons responded to the questionnaire. Table 5.3 shows how the answers are distributed in regard to age group, and gender. The numbers in parenthesis are the corresponding percentages of Turku City residents according to gender and age group. The total percent per age group differs from the numbers presented in Table 5.2 in connection to the sample, because the age groups were extended with 10-14 and 75-84 year olds (the gender percentages, however, remain unchanged). None of the groups reach the full sample quota and they do not fully match the wished for gender distribution. Women are overrepresented in all age groups. This is partly because the majority of the Book Fair visitors were women and they were generally more willing to participate in the study than men. The age and gender distribution can still be seen as satisfactory. Five respondents are missing in Table 5.3 because they failed to answer the questions of either gender or year of birth.

Table 5.3 Book Fair respondents according to gender and age group (n=216, missing=5). The numbers in parenthesis are the corresponding percentages of Turku City residents (Table 5.2).

Age group	Frequency (n)	Percent (%)	Men (%)	Women (%)
10-14 years	24	11.0%	50.0%	50.0%
		(4.8%)	(51.6%)	(48.4%)
15-29 years	62	28.3%	41.9%	58.1%
		(27.4%)	(48.1%)	(51.9%)
30-44 years	44	20.1%	50.0%	50.0%
		(21.4%)	(51.3%)	(48.7%)
45-59 years	52	23.7%	31.4%	68.6%
		(21.2%)	(47.5%)	(52.5%)
60-74 years	36	16.4%	41.2%	58.8%
		(18.1%)	(45.0%)	(55.0%)
75-84 years	1	0.5%	0.0%	100.0%
		(7.1%)	(35.8%)	(64.2%)

At Turku City Main Library 492 questionnaire answers were collected during 4-10.10.2010, only three of the answers were not usable and are therefore excluded, leaving a response rate of 489 answers. The questionnaires were handed out to the library visitors close to the main entrance; they were approached in the same way as on the Book Fair and visitors who expressed interest on their own were also asked to answer the questionnaire. In the library, the questionnaires were only handed out by the researcher, who was there before noon on Monday,

Tuesday and Friday and in the afternoon all seven days and in the evening on Tuesday and Wednesday. On the library's web site 31 responded to the questionnaire. A link to the questionnaire was not added to Turku City Library's web site until Thursday afternoon (due some misunderstanding between the library and the researcher), in other words, it was available for answering during four days 7-10.10.2010. Due to the low response rate on the web questionnaire, those responses are merged together with the 489 responses from the paper questionnaires distributed in the library.

The age and gender distributions are similar to those of the Book Fair; women are also here in the majority. Table 5.4, however, shows that one exception lies in the age group of 45-59 years, where men are in the majority. Middle-aged men in the library were more inclined to answer the questionnaire than men in the same age on the Book Fair. There were also more men in this age that visited the library than visited the Book Fair. The group of 15-29 year olds is overrepresented. The reasons for this might be that this group visits the library more often, they are interested in social media, or it can also depend on researcher bias (the author belonged to the same age group). Missing from the numbers in Table 5.4 are those who failed to answer the question of gender or year of birth, a total of 27 respondents.

Table 5.4 Library respondents according to gender and age group (n=462, missing=27). The numbers in parenthesis are the corresponding percentages of Turku City residents (Table 5.2).

Age group	Frequency (n)	Percent (%)	Men (%)	Women (%)
10-14 years	30	5.9%	48.1%	51.9%
		(4.8%)	(52.0%)	(48.0%)
15-29 years	199	38.9%	43.6%	56.4%
		(27.4%)	(48.1%)	(51.9%)
30-44 years	115	22.5%	47.7%	52.3%
		(21.4%)	(51.3%)	(48.7%)
45-59 years	97	19.0%	53.7%	46.3%
		(21.2%)	(47.5%)	(52.5%)
60-74 years	62	12.1%	41.7%	58.3%
		(18.1%)	(45.0%)	(55.0%)
75-84 years	8	1.6%	57.1%	42.9%
		(7.1%)	(35.8%)	(64.2%)

In Table 5.5, respondents from both the library and the book fair are compiled according to age group and gender. The total number of respondents to the user questionnaires is 741.

Table 5.5 Respondents according to age group and gender (n = 709, missing=31). The numbers in parenthesis are the corresponding percentages of Turku City residents (Table 5.2).

Age group	Frequency (n)	Percent (%)	Men (%)	Women (%)
10-14 years	51	7.2%	49.0%	51.0%
		(4.8%)	(51.6%)	(48.4%)
15-29 years	257	36.2%	43.2%	56.8%
		(27.4%)	(48.1%)	(51.9%)
30-44 years	153	21.6%	48.4%	51.6%
		(21.4%)	(51.3%)	(48.7%)
45-59 years	146	20.6%	45.9%	54.1%
		(21.2%)	(47.5%)	(52.5%)
60-74 years	94	13.3%	41.5%	58.5%
		(18.1%)	(45.0%)	(55.0%)
75-84 years	8	1.1%	50.0%	50.0%
		(7.1%)	(35.8%)	(64.2%)

5.2.4   Statistical analysis of the findings

The collected material from the survey study was analyzed statistically. The calculations are mainly descriptive including frequencies, distributions tests (Chi-square, Fisher's Exact Test), means, one-way analyses of variance, and explorative factor analysis. The statistical calculations have been performed using IBM SPSS Statistics, Version

21. The main literature consulted in performing the statistical analysis was Djurfeldt (2009; 2010) and Wahlgren (2008). The analysis is presented in sections 6.1 and 6.2. An integrated analysis of the findings is presented in Chapter 7.

5.3 Content analysis

Content analysis is used to analyze texts and can be both quantitative and qualitative (Silverman, 2006). Content analysis is about establishing code schemes or coding frames and categories. The number of sampling units (which can be single words, meanings, and so forth) is counted in a quantitative content analysis. In a qualitative content analysis, instead the categories are rather shown through extracts or quotations from the text. Steps in performing a content analysis include selecting the material, acquainting oneself with the material, and constructing a coding frame including categories. The coding frame may require modifications and it is good to perform a pilot study. The intent is that different researchers should be able to repeat the analysis (Boréus & Bergström, 2005; Silverman, 2006).

Facebook pages were chosen because the results of the questionnaires showed that both users (of all ages) and library professionals are familiar with social network services and libraries have had time to establish themselves on this site (see Chapter 6). Facebook also provides different ways to participate and interact, and could therefore be considered as a possible Library 2.0 service.

The aim of this content analysis is to analyze the information activities inherent in the wall posts and comments to be able to describe the actual use of one Library 2.0 service. The categories were constructed based on a pilot analysis of two libraries' Facebook pages.

5.3.1 Sample and data gathering

The material is the Facebook pages of public libraries in the region of Finland Proper. The focus is especially on the wall posts and the comments provided by the library professionals and users during a specific time period. These constitute the sampling units. There are 28 municipalities in Finland Proper and the main public library in each municipality is part of the sample. There was, however, one main public library that did not have a Facebook page and one library that had no activity on their page during the chosen time period. Furthermore, two of the public libraries are collaborating and share a Facebook page. Overall, 25 Facebook pages were therefore analyzed and their wall posts and comments during the period of one year: June 1, 2010 – May 31, 2011. The wall posts and comments of the whole sample were collected in August 2011.

A pilot study was conducted by analyzing two library Facebook pages. The total number of wall posts analyzed in the pilot study was 466 and these wall posts contained a total of 199 comments (these are also a part of the sample). The pilot study aided the development and modification of the coding frame. The whole sample included 25 library Facebook pages, which had between 22 and 2,222 followers. The whole material consists of a total of 2,164 wall posts and their 876 enclosed comments.

5.3.2 Analysis of the findings

The content is analyzed both in a quantitative and a qualitative manner, that is, the results presented in section 6.3 are both in the form of numbers and quotations. Each wall post was coded into seven categories: number of likes, number of comments, author, type of post, content of post, information activity, and location. The content analysis led to the recognition and categorization of six information activities: informing, mediating, seeking, contributing, communicating, and creating. The coding frame and the results are presented further in section 6.3. In Chapter 7, these are then integrated with the findings from the survey study.

5.4 Limitations

5.4.1   The questionnaires

There are some limitations to the survey handed out among visitors at the Turku International Book Fair and the Turku City Main Library. First, there is the problem with the sampling method and that the quotas were not achieved according to plans. There is also, as mentioned earlier, a risk that researcher bias occurred when too many respondents were recruited from the age group of 15-29 year olds.

Another limitation can be noticed in the following chapter, Chapter 6. The limitation is that there are a considerable number of missing answers to the questions. On some questions there is up to 12-13% missing. A few respondents even left a whole page of questions unanswered. This could be due to the length of the questionnaire in combination with the public surroundings in which they were handed out. People might have felt stressed or unable to focus in the often noisy and crowded book fair and library. Some questions could also have been better phrased, but the author tried to help those who asked for further instructions.

The low response rate to the questionnaire to library professionals is also a limitation. It can be partly explained by survey software problems, and a lack of time or interest in participating in a survey concerning Library 2.0.

5.4.2   The content analysis

The material collected from the Facebook pages has some reliability issues. Some of the comments have disappeared during the time between the wall posts/comments were written and the material was gathered. This was obvious in one case where it is state that there are

17 comments but only 9 of them were left on the Facebook page. These comments could have been reported as spam or the writer could have deleted them, or the writer might have closed his/hers Facebook account. It is, however, difficult to say why and give a completely correct picture of how many are missing.

The content analysis could have benefited by being performed by a second independent researcher. There are also some ethical issues with using this type of material. Permission to use the wall posts and the comments has not been asked of either the libraries or users. Mainly because it is a question of open pages and anyone with access to the Internet (you do not have to be a member of Facebook) can also access the same material. The names of libraries and users have been replaced with N.N. and all wall posts and comments have been translated into English. However, it is still possible to find out which library is in question by accessing their Facebook pages.

There are also information activities occurring that are not observable with this method. In the research literature and in the survey results reading is an important part of the information activities of the users, however, in this material the reading activity is hidden. There are still indicators of high reading activity. For example, the fact that the libraries have many more people who like/follow their pages than people who actually contribute on their page.

5.5 Summary

In this chapter, the empirical part of this study has been outlined by describing the materials and methods. Two methods have been used to investigate the research questions put forward in Chapter 1. These are survey and content analysis.

One questionnaire was sent to public library professionals in the Region of Finland Proper attaining a 30% (n=98) response rate. The other questionnaire was handed out to users at the Turku International Book Fair and in Turku City Main Library, with a total of 741 respondents using nonprobability sampling. The aim of the question-

naires was to explore the perceptions and experiences of library professionals and users towards Library 2.0 services.

In the content analysis, 25 Facebook pages maintained by public libraries in the region of Finland Proper were collected and investigated. The material consists of over 2000 wall posts and nearly 900 comments. The aim was to explore actual information activities engaged in by library professionals and users in connection with social media and public libraries.

Finally, the limitations to the methods and materials have been discussed, including reliability issues. This chapter has introduced the necessary background details of the empirical studies performed, and the results are presented and analyzed in the following chapters (Chapter 6 and Chapter 7).

6   Results

The aim of this study is to investigate the interface between users, public libraries, and social media. The empirical findings are presented in this chapter, that is, the results gained by using the methods outlined in Chapter 5: survey and content analysis. Each investigation is presented separately and the prime intention is to give an account of their results. The next chapter, Chapter 7, provides an integrated analysis of the findings.

This chapter begins with the findings from the questionnaire distributed to the library professionals. The aim of the questionnaire was to investigate the awareness and implementation of Library 2.0 services from the library professionals' perspectives, in order to answer research question 1 (see section 1.1) and explore any influencing factors. The findings related to the respondents' background information is presented first, and provides variables for further comparisons. This is followed by a closer examination of the library professionals' relation to social media and two categorizations are formed based on social media use and first contact with Library 2.0. Further, the findings concerning the implementation of social media in libraries and the interest of Library 2.0 among library professionals are reported.

The aim of the questionnaire distributed to the users was to investigate their expectations and intentions concerning social media in public libraries and finding potentially explanatory factors, seeking answers to research question 2. First, the users' background information is accounted for, followed by findings concerning social media use and categorizations of social media users and information activities. These findings are further scrutinized in relation to users' perception of Library 2.0 services, and their interest and opinions concerning these services.

In this chapter, the answers to the questionnaires are analyzed statistically. The main focus is on frequencies, means, and distributions tests, but supplemented with explorative factor analyses, and one-way analyses of variance.

The results of the content analysis are presented in section 6.3. The aim of this investigation was to study an established social media service and how it is utilized by libraries and users. It relates partly to all three research questions presented in section 1.1. The coding frame is first outlined, and followed by a more quantitative account of the wall posts, comments, and number of likes. The content of the wall posts and comments are then more closely examined. The main focus is on the information activities found and these are examined qualitatively and quantitatively.

Each subchapter is followed by a short summary to recap the main results of the three investigations. The main connection to earlier research is made in the following chapter, Chapter 7, where the results are integrated and analyzed on a deeper level.

6.1 The questionnaire to library professionals

The findings from the questionnaire responded to by the library professionals (Appendix A) are interesting to observe from an exploratory angle, as well as in comparison with earlier research, the findings from the user questionnaire presented in section 6.2, and the content analysis presented in section 6.3. It should, however, be noted that the findings have somewhat limited generalization possibilities due to the questionnaires low response rate (see Chapter 5).

This review of the results of the questionnaire is divided into four parts. First, the background information of the respondents will be accounted for. Secondly, findings concerning the relation between library professionals or libraries and social media are investigated. This is followed by an examination of issues concerning the implementation of Library 2.0 services. The last part describes the interest among library professionals to engage in social media activities and Library 2.0 services. The four parts are concluded with a short summary (section 6.1.5). The two first parts present possible factors that can be used to analyze the other findings. Especially relevant is the categorization of respondents into avid, occasional, and nonusers of social media, and the division into early adopters and laggards (section 6.1.2). Other factors are reported if they have proven to be significant.

6.1.1 Background information

Besides gender and age, accounted for in section 5.2.2, library professionals were asked five additional questions about their background: number of employees, education, work experience, job title, and computer experience. Gender is not used for further calculations because of the small sample and uneven distribution (10 men and 87 women). The distribution between age groups are more even: 44.4% are 44 years old or younger and 55.7% are 45 years old or older (n=97).

Table 6.1 below shows how many employees are on the staff of the respondents' libraries. The number of employees is meant to be an

indicator of the sizes of the libraries. The size of the library might affect resources such as financial support, skills, and time.

Table 6.1 Number of library employees (n=92, missing=6)

Library employees	Frequency (n)	Percent (%)
1-5	27	29.3%
6-15	28	30.4%
16-50	11	12.0%
>50	26	28.3%

The respondents worked in both small libraries with 1-5 employees and large libraries with over 50 employees. The division between the different sizes of libraries is quite even, although most of the respondents worked in smaller libraries with 1-15 employees (adding up to 59.7%).

The library professionals were asked about their education and work experience, which gave indications of their knowledge base. The majority of the respondents, 57.1%, had a higher education (university/college), second most common is an institute education followed by polytechnic education (n=97). Most of the respondents also had several years of work experience, 45 (45.9%) had worked over fifteen years in the library field. Eleven of the respondents had worked 11-15 years, 22 had worked 6-10 years, 18 had worked 1-5 years and finally, only two respondents had worked less than a year in the library field. This gives a total of 57.1% that had worked 11 years or more in the library field while 42.9% had worked 10 years or less (n=98). The majority of the respondents, in other words, had a long experience of work in libraries, which indicates a suitable competency in having opinions about the development of new library services.

Respondents were further asked to indicate their current job title (Table 6.2) to make sure different work groups were represented and be able to depict possible differences between them.

Table 6.2 Job title (n=86, missing=12)

Job title	Frequency (n)	Percent (%)
Library manager	13	15.1%
Head of department	7	8.1%
Information specialist	7	8.1%
Librarian	26	30.2%
Library assistant	30	34.9%
Other	3	3.5%

The majority of the respondents were either library assistants (34.9%) or librarians (30.2%) (n=86). Library managers, information specialists, and heads of different departments were also represented. Information specialists could only be found in the larger libraries while most of the library managers worked in the smaller sized libraries.

The last question concerning background information was an inquiry into respondents' overall experience of computers. The aim was to establish some sort of idea of their computer skills, which are important in working with social media.
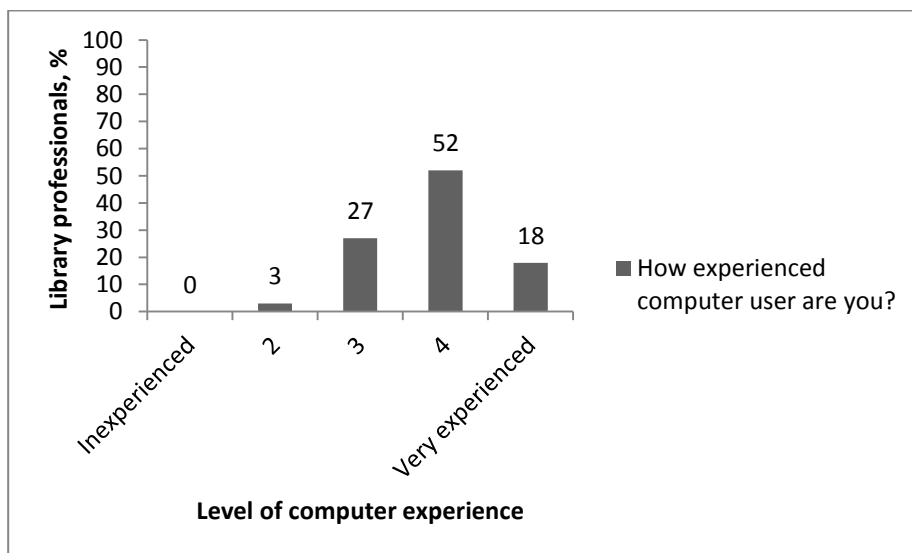
Figure 6.1 Computer experience, % (n=96, missing=2)

Figure 6.1 shows that the majority of the respondents, 70% (69.8%), perceived themselves as experienced computer users. None saw themselves as completely inexperienced. This is not surprising given that libraries started to automate their systems in the 1980s and information and communication technologies have long been an important part of the everyday work in libraries (see section 2.3.2).

6.1.2 Library professionals' relation to social media

The library professionals' relation to the Library 2.0 phenomena was investigated with questions of when and where they first heard about this concept.

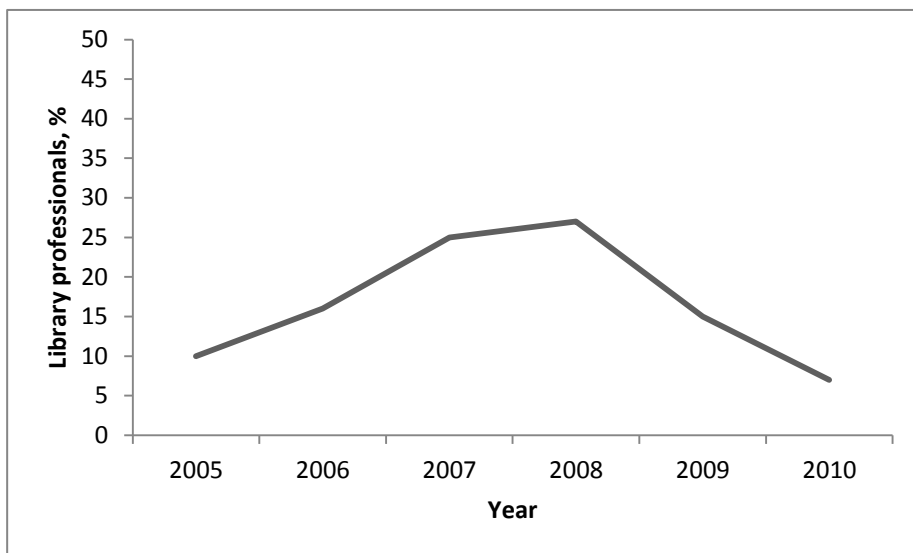Figure 6.2 shows what year the respondents first heard about Library 2.0.

Figure 6.2 Year of first contact with Library 2.0, % (n=81)

The peak was during the years 2007-2008. A total of 86 respondents answered the question, but five answered that they did not know when they first heard about Library 2.0. The respondents were divided into two groups based on the year of first contact: early adopters 50.6% (2005-2007) and laggards 49.4% (2008-2010). Drawing the line between the groups at year 2008 seemed suitable because Library 2.0 was coined in 2005 and in 2006 and 2007 the concept appeared in numerous professional blogs, journals, and books (see section 2.4). It is notable that the library professionals in this study might not have literally adopted Library 2.0, although they may have heard about it early on. Instead, the use of the early adopter term in this study describes a person who has become part of the Library 2.0 discourse at an early stage.

Early adopters were found in libraries of all sizes, although most worked in the larger libraries (over 16 employees) and significantly fewer in the smaller libraries (n=76, chi-square=9.737, df=3, p=0.021). The distribution of early adopters and laggards is nearly equal both in the younger age groups and in the older age groups: the number of early adopters in the age group of 44 years and younger is 51.3% and the corresponding number for the age group of 45 years and older is 50.0%. The majority of early adopters were librarians (37.8%) and the

majority of laggards were library assistants (41.2%), however, both are represented in all work groups. There are no further statistically significant differences related to education level. Interestingly, not even computer experience appears to be a significant indicator of adoption rate. In other words, the only explanatory factor found was the size of the library in which the library professionals worked.

The most common place where library professionals first established contact with the concept of Library 2.0 was on a lecture of some sort (40.0% of n=95), the second most common was that they heard about it from a colleague (29.5%). It was more unusual to have seen it on the Web (11.6%) or read about it in a magazine/journal (10.5%). Among the early adopters the most common was to have heard of Library 2.0 at a lecture (46.3%), while for the laggards it was just as common to have heard about it from colleagues (37.5%) as to have heard it at a lecture (35.0%). Thirty-two respondents stated that they had received some sort of education/in-service training in the use of social media and Library 2.0 tools (n=95). The most common was to have participated in lectures, some had taken courses, and for a few respondents Library 2.0 or social media had been a part of their education. Among early adopters, 47.5% had taken part in some sort of training or education and among laggards only 22.5% had attended any training (Fisher's Exact Test gives a p-value of 0.034). It can be an indication that the early adopters are more active professionally, while the laggards are not active to the same degree and rather receive information about professional innovations from their colleagues than seek it out themselves. The fact that the early adopters most often worked in the larger libraries also gave them greater possibilities to attend different courses and lectures. In small libraries, where the staff is limited it might be more difficult to find the time to participate in similar events.

Libraries have been subjected to technological changes for many years (see section 2.3.2) and therefore the library professionals were also asked to give their opinion of technological changes overall. They could choose one or several of the following options viewable in Figure 6.3: interesting, troublesome, a challenge, alarming, laborious, necessary, meaningless, threatening, and entertaining. Table 6.3 furthermore, shows the results of an exploratory factor analysis of these options.
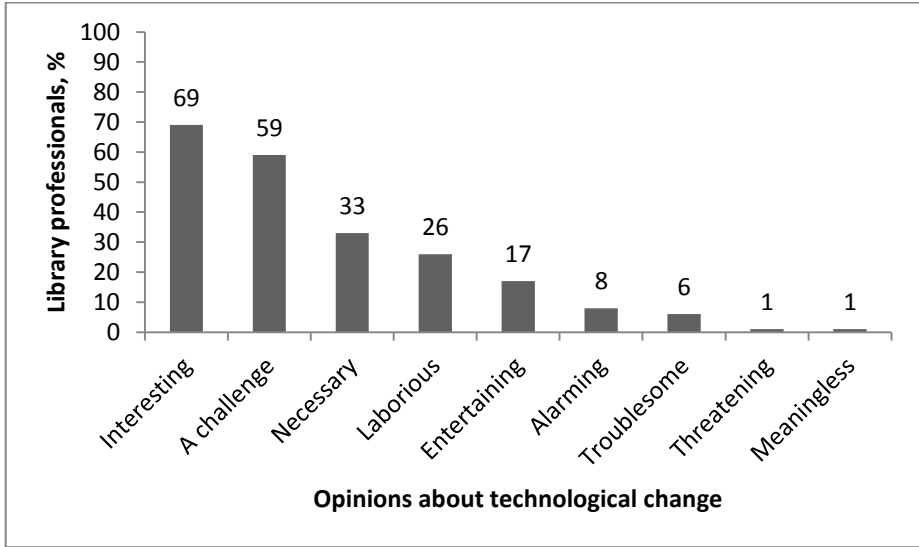
Figure 6.3 Opinions about technological changes, % (n=96, missing=2)

Table 6.3 Explorative factor analysis of opinions about technological changes

| | Factor | | | |
	1	2	3	4
Interesting	-.052	**.828**	-.114	-.133
Troublesome	**.702**	-.095	-.206	-.068
A challenge	.067	**-.363**	**-.681**	.157
Alarming	**.692**	.232	.092	.067
Laborious	.273	-.067	.047	**.677**
Necessary	-.259	.091	-.104	**.768**
Meaningless	-0.14	**-.332**	**.773**	.053
Threatening	**.781**	-.102	.025	-.018
Entertaining	.073	**.648**	.074	.282

The majority of the respondents found the technological changes to be interesting (68.8%) and challenging (59.4%). About 4.2% of the respondents marked "other" and described in the open section technological change as inevitable, full of anxiety, inspiring and does not belong in libraries. Overall, there were more positive opinions among the respondents focusing on the possibilities of technology, although some critical voices can be detected. The explorative factor analysis shows that the negative options were connected (factor 1, variance explained 1.85): troublesome (.702), alarming (.692) and threatening (.781). There is also a connection between the positive options (factor 2, variance explained 1.51): interesting (.828) and entertaining (.648). These load negatively with perceiving technology as a challenge and meaningless. On the other hand, the challenge option loads negatively (-.681) with perceiving technology as meaningless (.773) in factor 3 (variance explained 1.14). Seeing technology as a challenge does not seem to have any evident positive connections to the other options. Factor 4 (variance explained 1.03) points to a connection between perceiving technology as necessary (.768) and laborious (.677).

It is notable that in this study early adopters were not significantly more positive or negative to technological changes than laggards. The respondents with high computer experience (rating it 4 or 5) find technology changes significantly more interesting than those with limited computer experience (n=94, Fisher's Exact Test: p=0.003) but there were no significant differences to be found in connection to age, education, or work experience.

In the literature focusing on technological change, different roles and skills are often in focus (see section 4.1). The library professionals were, therefore, also asked to mark the characteristics and roles that they feel describe them as library employees (Figure 6.4).
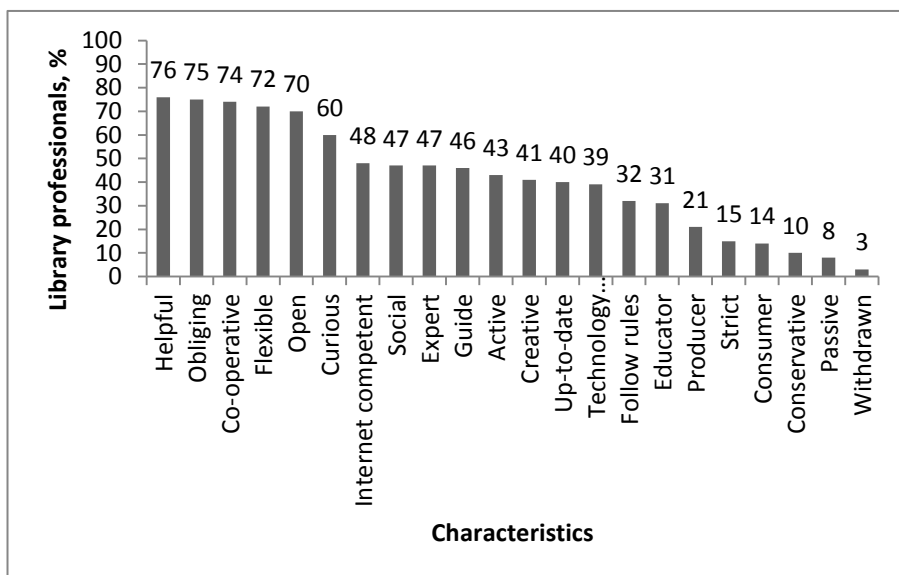
Figure 6.4 Characteristics of library professionals, % (n=96, missing=2)

The most popular characteristics applicable to 70% or more of the respondents are helpful, obliging, co-operative, flexible, and open (n=96). A few of the respondents described themselves with more negative attributes such as withdrawn, passive, or conservative. Table 6.4 shows the characteristics where significant differences have been found in relation to work experience, age group, and computer experiences.

Table 6.4 Significant differences concerning the characteristics of library pro-
fessionals (calculated with Fisher's Exact Test)

Characteristic	Work experience	Age group	Computer experience
Open	p=0.045		
Internet competent	p=0.023	p=0.000	p=0.000
Interested in technology		p=0.035	p=0.001
Educator		p=0.026	p=0.004
Up-to-date		p=0.000	p=0.003
Consumer		p=0.017	
Active		p=0.037	
Guide			p=0.003

Respondents with lower work experiences (10 years and less) were more prone to describe themselves as open and Internet competent than those with more than 10 years of work experience (n=96). Internet competence is also characteristic of respondents in the age of 44 years and younger (n=95), and those with high computer experience (n=94). The younger respondents also described themselves as interested in technology, educators, up-to-date, and consumers (n=95). Those with high computer experience described themselves as having a higher degree of interest in technology, as educators, as up-to-date, and as guides as opposed to those respondents with limited computer experience. Only concerning one characteristic was there a significant difference between early adopters and laggards. Early adopters to a higher degree described themselves as experts (n=81, Fisher's Exact Test: p=0.014). An explorative factor analysis, however, did not show any clear patterns concerning the characteristics.

Returning the focus to social media; Figure 6.5 presents the use of a number of social media services by library professionals both in their work and leisure time.
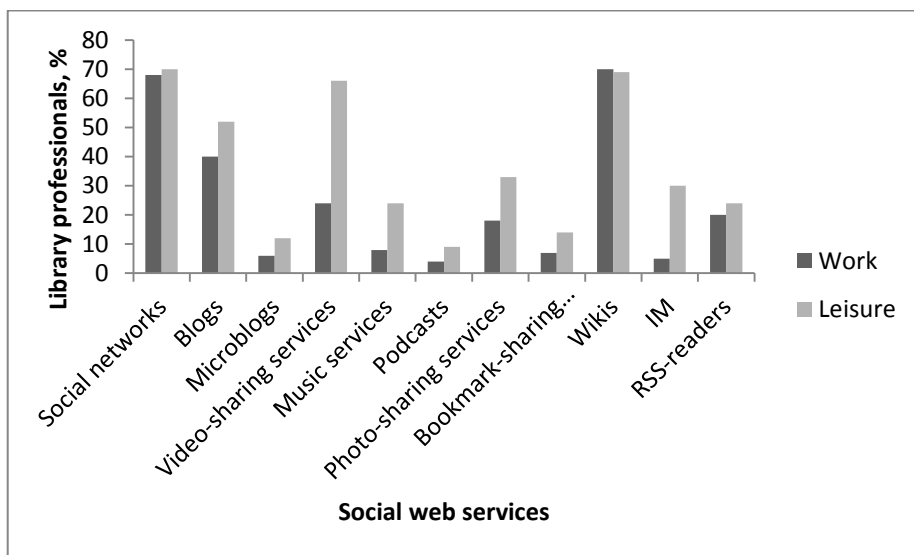
Figure 6.5 Use of social web services (%)

The three most common social media services that library profession-
als used in their work are wikis (70.1%), social network sites (68.0%),
and blogs (40.2%) (n=97). Podcasts were the least used service. Early
adopters used blogs (n=81, Fisher's Exact Test: p=0.024) and RSS-
readers (n=81, Fisher's Exact Test: p=0.011) significantly more in their
work than the laggards. At work, the library professionals utilized on
average three social media services, in their leisure time they used on
average up to four different social media services (n=96). Library pro-
fessionals used all services, except wikis, more in their leisure time
than in their work. They especially used video-sharing services, music
services, photo-sharing services, and IM substantially more in their
leisure time. Early adopters also used blogs in their leisure (n=81,
Fisher's Exact Test: p=0.002) as well as social bookmark-sharing ser-
vices (n=81, Fisher's Exact Test: p=0.013) significantly more than lag-
gards. Early adopters used on average three services in their work and
five in their leisure time, the corresponding numbers for laggards are
two and four (n=81). Overall, the library professionals can be seen as
versatile social media users.

Respondents can further be divided with regard to the number of so-
cial media services they used in their leisure time: 53.1% were avid
users utilizing four or more services and 35.4% were occasional users

that utilized 1-3 services and 11.5% were nonusers (n=96). Their social media use in their leisure time is a better indicator than social media services used in their work because these are self-chosen. Avid users constitute 65.9% of the early adopters (50.0% of the laggards), 24.4% were occasional users (40.0% of the laggards) and 9.8% of the early adopters are nonusers of social media in their leisure time (10.0% of the laggards) (n=81). Avid users were found in all age groups; however, most of them were in the younger age group and this avid use decreased as their age increased (n=95). Nonusers were only found among those respondents who were 45+ and there is a significant difference between age groups (chi-square=13.340, df=2, p=0.001). There are no nonusers of social media among the respondents who worked as library managers or information specialists.

The majority of the avid and occasional users of social media found technological changes overall as interesting while this is not the case among nonusers (n=96, chi-square=6.804, df=2, p=0.033), the same difference is notable in perceiving technological changes as a challenge (n=96, chi-square=8.943, df=2, p=0.011). On the other hand, the occasional users and nonusers were more prone to seeing technological changes as laborious (n=96, chi-square=6.073, df=2, p=0.048). In all social media groups the majority characterized themselves as open, helpful, obliging, flexible, and co-operative (n=96). Among avid and occasional users the characteristic curious is adapted by the majority but not recognized among nonusers (chi-square=7.551, df=2, p=0.023). Only in the avid user group could a majority be found characterizing themselves as up-to-date (chi-square=11.725, df=2, p=0.003), interested in technology (chi-square=12.559, df=2, p=0.002), and Internet competent (chi-square=12.957, df=2, p=0.002).

6.1.3 The implementation of social media into libraries

Libraries are quite advanced as regards the implementation of Library 2.0 services. A clear majority of the respondents (82.3% of n=96) answered that their libraries have plans or have already introduced social media services. The libraries with the smallest number of employees (1-5) were also the ones who had the lowest rate of implementation of Library 2.0 services among the libraries. Although, even there, the majority of the small libraries, 63.0% (n=17) are about to or already offer these services. Social networking, especially Facebook pages,

seems to be the most implemented service among the libraries; 57 respondents reported using Facebook in their library. Other services mentioned are blogs, microblogs, chat, and wikis. The respondents were also asked to estimate the average number of hours a week they work with Library 2.0 services. Forty-six of the respondents' replies varied greatly, that is between 15 minutes to 15 hours of their working time per week to manage social media services, but the most common was about one hour a week. The question was left unanswered by 33 and 19 answered that they used none of their working hours to manage Library 2.0 services.

The main reason for introducing Library 2.0 services was, according to the respondents, to develop the library (37.8% of n=82) and is especially supported by library managers. This option was followed by to market the library (22.0%) and to keep the library relevant (22.0%). The option with least support among the respondents was to give the library a modern impression (13.4%). Avid social media users saw the implementation of Library 2.0 mainly as a way to develop the library, followed by marketing possibilities, and keeping the library relevant. To develop the library was also supported by both the majority of laggards and early adopters. The main reasons among occasional users were developing the library and giving the library a modern impression, while not putting any higher emphasis on marketing. The avid users in their turn did not find giving the library a modern impression a significant reason for implementing Library 2.0 services. Nonusers put the least emphasis on keeping the library relevant and giving it a modern impression.

The most common barrier to introducing Library 2.0 services was that there is no time for it (45.7% of 92 respondents). This problem can be noticed in all the libraries independent of size. The library professionals also felt that there are not enough skills among them to introduce these kinds of services (35.9%). Lack of financial means seems to be the smallest problem; only 2.2% felt this to be an issue. Most of the respondents also strongly or partly agreed (53.2% of n=96) that their library invests enough resources in developing Library 2.0 services. There was, however, a significant difference between laggards and early adopters ($F(1,79)=4.043$, $p=0.048$). Laggards were more positive that the library invests enough resources in developing Library 2.0 services than the early adopters. There was no significant difference between the social media user groups concerning this particular issue. A few of the respondents (3.3% of n=92) felt that it is unnecessary to introduce Library 2.0 services and an equally small group felt that it is not the libraries mission. Other problems stated by the respondents

are lack of strategies and the low interest among library users. There were no significant differences between library professionals who were avid or occasional users of social media services, or between early adopters and laggards; all of these groups put the problems in nearly the same order with lack of time being the greatest issue (this is further discussed in section 7.2). The exception was the nonusers, of whom the majority saw the lack of skills among library professionals as the greatest barrier to introducing Library 2.0 services.

6.1.4 Library 2.0 interest among library professionals

The respondents were asked to give their opinion of a number of statements concerning Library 2.0 services. The respondents' opinions were divided with regard to the staff's interest towards working with Library 2.0 services. Approximately 47.3% believed there is no interest or very little interest in working with these services, while 46.2% think there is high or at least adequate interest for working with Library 2.0 (n=93). Among the respondents, it seems that it is most common for a working team to have the responsibility for managing Library 2.0 services (57.9% of n=95). This is followed by no one having responsibility, and one of the employees have full responsibility. Only 4.2% felt that all the employees shared the responsibility. Library 2.0 services do not seem to be a service involving all members of the staff; rather it is a specific work task for one employee or a specific group of employees to manage these services.

Reported in the following table, Table 6.5, are the opinions of the library professionals concerning certain aspects of Library 2.0 services.

Table 6.5 Opinions of library professionals concerning Library 2.0 services

Statement	Positive	Negative	Do not know
The library invests enough resources	53.2%	37.5%	9.4%
The staff is interested	46.2%	47.3%	6.5%
Library users are interested	54.8%	29.5%	15.8%
L2 services can attract new users	87.4%	6.3%	6.3%
User participation will improve the catalog	81.0%	12.6%	6.3%

The interest for Library 2.0 among library professionals might be ambivalent, however, a majority of the respondents (54.8% of n=95) believed that the library users are interested in Library 2.0 services. Some uncertainty is still present because 15.8% did not know if the users are interested. Those who were avid social media users themselves also believe to a higher degree that library users would be interested in these services (60.8%) although 54.5% of the nonusers also believe that the customers are interested. The occasional users of social media and laggards show the most uncertainty to this statement. It is noteworthy that the positive opinions about the library users' interest in Library 2.0 services are in direct correlation with the age groups of library professionals: the youngest age group is the least positive while the oldest group is the most positive. Dividing the respondents into only two age groups, 44 and younger and 45+, also

shows a statistically significant difference (chi-square=6.804, df=2, p=0.033). The respondents in the 45+ age group were more positive about the library user's interest in Library 2.0 services, however, the uncertainty (those who answered do not know) is also more widespread in this group than in the age group 44 and younger.

The library professionals were also asked if they believe that Library 2.0 could attract new users to the library; as many as 87.4% concurred with this statement. Library professionals are also convinced that customer participation, by commenting, grading, tagging and so forth, would make the catalog (OPAC) better, 81.0% partly or strongly agreed with this statement (n=95). Laggards and early adopters as well as all three groups of social media users thought positively about this. Library professionals have higher confidence in the interest and skills of library users than in the interest and skills among themselves with regard to social media services in the library.

The library professionals were asked to rate the importance of offering certain activities to users on the Web using a scale from 1 to 5 (Table 6.6).

Table 6.6 Opinions of library professionals concerning potential user activity in Library 2.0 services

Activity	1 (not important)	2	3	4	5 (very important)	Mean
Write reviews	5.2%	6.3%	36.5%	29.2%	22.9%	3.6
Read reviews by other users	6.3%	2.1%	32.3%	41.7%	17.7%	3.6
Rate books/ music/films	4.2%	8.3%	36.5%	30.2%	20.8%	3.6
Participate in book discussions	4.2%	12.6%	29.5%	31.6%	22.1%	3.6
Comment on books/ music /films	7.4%	7.4%	30.5%	35.8%	18.9%	3.5
Read reviews by library staff	2.1%	12.5%	38.5%	31.3%	15.6%	3.5
Create reading lists	4.2%	13.5%	37.5%	30.2%	14.6%	3.4
Tag	5.2%	16.7%	30.2%	30.2%	17.7%	3.4
Follow the library on Facebook	18.8%	19.8%	30.2%	21.9%	9.4%	2.8
Comment on blogs	15.6%	26.0%	29.2%	22.9%	6.3%	2.8

By comparing the means, it can be seen that the highest rated of the activities are the possibilities to read reviews written by other users (n=96) and write reviews (n=96) as well as rate (n=95) and participate in book discussions (n=95). While the lowest rate is given to becoming fans of the library on Facebook (n=96) and to comment on blog posts (n=96). Interestingly, these two activities have the strongest connection to the two Library 2.0 services the libraries already have implemented: Facebook pages and blogs. This might imply some level of dissatisfaction with these particular services among the respondents. It should, however, be noted that there is only a small difference in the rating. Activities such as commenting (n=96), reading reviews written by library staff (n=96), creating reading lists (n=96) and tagging the collections (n=96), are all close to the highest rated.

There are indications that laggards are on average slightly more positive than the early adopters to offering the possibility for library users to be active. Only in the case of tagging are early adopters on average slightly more positive than laggards. Statistically significant differences can, however, only be found in the case of providing the possibility to rate books/films/music, where laggards are more positive than early adopters ($F(1, 79)=4.590$, $p=0.035$).

Among the avid, occasional, and nonuser social media groups significant differences can be found concerning three options: create reading lists, follow the library on Facebook, and comment on blog posts. Avid social media users support the activity of following the library on Facebook ($F(2, 93)=3.945$, $p=0.023$) and creating reading lists ($F(2, 93)=4.055$, $p=0.020$) significantly more than both occasional users and nonusers. Avid users also show significantly more support for commenting on blog posts ($F(2, 93)=6.144$, $p=0.003$).

The respondents in the age group of 44 and under also show more support for commenting on blog posts than the older age group ($F(1, 93)=4.002$, $p=0.048$) as well as those with higher computer experience compared to those with limited computer experience ($F(1, 92)=5.609$, $p=0.020$). The respondents with higher computer experience are also significantly more positive to giving the users the possibility of following the library on Facebook than are those respondents with limited computer experience ($F(1, 92)=7.312$, $p=0.008$).

There are significant differences between small and large libraries concerning two options: the possibility to write reviews ($F(1, 88)=5.237$, $p=0.025$) and the possibility to tag the collections ($F(1, 88)=4.680$, $p=0.033$). Respondents from the larger libraries (with 16 or more employees) are more supportive of providing these possibilities to users.

Focusing on the library professionals' activities, they were also asked to rate their interests in performing different work tasks on the Web on a scale from 1 to 5 (Table 6.7).

Table 6.7 Interest among library professionals in performing certain Library 2.0-related tasks

Task	1 (no interest	2	3	4	5 (high interest)	Mean
Develop library web services	9.7%	15.1%	31.2%	23.7%	20.4%	3.3
Write about events	13.7%	14.7%	28.4%	25.3%	17.9%	3.2
Write reviews	10.8%	21.5%	22.6%	28.0%	17.2%	3.2
Write about the library field	20.4%	23.7%	31.2%	17.2%	7.5%	2.7
Teach users social media	22.6%	23.7%	25.8%	17.2%	10.8%	2.7
Reference service via chat/IM	29.0%	21.5%	21.5%	19.4%	8.6%	2.6
Lead book discussions	36.6%	24.7%	22.6%	9.7%	6.5%	2.3
Lead web discussions	46.7%	26.1%	13.0%	10.9%	3.3%	2.0

The library professionals were on average most interested in working with developing the library's web site (n=93). This was followed by writing reviews (n=93) and writing about events in the library (n=95). They had the lowest interest in giving reference services via chat/IM (n=93), and in leading book discussions (n=93) and web discussions (n=92). In the middle lay the work tasks of writing about library field related subjects (n=93) and teaching users about social media (n=93).

There were no significant differences to be found between the early adopters and laggards concerning the different tasks. Significant differences were, on the other hand, found using a one-way ANOVA test in connection with social media user groups, library sizes, work experience, education levels, computer experience, and age groups (Table 6.8).

Table 6.8 Significant differences concerning tasks

Task	Social media user group	Library size	Work ex-perience	Education level	Computer experience	Age group
Write reviews			$F(1, 91)$ =15.029, p=0.000			$F(1, 90)$ =5.836, p=0.018
Write about events		$F(1, 87)$ =7.595, p=0.007				$F(1, 92)$ =4.709, p=0.033
Write about the library field					$F(1, 92)$ =4.926, p=0.029	
Lead book discus-sions	$F(2, 89)$ =5.219, p=0.007			$F(1, 90)$ =7.304, p=0.008		
Reference service via chat/IM	$F(2, 90)$ =5.918, p=0.004		$F(1, 91)$ =7.385, p=0.008	$F(1, 90)$ =6.103, p=0.015	$F(1, 91)$ =12.271, p=0.001	$F(1, 90)$ =14.656, p=0.000
Lead web discus-sions			$F(1, 90)$ =11.750, p=0.001	$F(1, 89)$ =5.642, p=0.020	$F(1, 90)$ =7.172, p=0.009	$F(1, 89)$ =7.818, p=0.006
Teach users social media	$F(2, 90)$ =3.536, p=0.033	$F(1, 86)$ =5.134, p=0.026			$F(1, 91)$ =15.757, p=0.000	$F(1, 90)$ =8.153, p=0.005
Develop the web services					$F(1, 91)$ =14.786, p=0.000	$F(1, 90)$ =6.249, p=0.014

In the social media groups there were significant differences concerning three of the tasks: giving reference services via chat/IM, leading web discussions, and teaching social media. The interest in giving reference services via chat/IM was low among both occasional users and nonuser, but high among avid users. The same division could be observed concerning leading book discussions. The interest in teaching social media skills also followed the same pattern; avid users were significantly more interested in this activity than nonusers and occasional users.

The smaller libraries (15 employees or less) were significantly more interested in writing about events in the library than the respondents from the larger libraries, and the same pattern was visible concerning the interest in teaching users about social media. Respondents with shorter work experience (10 years and less) were significantly more interested, than those with longer work experience, in performing the following work tasks: writing reviews, giving references via chat/IM, and leading web discussions. Respondents with a higher education were also significantly more interested in leading book discussions, giving reference services through chat/IM, and leading web discussions, than the respondents with a lower education.

There were significant differences concerning five of the mentioned tasks between the respondents with higher computer experience and those with limited experience. The respondents with higher experience of computers were more interested in writing about library field related issues, giving reference services via chat/IM, leading web discussions, teaching social media, and developing the library's web service.

Between the younger age group (44 and younger) and the older age group (45+) there were significant differences concerning six of the options. The younger respondents were more interested in writing reviews, writing about events in the library, giving references via chat/IM, leading web discussions, teaching social media, and develop the library's web service.

A categorization of the tasks and potential user activities into information activities is shown in Table 6.9.

Table 6.9 Categorization of information activities derived from tasks and potential user activities

Information activity	Description
Creating	Writing and developing
Informing	Teaching
Seeking	Giving reference service and tagging
Communicating	Leading discussions
Contributing	Rating, commenting, and participating in discussions
Reading	Reading and following

It is interesting that the library professionals seemed most inclined to engage in activities that are related to creating (writing and developing), while the activities demanding higher levels of participation and communication (leading discussions) are of lower interest. It seems that the respondents in this study were more interested in creating activities than what participants in earlier studies have been, however the low interest in communicating has been observed earlier (compare Chawner, 2008). The library professionals in the present study did also adequately support users' engagement in the different information activities.

In the open comment section, which concluded the questionnaire, the respondents expressed a wish for better planning and distinct strategies. More education and courses in social media were also demanded. There are some concerns with regard to the users, such as did they want social media in the library, and should the library promote external services like Facebook. Some of the respondents felt that the

development in the libraries are not fast enough, while others saw no urgent need for development. A large and recurrent concern was the lack of time, and also the lack of staff.

6.1.5 Summary

In the questionnaire to the library professionals several background factors were accounted for including age, education, library size, work experience, job title, and computer experience. Although the number of respondents was relatively low, there was a sufficient variance in each background factor. These also proved to be useful explanatory factors with regard to the statistical analysis of the questionnaire answers.

The account of the background information was followed by a description of the library professionals' relation to social media. The library professionals were divided into early adopters and laggards based on the question of when the respondents first heard about Library 2.0. Early adopters were found mostly in larger libraries. It was most common to have encountered the social media and Library 2.0 through lectures and from colleagues. The results, furthermore, imply that early adopters have more actively participated in instructions concerning the social media and Library 2.0.

In general, opinions about technological changes were positive among the library professionals, whether they were early adopters or laggards. Higher levels of computer experience still seemed to influence an interest towards technological changes. The respondents with higher levels of computer experience also describe themselves as interested in technology and being Internet competent, and the same applies to the respondents who were aged 44 or younger. In general, the respondents described themselves with positive attributes such as being helpful, obliging, co-operative, flexible, and open. These findings are helpful in discussing the motivations and skills for implementing social media services.

Focusing again solely on the social media, three social media user groups were categorized based on the number of social media services

the respondents use in their leisure time. These were avid social media users (4 services or more), occasional social media users (1-3 services), and nonusers of social media. The library professionals used more social media services in their leisure time than in their work, however, wikis and social networks proved to be the social media services mostly used by the library professionals. These findings are an initial description of library professionals' engagement in different activities within the social media context.

The libraries seem to adapt different ways of dealing with Library 2.0 services. The majority of the libraries had or were about to implement Library 2.0 services. The focus seemed to be on social networking sites (mainly Facebook) and blogs. The time spent on maintaining social media services varied and the responsibility was usually carried out by a working team or a single staff member, or by no one. The main reason for implementing Library 2.0 is to develop the library while the main barrier is a lack of time. Nonusers also raised the problem of the lack of skills as a barrier for implementing Library 2.0.

Among the library professionals, the respondent's interest was somewhat ambivalent as regards working with Library 2.0 services. They rather believed to a higher degree that it was the library users who were interested in these services and that it could attract new users. It was notable that the library professionals in the older age group were more confident of the library users' interest in Library 2.0. A large majority of the respondents were also confident that the library catalog would improve if users were to participate with tags, reviews, ratings, and so forth. The library professionals have, in other words, more confidence in the social media skills and interest of users than in the social media skills and interest among themselves.

The respondents found that it was most important to provide the users with the opportunity to read and write reviews. They found it least important that the users could follow the library on Facebook or comment on library blogs. This is interesting when regarding the fact that Facebook and blogs are among the most implemented of the Library 2.0 services and it may imply that these services have not lived up to the respondents' expectations. Avid social media users are still significantly more supportive of providing these types of services. The library professionals are themselves mostly interested in working with the development of the library web site and writing reviews or about events in the library, that is, they are interested in creating activities. The respondents, however, showed the least interest in com-

municating activities such as leading discussions on the Web. The findings reported above (section 6.1) will be further analyzed in Chapter 7 and Chapter 8, where their relation to the earlier research and the research questions is scrutinized.

6.2 The questionnaire to users

The findings from the user questionnaire (Appendix B) are presented below. The responses from the book fair and the library correlated to a high degree. Throughout most of the analysis the respondent groups are therefore merged and analyzed together.

The review of the results is divided into four parts. First, the respondents' background information with regard to hometown, library visits, web use, and age is provided. These factors are used as independent variables in the statistical analysis, and reported only if significant differences have been found. The following is an overview of the general social media use of users. In this section, the same division reported in section 6.1 is made, categorizing users into avid, occasional, and nonusers of social media. In section 6.2.3, the perception of users concerning Library 2.0 services are investigated and in the final part, before the short summary, the intentions and opinions concerning these services are outlined.

6.2.1 Background information

In the user questionnaire, there were six questions about the background of users: gender, year of birth, education, hometown, library visits, and web use. The gender distribution among the respondents is quite even, 44.8% were men and 55.2% women.

Both Turku City Main Library and Turku International Book Fair attract mostly local visitors. The majority (76.4%) of the respondents put down Turku as their hometown, 14.1% lived in some other town or municipality in the region of Finland Proper and 7.9% lived somewhere else in Finland. Eleven respondents (1.5%) were from another country.

The respondents were both eager library users and web users (Table 6.10 and Table 6.11).

Table 6.10 Library visits (n=728)

Library visits	Frequency (n)	Percent (%)
Every day	62	8.5%
1-3 times a week	296	40.7%
1-3 times a month	274	37.6%
More seldom	88	12.1%
Never	8	1.1%

Table 6.11 Web use (n=735)

Web use	Frequency (n)	Percent (%)
Every day	562	76.5%
1-3 times a week	112	15.2%
1-3 times a month	22	3.0%
More seldom	13	1.8%
Never	26	3.5%

The respondents were asked to estimate their library visits and web use according to the following options: every day, 1-3 times a week, 1-3 times a month, more seldom, or never. Some of the respondents indicated more than one option and in order to include them in the analysis the categories were reduced to three: often (every day and 1-3 times a week), occasionally (1-3 times a month), and seldom (more seldom and never). The numbers then showed that 49.2% visited libraries often, 37.6% visited them occasionally, 13.2% seldom or never visited the library (n=738). The majority use the web regularly, 562

respondents even use it daily. If the non-users are excluded, the respondents can be divided into those who often use the Web 76.5% (every day), occasional web users 15.2% (1-3 times a week), and those who use the Web seldom 5.3% (1-3 times a month or more seldom) (n=711). According to Finnish statistics 72% of the Finnish population used the Web daily in 2010 (Suomen virallinen tilasto, 2010) which is close to the number found among the respondents to this study. It is obvious that the questionnaires were answered by people who had some sort of interest in either library or web use, and often in both, which correlates with the findings of Vakkari (2012).

The individuals who answered that they never use the Web (26 respondents), were asked to continue to the last question in the questionnaire (open comments). There were, however, four respondents who continued to answer all the questions. (It seems that they had misinterpreted the question, understanding it as how often they used the Web in the library, although the question was how often do you use the Web in general.) These four were still included in the following results. In other words, 22 cases and one respondent, who failed to answer the question, were excluded from the findings accounted for in the following sections; however, their open comments were not excluded. This means that the number of respondents was considered to be 718 people. Table 6.12 shows the age distribution, after excluding the web nonusers, and the greatest fall off could be seen among the oldest age groups (compare with Table 5.5 in Chapter 5).

Table 6.12 Respondents according to age group (n=709, missing=9)

Age group	Frequency (n)	Percent (%)
10-14 years	54	7.6%
15-29 years	259	36.5%
30-44 years	158	22.3%
45-59 years	144	20.3%
60-74 years	91	12.8%
75-84 years	3	0.4%

There was a need to reconsider the distribution between the age groups presented because of the fall off. Therefore a new division of age groups is suggested in Table 6.13. The new division makes it easier to make comparisons between the age groups. The categories are influenced by the literature concerning generations on the Web, presented in section 4.2.1 (Connaway et al., 2008; Jones & Fox, 2009; Nicholas et al., 2011).

Table 6.13 New division of age groups and their gender distribution (n=709, missing=9)

Age group	Frequency (n)	Percent (%)	Men (%)	Women (%)
10-16 years	91	12.8%	51.1%	48.9%
17-29 years	222	31.3%	40.8%	59.2%
30-45 years	171	24.1%	49.7%	50.3%
46-64 years	169	23.8%	47.9%	52.1%
65-84 years	56	7.9%	30.2%	69.8%

The largest age group was the 17-29 year old group (31.3%), and the smallest age group the 65-84 year old group (7.9%). The oldest age group also had the most uneven gender distribution. The age groups can further be reduced to three: 44.1% under 30 years old, 24.1% between 30-45, and 31.7% who were 46 years and older.

Over a third of the respondents were highly educated (university/college) or in the middle of a university or college education. There were, however, limitations to these findings because of a mistake in the phrasing of the question. The users were only asked to select their education without specifying if they were in the middle of their education or if it was their highest level of education. This led to some respondents indicating the education they had completed and others their ongoing education. The confusion was increased as so many of the respondents were young and therefore in the middle of their education. There were also respondents who reported that they had more than one education (7.0%). Therefore, the level of education was not further analyzed due to reliability issues.

6.2.2 From social media use to information activities

In the questionnaire, there were questions aimed to map the web and social media use of the users in general. Respondents were asked about their use of a certain set of social web services, the frequency of their use, and to rate how much they enjoyed a certain set of activities.

Respondents were asked to mark which social web services they used regularly (Figure 6.6). The options were social networks, blogs, microblogs, video-sharing services, music services, podcasts, photo-sharing services, bookmark-sharing services, wikis, instant messaging services, and RSS-readers. In this case, all forms of use on different interactivity levels are included, for example reading, viewing, editing, commenting, creating, and sharing. They could also mark "none of the above" or fill in other services that came to mind.
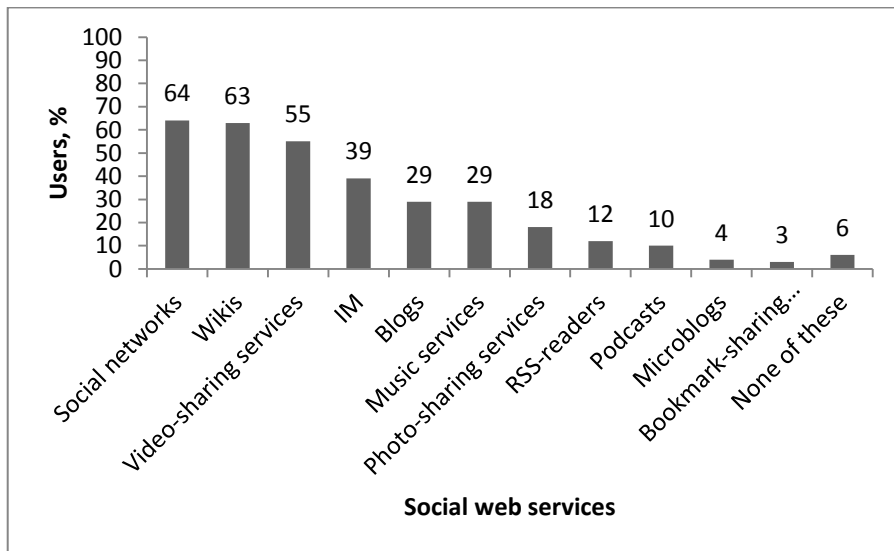
Figure 6.6 Use of social web services (%, n=692)

The most popular social web service among the respondents was the social network services, 63.7% use these services regularly. The use is spread across all ages, although declining in the older age groups. Among respondents under 30, 84.6% use social networks, among 30-45 year olds the number was 64.5% while in the age group 46 and older 33.0% use social networks (n=683, chi-square=143.196, df=2, p=0.000).

The popularity of social networks is closely followed by the use of wikis, 62.9% used wikis (for example Wikipedia) regularly. A slight majority of the youngest age group 10-16 used wikis (52.2%), but it is actually a lower number compared to the age groups of the 17-29 and 30-45 age groups, where wikis were used by 71.9% and 70.5% respectively. Even among the 45-64 year olds, 58.4% used wikis regularly, while the use declines in the oldest age group in which 31.1% used wikis (n=683, chi-square=37.201, df=4, p=0.000).

Video-sharing services were also used by a majority of the respondents but their popularity declines in the older age groups (n=683, chi-square=46.709, df=2, p=0.000). Men are more inclined to use video-sharing services regularly (n=673, Fisher's Exact Test: p=0.000) and podcasts (n=673, Fisher's Exact Test: p=0.000), although there are no significant differences in relation to gender concerning the use of most of the mentioned services.

Blogs are still more popular among women (n=673, Fisher's Exact Test: p=0.027). Respondents in the age 46 and older use blogs significantly less than the younger age groups (n=683, chi-square=6.197, df=2, p=0.045). On the other hand, looking closer at the different age groups the 10-16 year olds used blogs less than the respondents in the ages of 46-64: 20.0% compared to 24.2%.

Music services are used significantly more by the younger age groups (n=683, chi-square=29.906, df=2, p=0.000) as well as IM (n=683, chi-square=16.796, df=2, p=0.000). Other additional web services the respondents mentioned were email, online games, discussion forums, search engines (Google), and mass media sites (newspapers, YLE etc.).

The differences between the Book fair visitors and the Library visitors are only visible in the use of IM and blogs. The Book Fair visitors are keener on using instant messaging services (IM) than the Library visi-

tors (n=691, Fisher's Exact Test: p=0.011). The latter group utilized, however, blogs more than the Book Fair visitors (n=692, Fisher's Exact Test: p=0.008).

There are also some significant differences between the library visitors. Those who visit the library often used the following social media services less than those who occasionally and seldom visit the library: wikis (n=682, chi-square=8.174, df=2, p=0.017), photo-sharing services (n=682, chi-square=7.080, df=2, p=0.029), music services (n=682, chi-square=9.786, df=2, p=0.007), and blogs (n=682, chi-square=15.064, df=2, p=0.001).

The respondents used, on average, three (3.3) social media services (n=691). There are some small differences between the age groups. Respondents in the 17-29 age group used, on average, the highest number of social web services, that is. four (4.0). The oldest age group utilized on average the lowest number of social web services (1.3). Among the respondents 40.2% were avid users (utilizing more than 4 social web services), while 53.4% could be labeled as occasional users (utilizing 1-3 social web services), and 6.4% constituted the nonusers (n=691). The only age group who had a majority of avid social media users were the17-29 age group (56.6%, n=221).

If we compare the social web services utilized by users with those used by library professionals, some differences can be noted (Figure 6.7).
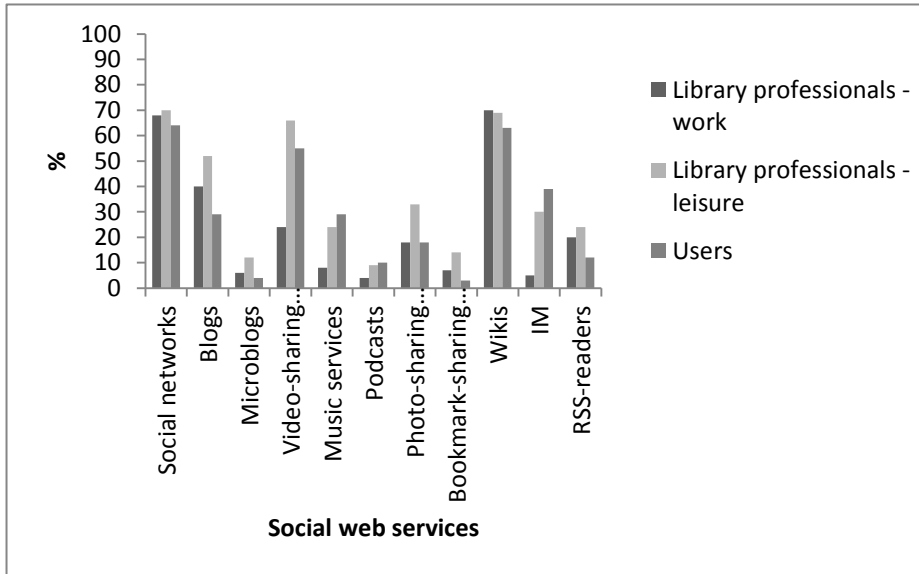
Figure 6.7 Use of social web services among both users and library professionals (%)

The library professionals' use of social web services in their leisure time is conspicuous. Users were only keener users in the use of music services, podcasts, and instant messaging services. Library professionals also utilize a higher number of services on average and have more avid users among them, although the number of nonusers is also higher.

Respondents to the user questionnaire were also asked to fill out the frequency with which they used the fourteen different types of web and social media. The question comprised of writing one's own blog posts, commenting on other blogs, reading blogs, commenting on newspaper articles, grading books/articles/pictures, tagging, uploading pictures/videos, viewing pictures/videos, using discussion forums, using IM services, reading e-books, seeking information, visiting a 3D world, and playing online games. The findings are presented in Table 6.14.

Table 6.14 Frequencies of web and social media use

Type of use	n	Often	Occassionally	Never
Write blog posts	645	7.3%	18.1%	74.6%
Comment on other blogs	641	7.5%	38.1%	54.4%
Read blogs	645	28.7%	48.5%	22.8%
Comment on newspaper articles	638	6.6%	38.4%	55.0%
Rate books/articles/pictures	633	5.8%	35.7%	58.5%
Tag	632	7.1%	26.4%	66.5%
Upload pictures/videos	632	15.8%	46.0%	38.1%
View pictures/videos	652	56.7%	35.4%	7.8%
Use discussion forums	635	32.4%	44.3%	23.3%
Use IM	638	31.3%	35.4%	33.3%
Read e-books	635	8.3%	33.2%	58.4%
Seek information	660	85.2%	10.3%	4.5%
Visit a 3D world	636	4.1%	11.2%	84.7%
Play online games	645	15.5%	29.8%	54.7%

The respondents engaged the least frequently in the activities of visiting a 3D world and writing their own blog posts. The most popular were information seeking and viewing pictures/videos. This is followed by using discussion forums, reading blogs, instant messaging, and uploading pictures and videos. The respondents engaged less frequently in commenting on blog posts or newspaper articles, playing online games, rating, and tagging.

An explorative factor analysis of the social media and web activities provided a grouping into three components. The analysis showed a connection between the activities that have been explicitly related to participation in the social media. These included: writing blogs (.85), commenting on blogs (.89), and reading blogs (.64), commenting on articles (.65), rating (.60), tagging (.59), and uploading (.41). An exception is reading e-books (.45) which is surprisingly also connected to the same component although its connection to social media is not as obvious. The second component gathers seeking information (.76), viewing pictures/videos (.72), and discussion forums (.47), in other words, the activities engaged in most frequently and that have been common web use also before the development of social media (see sections 2.1 and 2.2). The third and last component show a connection between visiting 3D worlds (.56), playing online games (.77), and instant messaging (.43). All three of these activities demand a more direct level of participation.

Respondents were further asked how they liked to perform the following activities on the Web: watch/read what others have done/written, create (write) something themselves, seek information, and communicate with others (Table 6.15).

Table 6.15 Interest in activities among respondents

Activity	Frequency (n)	1 (no interest	2	3	4	5 (high interest)	Mean
Watch/read	670	11.3%	14.0%	27.8%	27.0%	19.9%	3.3
Create	661	22.2%	23.9%	25.0%	17.7%	11.2%	2.7
Seek	677	5.8%	3.5%	11.4%	24.4%	54.9%	4.2
Communicate	663	10.7%	14.2%	18.4%	27.6%	29.1%	3.5

In Table 6.15, it is clear that the respondents enjoy seeking for information and communicating the most on the Web. To view what others have created and create something themselves were less popular activities.

The options of the previous two questions can be categorized into five information activities: *seeking, reading/viewing, communicating, creating,* and *contributing* (Table 6.16). The categorization is based on the literature on information activities and social roles on the Web and correlated with the activities categorized earlier in Table 6.9 (Turner & Fisher, 2006; Hektor, 2001; Kari & Savolainen, 2003; Li & Bernoff, 2011; Preece & Schneiderman, 2009).

Table 6.16 Description of information activities

Information activity	Description	% of respondents
Seeking	Often seek information and enjoy information seeking on the Web (rating it 4 or 5)	92.9%
Reading/viewing	Often read blogs, view pictures/videos, read e-books and enjoy viewing/reading what others have done/written	74.9%
Communicating	Often use discussion forums and IM and also enjoy the Web as a communication channel	69.8%
Creating	Often write their own blog posts, upload pictures/videos onto the Web and enjoy creating/writing content on the Web	36.9%
Contributing	Often comment on blog posts and/or newspaper articles, grade, tag, visit virtual worlds and/or play online games	27.9%

Respondents who answered that they often seek information and enjoyed information seeking on the Web (rating it 4 or 5) were as many as 92.9%. The answers falling into the category of *reading/viewing* were reading blogs, looking at pictures/videos, reading e-books, and enjoying viewing/reading what others have done/written. Those who often performed one of these activities and enjoyed reading/viewing the work of others constituted 74.9% of the respondents. Information activities related to *communicating* were using discussion forums and IM and also enjoying the Web as a communication channel. The respondents who engaged frequently in these activities constituted 69.8%. The following activities are categorized as *creating*: writing your own blog posts, uploading pictures/videos onto the Web and enjoying creat-

ing/writing content on the Web. Respondents who created constituted 36.9%. The last category of information activities was *contributing*. Contributing entails commenting on blog posts and/or newspaper articles, grading, tagging, visiting a virtual world and/or playing online games, in other words, activities that demand a more active level of participation. Respondents who often engaged in these activities constituted 27.9% of the users. It is clear that the respondents did not only engage in one activity, actually, as many as 83.2% frequently engaged in two or more activities. Only 3.6% of the respondents could not be categorized into any of the information activities, because of their low use and interest in the mentioned activities.

The respondents who engaged in seeking activities were found mainly in the older age groups (n=655, chi-square=83.299, df=4, p=0.000). The highest numbers were found in the 30-45 age groups (100.0%) and the 46-64 age group (98.0%), while the lowest number was found among the youngest age group, the 10-16 year olds (70.6%). This does not necessarily mean that the 10-16 year olds engaged less frequently in seeking activities, it might instead be that they did not recognize their own information seeking activities.

Reading/viewing activities engaged the younger age groups (n=650, chi-square=45.622, df=4, p=0.000), avid social media users (n=643, chi-square=69.210, df=2, p=0.000), and those who often used the Web (n=656, chi-square=24.440, df=2, p=0.000). In the younger age groups (10-29 year olds) over 80% engaged in reading/viewing on the Web while only about 46% of the oldest age group were active.

The engagement in communicating activities was also greater among the younger users (n=645, chi-square=61.988, df=4, p=0.000) and among avid social media users (n=643, chi-square=69.210, df=2, p=0.000).

The respondents who engaged in creating activities on the Web are mostly young (n=645, chi-square=31.958, df=4, p=0.000), men (n=636, p=0.010), and avid social media users (n=638, chi-square=28.336, df=2, p=0.000).

The same pattern is visible among those who engaged in contributing activities. They were also mostly young (n=627, chi-square=59.092, df=4, p=0.000), men (n=620, p=0.002), and avid social media users

(n=624, chi-square=16.310, df=2, p=0.000). In both contributing and creating activities, the engagement was highest in the youngest age group and decreased with age.

Seeking seemed to engage all Web users, and was not be specifically connected to social media use. The other activities were, on the other hand, connected to avid social media use and mostly engaged in by the younger age groups. Earlier research (see section 4.2.1) has categorized people into different groups based on their activities, that is, those who engage in creating activities are labeled as creators. In this study, such categorizations are not made because the vast majority did not engage in only one activity but several, for example, a reader could be a seeker and a contributor at the same time. The categorization focused on the information activities.

6.2.3 Users' perceptions of Library 2.0 services

Users were asked about their use of existing library web services to investigate their familiarity with these services. They were also asked about their opinions of the web presence of library professionals and the implementation of social media services in public libraries. The findings concerning these issues are outlined next.

Familiarity with library web services

Figure 6.8 shows the use of different web services the library provides: web site, catalog, blogs, and databases.
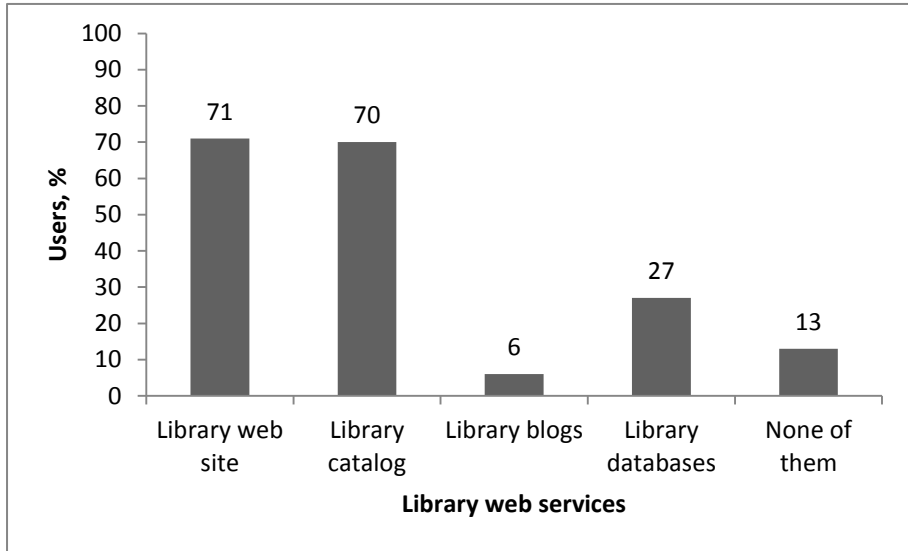
Figure 6.8 Familiarity with library web services (%)

The majority of the respondents were familiar with and used the traditional library web services (the web site and the OPAC). The library blogs were the least used, only 41 respondents (6.0% of n=686) have used the library blogs during the last year. Other library services mentioned in the open option were academic library services and the ability to access Internet in the library. Databases and the library catalogs were also mentioned, showing some confusion concerning the different service labels.

Women utilized the library web site (n=668, Fisher's Exact Test: p=0.004), the library catalog (n=669, Fisher's Exact Test: p=0.003), and the library databases (n=669, Fisher's Exact Test: p=0.017) significantly more than men. A higher percentage of men were nonusers of library web services (n=669, Fisher's Exact Test: p=0.018). There was, however, no significant difference between genders concerning the use of library blogs.

The use of the library web site was highest in the age groups 17-29 (79.2%) and 30-45 (79.0%) and lowest among the youngest age group (53.5%) and the oldest age group 65+ (45.1%) (n=677, chi-square=41.953, df=4, p=0.000). In addition, concerning the use of the

library catalog the highest numbers were found among the 17-29 and 30-45 age groups (almost 80% of both groups) and the lowest number in the youngest age group (about 35%) (n=677, chi-square=68.835, df=4, p=0.000). The 17-29 age group also used the library databases the most (40.3%) while the youngest age group use them the least (7.0%) (n=677, chi-square=44.709, df=4, p=0.000). The highest numbers of nonusers were found in the youngest age group (26.7%) and in the oldest age group (33.3%) (n=677, chi-square=44.680, df=4, p=0.000). There were no significant differences found between age groups concerning the use of library blogs.

Those respondents who visit the library occasionally used the library web site (76.6%) (n=675, chi-square=5.869, df=2, p=0.053) slightly more and the library catalog (77.5%) (n=676, chi-square=12.167, df=2, p=0.002) significantly more than those who often or seldom visit the library. The library blogs are, on the other hand, mostly used by the respondents who visited the library often (13.8%) (n=637, chi-square=9.389, df=2, p=0.009). There were no significant differences concerning the use of library databases. Those who seldom visits the library were in this category the largest group of nonusers of library web services (16.7%) (n=676, chi-square=13.633, df=2, p=0.001). Respondents who used the Web often were clearly also using the library web services more, and those who used the Web seldom also had the highest degree of nonuse of these services. Only concerning the library blogs could no significant differences be found between the different Web users.

Over 70% of both the avid and the occasional social media users were more familiar with and used the library web site while that applied to only 52.3% of the nonusers of social media (n=664, chi-square=9.738, df=2, p=0.008). The avid social media users used the library catalog more (77.3%) than both occasional users (67.0%) and nonusers (63.6%) (n=665, chi-square=9.166, df=2, p=0.010). The avid social media users also used the library databases more (38.1%) than both occasional (20.4%) and nonusers (9.1%) (n=665, chi-square=31.956, df=2, p=0.000). The library blogs followed the same pattern although they were generally low in use: 9.2% of the avid social media users utilized library blogs and the use is even lower among occasional social media users (3.7%) (n=665, chi-square=9.247, df=2, p=0.010). There were, however, no significant differences between the social media users with regard to nonuse of the library web services mentioned. Neither did engagement in different information activities seem to have an influence on the use of library web services. Library web sites and catalogs were,

for instance, used to the same extent by those engaging in seeking, reading, creating, communicating, and contributing.

To summarize, the library web services were most familiar among women, in the 17-29 age group, and among avid social media users.

Web presence of library professionals

The users were also asked about the library professionals' web presence. In the social media context, it is common to share personal information more openly and it has become somewhat rare to act anonymously. Users did, however, not seem to have any high requirements as regards the web presence of library staff (Figure 6.9).
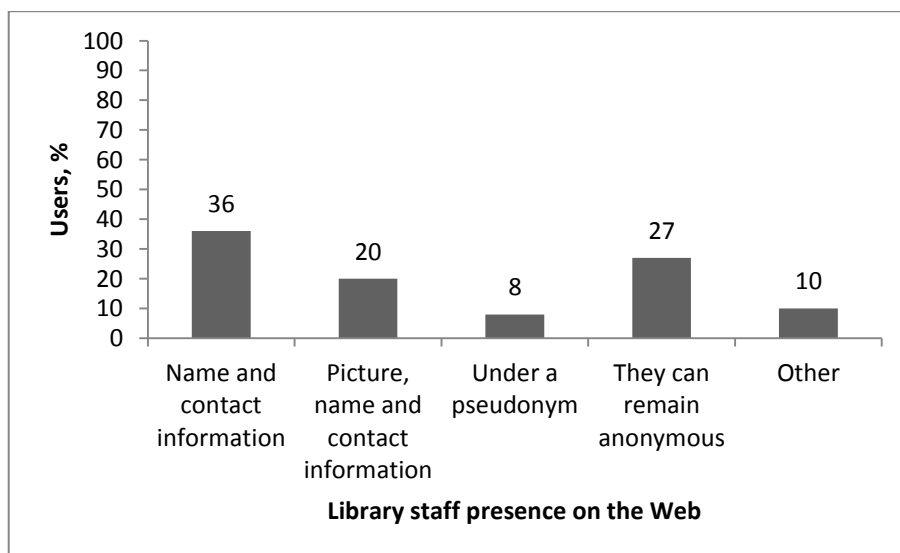
Figure 6.9 User preferences concerning library staff presence on the Web (%)

The users could choose between the following alternatives concerning the library staffs' presence on the Web: name and contact information, picture, name and contact information, under a pseudonym, and anonymous. According to the opinion of the respondents, the library

staff should either present themselves with name plus contact information or they could remain completely anonymous (Figure 6.9, n=666). Respondents who fell under the category "other" put down more than one answer.

There were no significant differences between genders concerning this question, however, there were differences among the age groups (n=657, chi-square=37.269, df=16, p=0.002). The first alternative, name and contact information, is mostly supported by the oldest age group 65+ (54.2%). The youngest age group supported the addition of a picture (24.0%) and using a pseudonym (14.7%) to a higher degree than the other age groups. Anonymity found most support among the age group of the 30-45 year olds (33.7%) and the least among the youngest age group (12.0%).

Avid and occasional social media users supported using a picture with the contact information (about 20%) and using a pseudonym (about 9%) more than the nonusers of social media, who showed the largest support for the name and contact information (about 53%) (n=646, chi-square=22.561, df=8, p=0.004). There were no significant differences between the groups concerning the anonymity alternative. The respondents who engaged in contributing activities showed more support for pictures and pseudonyms, but the name and contact information alternative still received the most support independently of information activity.

In other words, the library professionals were adequately presented using name and contact information from the users' point of view. The issues concerning anonymity were also interesting and will be returned to in section 6.2.4. Some of the most active social media users still seemed to consider the ideas of pictures and pseudonyms, which are widespread on the Web in general, as good alternatives.

Support for Library 2.0 services

In the results mentioned above Library 2.0 services do not seem to have yet been included in the users' perceptions of the library. A minority of the respondents were familiar with the library blogs, and the respondents only want the most necessary information about library professionals to be available. Figure 6.10, however, shows that there is support among users for implementing social media services in public libraries.
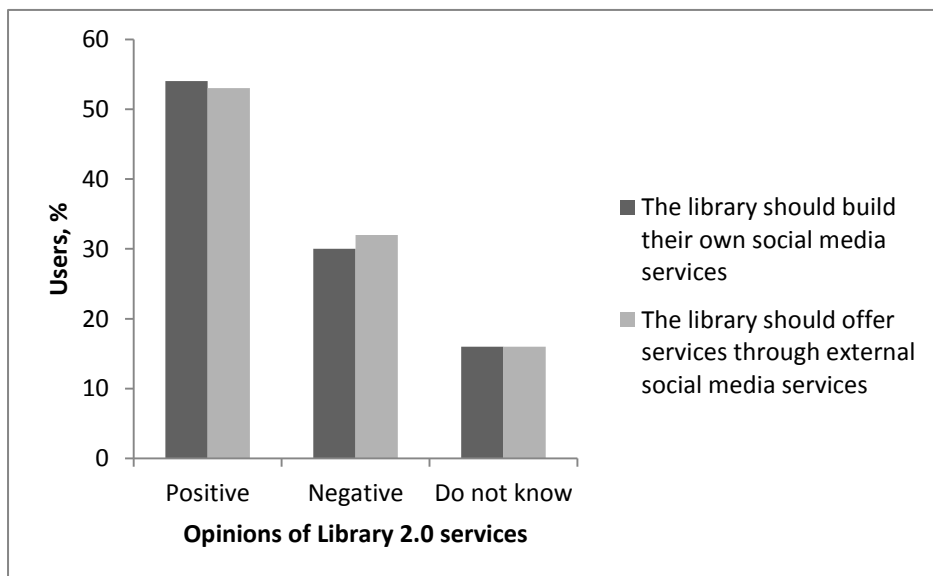
Figure 6.10 Support for Library 2.0 services among users (%)

In general, slightly more than half of the respondents were positive to the implementation of social media services in public libraries, although there was a noticeable level of uncertainty among them. Figure 6.10 shows that a small majority was positive to libraries offering both social web services through external providers (n=671, 52.6%) and building library specific social web services (n=665, 54.3%). Library specific social web services are created to serve solely Library 2.0 use, for example an interactive catalog, and not social media use in general.

There are some significant differences between the age groups concerning offering services through external social media sites (n=662, chi-square=50.414, df=8, p=0.000) and building library specific social media services (n=656, chi-square=29.214, df=8, p=0.000). The youngest age group (10-16 year olds) was the most positive to the library offering their services through external social media services: up to 79.5% of this group gave their support. The oldest age group (65+) had the least number who were positive (31.1%) to this idea, and was the most uncertain, 40.0% of them answering do not know. The notion of the library building having their own social media services gathers positive opinions more evenly among the age groups. The youngest were

still the most positive minded, however, the number in this case was 59.2% while within the oldest age group there was higher support for this option, 48.9%. The highest number of negative opinions for both alternatives was found in the 30-45 age group, of whom 38.3% were negative to external social media services and 38.0% were negative to the library building their own social media services. There were no significant differences between genders concerning these options.

Avid social media users were more supportive than occasional users and nonusers, both concerning the option of the library creating their own social media services (n=647, chi-square=13.126, df=4, p=0.011) and offering services through external social media sites (n=651, chi-square=24.463, df=4, p=0.000). Among the avid users there was also slightly more support for the library offering services through external providers (61.5%) than for the alternative that libraries create their own services (58.9%). Among nonusers of social media the support for external social media services was, not surprisingly, low (23.1%). However, it is interesting that their support for the libraries creating their own social media services was up to 40.0%. This indicates that they would put more trust in the library's own services than in external social media services.

Looking at web use in general, there was a significant difference concerning the option of libraries providing social media services through external sites (n=666, chi-square=17.538, df=4, p=0.002). Those respondents who used the Web often, supported this option to a higher degree than those who used the Web only occasionally or seldom. On the other hand, there were no significant differences concerning the option of libraries building their own social media services, this was supported instead by all the web user groups. Those who were occasional users of the Web, and even nonusers of social media, seemed to feel comfortable with the library creating their own social media service. The support is greatest for both options among the respondents who engaged in contributing activities on the Web.

To make the issue of social media in libraries more tangible respondents were also asked if they would consider becoming or already are fans of/friends with the library on Facebook (also known as choosing to "like" the library on Facebook and become a follower). Half of the respondent answered yes and half answered no. The number of people who answered yes was 324 (49.4%) and the number who answered no was 332 (50.6%) (n=656). Women were slightly more interested in connecting with the library on Facebook (n=638, Fisher's Ex-

act Test: p=0.031). The most interested age group was the 17-29 year olds (59.7% are positive) and the oldest age group is the least interested (only 18.8% are positive) (n=648, chi-square=31.811, df=4, p=0.000). Avid users of social media in general (68.5%) were also significantly more interested in following the library on Facebook than occasional users (40.5%) and nonusers (9.8%) (n=636, chi-square=73.716, df=2, p=0.000). Respondents who engaged in creating activities showed the most interest in following the library on Facebook, 63.5% of them were positive. The least positive, when looking at the categorization into information activities were those engaging in seeking activities, nevertheless 51.6% of them were also positive. These findings imply that following the library on Facebook is connected to active social media use.

Respondents were also asked to motivate their answer and 491 provided a motivation. These motivations gave an insight into the users' perceptions of the libraries and it is discussed further in section 7.5. It seems that many of the negative answers are explained by not being members of Facebook and/or being critical of Facebook and its features. A quite large group of respondents were simply not interested in becoming fans of the library on Facebook. Nineteen of the respondents either preferred the physical library or did not see Facebook as a part of the library's mission. There were also respondents who expressed some surprise over the fact that the library could be found on Facebook; they had not earlier thought of looking for the library there. A common motivation among respondents for following the library on Facebook was that they were fans of the physical library and appreciated and wanted to support the library. Another popular motivation was that there really is no reason as to why they should not like the library on Facebook. Interestingly, quite many referred to their reading habits, that is, because they read a lot they therefore can like the library on Facebook. Other respondents motivated liking the library on Facebook by stating that they wanted information about events in the library, new acquisitions, and other library-related information. Only nine were interested in the networking possibilities and an equal number 'liked' the library because it looked good on their personal profile.

6.2.4 Opinions and intentions concerning Library 2.0 services

The users were also asked a range of questions about their intentions to use social media services in public libraries as well as their opinions on these services. The questions and statements are drawn from the literature on what constitute Library 2.0 services (section 2.4), which means that some of the services mentioned were at the time of the study not offered by all libraries.

This section follows the same categorization of information activities described in Table 6.16: seeking, reading, communicating, creating, and contributing. The information activities, in other words, are put into the context of social media and public library services.

Seeking

Interest in engaging in seeking activities in the Library 2.0 context were investigated through questions about catalog features, RSS-feeds, and virtual reference services. In comparison with earlier research, it was a little surprising to see that a large number of the respondents recognized and enjoyed their information seeking activities (see section 4.2.1); however, seeking in combination with social media in libraries is remarkably less prevalent than seeking in general on the Web.

Respondents were asked to give their opinion about the most important features of a library catalog (Figure 6.11).
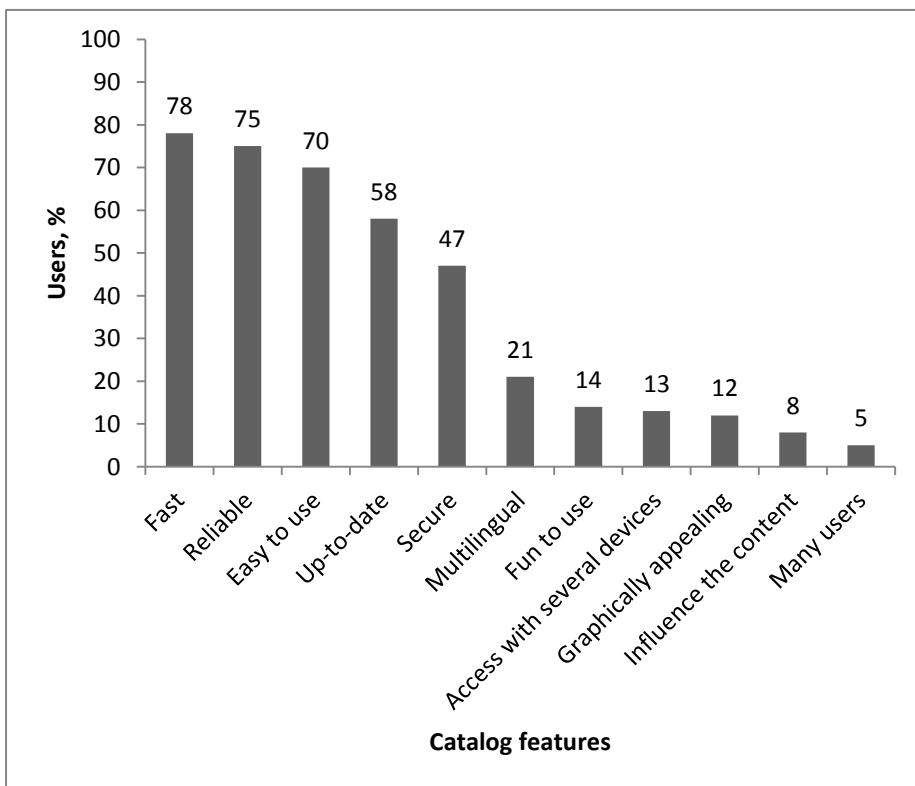
Figure 6.11 The importance of different features in the library catalog (%)

According to the respondents, it was most important that the library web catalog is fast, reliable, and easy to use. It was least important that the catalog had many other users or provided the possibility of influencing its content. The most fundamental and perhaps traditional features of the catalog were, therefore, still seen as more important by the users than the more social features. Table 6.17 shows the significant differences concerning gender, age, and social media user groups (results of Fisher's Exact Test and Pearson Chi-Square Test).

Table 6.17 Significant differences in opinions concerning catalog features

Feature	Gender	Age group	Social media user groups
Fast		n=651, chi=19.734, df=4, p=0.001	n=640, chi=15.357, df=2, p=0.000
Reliable	n=641, p=0.01		n=640, chi=7.061, df=2, p=0.029
Easy to use	n=642, p=0.000		n=640, chi=10.487, df=2, p=0.005
Up-to-date	n=642, p=0.006	n=651, chi=13.341, df=4, p=0.010	n=640, chi=11.725, df=2, p=0.003
Secure	n=642, p=0.031		
Multilingual	n=642, p=0.047	n=651, chi=22.972, df=4, p=0.000	n=640, chi=20.834, df=2, p=0.000
Fun to use		n=651, chi=70.654, df=4, p=0.000	n=640, chi=8.111, df=2, p=0.017
Access with several devices	n=642, p=0.017	n=651, chi=19.255, df=4, p=0.001	n=640, chi=15.149, df=2, p=0.001
Graphically appealing		n=651, chi=13.876, df=4, p=0.008	n=640, chi=7.002, df=2, p=0.030
Influence the content		n=651, chi=14.274, df=4, p=0.006	
Many users		n=651, chi=20.174, df=4, p=0.000	

Small differences were found between the opinions of men and women. Women found the attributes reliability, security, multilingualism, up-to-date, and easy to use more important than men. Men found it more important to access the catalog with different devices. The youngest age group the 10-16 year olds was the most interested in the possibility of influencing the content, 16.9% of them found it important. Even if this is a low number, the other age groups were much less interested, merely ranging between zero and eight percent. A similar difference can be noted concerning the option of many users, among the youngest age group 14.3% found this important while on average only 5% of the respondents found this option important. The youngest age group also found it more important that the catalog is fun to use, graphically appealing, and can be accessed with different devices. The age group of 17-29 year olds was most concerned with the catalog being fast, up-to-date, and multilingual. Avid social media users found most of the different features more important than occasional users. There were, however, no significant differences concerning security and, interestingly enough, no differences concerning the more social features either. The possibility to influence the content, and that the catalog had many users, were of equally low importance in the different social media user groups. It was the respondents who generally engage in contributing activities on the Web who were the ones most interested in the more social features of the library catalog.

In the LIS literature, there is support for the notion that user generated tags have the potential to improve information retrieval (see section 4.2). The interest or intention to tag content in the library catalog or on the library web site was, however, low among the respondents. Only 7.8% of the respondents were interested in this. Avid social media users were more interested in tagging than occasional and nonusers of social media (n=624, chi-square=20.675, df=2, p=0.000). There seemed also to be, quite surprisingly, an interest among those who seldom use the Web. About 18% of them were interested in tagging (n=638, chi=6.738, df=2, p=0.034), although it should be noted that the group who seldom use the Web and answered this question was very small (n=28). Those engaging in creating activities showed a slightly higher interest (14.6%) in tagging, while those engaging in seeking activities were less interested (8.5%).

Using tools such as RSS-feeds to gather information from the library proved to be quite unpopular among the respondents. Only 6.4%

were interested in subscribing to RSS-feeds about news, acquisitions, etc. Significant differences could only be found among the social media user groups (n=624, chi-square=15.207, df=2, p=0.000), where avid social media users showed the most interest (10.9%). Among the information activities it seemed to be those who engaged in contributing activities (9.7%) that were the most interested in RSS-feeds.

The ability to ask librarians reference questions by chat/IM was of quite moderate interest among the respondents. Only 16.3% answered that they would like to do this on the library web site. Among the different age groups the 30-45 year olds were most interested in this type of service (n=636, chi-square=10.222, df=4, p=0.037). Among the different information activities, it was those who engage in creating activities (20.1%) and in communicating activities (18.5%) who were the most interested. The interest in references via IM was higher among avid users than occasional users and nonusers of social media (n=624, chi-square=8.633, df=2, p=0.013). In other words, the same pattern was visible as in the interest in tagging and subscribing to RSS-feeds.

Reading

Reading activities are a fundamental part of engaging in other activities but at the same time, they are often hidden and difficult to distinguish from the other activities.

Reading and viewing are the most basic activities performed on the Web and there was also a high interest among users to engage in these activities. When the respondents were asked about what activities they would like to be able to do in the library catalog or on the library web site, reading reviews comprised the highest interest. Reading reviews written by other users were of interest to 51.2% of the respondents and 46.5% were interested in reading reviews written by library staff (n=643).

In this case, women were significantly more interested in reading reviews (user reviews: n=626, p=0.000; library staff reviews: n=626, p=0.000). All the older age groups were more interested in reading reviews (ranging from 36-60%) than the youngest age group (barely 30%) (user reviews: n=636, chi-square=28.013, df=4, p=0.000; staff reviews: n=636, chi-square=24.867, df=4, p=0.000), although the youngest age group was, in general, more interested in reading/viewing activities on the Web.

The findings indicate that those engaging in contributing activities are the least interested in reading reviews, but the differences between the activity groups are small. The avid social media users were significantly more interested in reading reviews than occasional users and nonusers of social media (user reviews: n=624, chi-square=18.558, df=2, p=0.000; staff reviews: n=624, chi-square=25.829, df=2, p=0.000). Respondents who seldom use the Web generally were also significantly less interested in reading reviews than those who use the Web more often (user reviews: n=638, chi-square=6.510, df=2, p=0.039; staff reviews: n=638, chi-square=7.610, df=2, p=0.022). Among the categorized information activities, it was those who engage in seeking and reading activities that showed the most interest in reading reviews written by other users and library staff.

Communicating

As many as 69.8% of the respondents were engaged in or enjoyed the communication possibilities on the Web (see section 6.2.2). The users were also asked questions about communicating with the library. The findings from these questions do, however, show that the interest for communicating with the library, the staff, and other users on the Web is significantly lower than the interest in communicating over the Web in general.

About 20.5% of the respondents wanted to communicate with other library user by becoming acquainted with those with similar interests. Users who engaged in contributing activities were the most interested (29.2%), although the differences were small. Those who occasionally used the Web were also more interested than those who often used the Web as well as those who seldom used the Web (n=638, chi-square=6.712, df=2, p=0.035). Nonusers of social media were, furthermore, significantly less interested in this option than the avid and occasional social media users (n=624, chi-square=7.364, df=2, p=0.025). The respondents who visited the library occasionally were significantly more interested in becoming acquainted with other users than those who seldom visit the library (n=633, chi-square=9.079, df=2, p=0.011).

There was also some interest among the respondents in taking part in book discussions (17.0%) and discussions about the library (13.5%). There were no differences worth mentioning between the activity groups or the social media user groups. No significant differences

could be found either between the age groups regarding all three mentioned options. Significant differences were found instead between the genders concerning participation in book discussions (n=626, Fisher's Exact Test: p=0.000), where 22.5% of the women were interested but only 9.6% of the men. The three mentioned options for communicating with the library and other users seemed to be strongly connected to the frequency of library visits. Those visiting the library often and occasionally are more interested in book and library discussions (as well as the earlier mentioned option of getting to know other users) than those who seldom visit the library (book discussions: n=633, chi-square=9.819, df=2, p=0.007; library discussions: n=633, chi-square=13.823, df=2, p=0.003).

In the questionnaire, there was also a question about the preferred way of contacting the library staff (Figure 6.12).
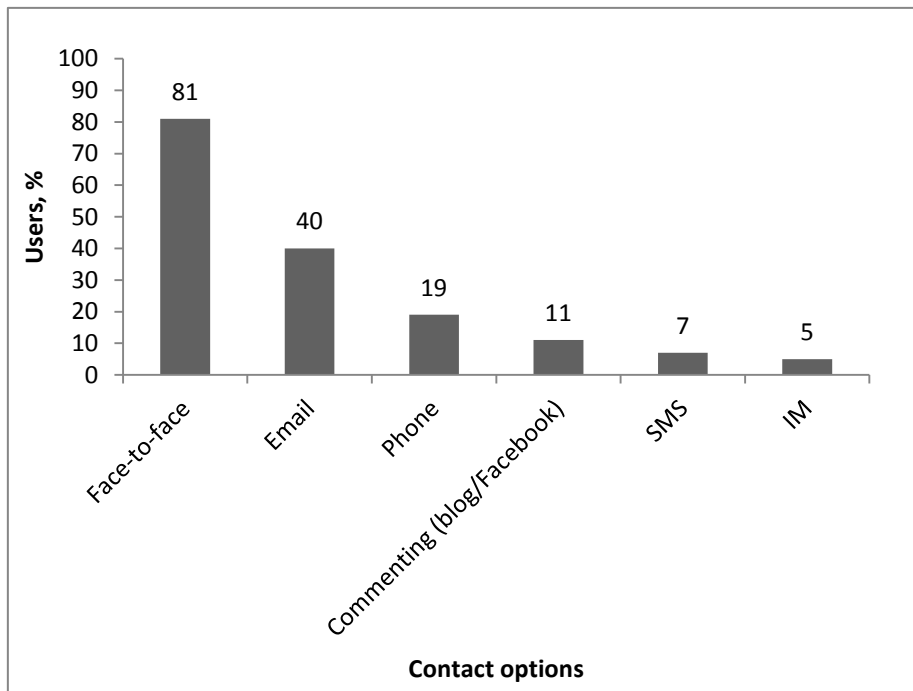
Figure 6.12 User preferences concerning contact options with library staff (%, n=686)

The idea was that the respondents would choose only one option concerning the preferred way of contacting the library staff, but almost 40% of the respondents indicated more than one option. Among those

who only chose one option, face to face was clearly the most preferred way, followed by email. Figure 6.12 above, shows how the interest is divided between the different options (all responses are included, also those marking multiple options). Note that commenting on the library blog/Facebook page was, although the number is low, also a recognized communication channel among the respondents and was preferred to the options of IM and SMS.

Women were significantly more interested than men in the options of contacting the library by phone (n=667, Fisher's Exact Test: p=0.036) and email (n=667, Fisher's Exact Test: p=0.000). There were also some interesting and significant differences among the age groups. Only 19.0% of the youngest age group was interested in contacting the library by email, while 48.8% of the 46-60 year old group wanted to contact the library by email, and the corresponding numbers for the other age groups ranges between 38-43% (n=677, chi-square=21.000, df=4, p=0.000). In contrast, the youngest age group had a greater interest in commenting on the library blog/Facebook page: 22.8% in comparison with the average of 11% (n=677, chi-square=19.885, df=4, p=0.001). Approximately 16.5% of the youngest age group was also supportive of the option of contacting the library by SMS, curiously they are followed by the oldest age group (65-84 year olds) with 11.5% and the lowest interest was found among the 17-29 year olds with 1.9% (n=677, chi-square=22.203, df=4, p=0.000).

The interest in contacting the library by email was also dependent on how often the respondents visited the library. The more seldom the respondents visited the library, the more supportive they were of contacting the library by email (n=675, chi-square=9.701, df=4, p=0.008). The relation is reversed in the case of web use, those who used the Web more often were also significantly more interested in contacting the library by email (n=681, chi-square=22.252, df=2, p=0.000).

Avid social media users were more interested in contacting the library by email than those who used social media less frequently (n=665, chi-square=7.290, df=2, p=0.026). Avid social media users were also more interested in contacting the library through blogs/Facebook (n=665, chi-square=14.701, df=2, p=0.001) and by IM (n=665, chi-square=6.461, df=2, p=0.040). The option of contacting the library face-to-face was heavily supported by nonusers of social media, 95.5% of them preferred to contact the library this way and the corresponding number for occasional social media users was 80.8%, and for avid social media users it was 79.8% (n=665, chi-square=6.280, df=2, p=0.043).

Creating

Creating was, in general, an activity that 36.9% of the respondents engaged in and enjoyed (section 6.2.2). The interest for creating in a Library 2.0 context seemed to be even smaller.

It was earlier acknowledged that reading reviews about books/films/music interested half of the respondents, however, the interest in writing them is modest. Only 7.9% of the respondents wanted to write reviews on the library web site or in the library catalog. The interest for writing reviews seemed to be well scattered among the respondents, no significant differences could be found among gender, age groups, social media user groups, or concerning library or web use. Among the respondents who engaged in creating activities 16.4% were interested in writing reviews and also 15.6% of those who engaged in contributing activities. Among the other activity groups the corresponding numbers were 10.5% of those engaging in reading activities, 10.3% of those engaging in communicating, and 8.3% of those engaging in seeking activities.

There were a higher number of users who want to create their own reading lists; about 18.5% of the respondents demonstrated interest in this feature. Women showed greater interest in creating reading lists than men (n=626, Fisher's Exact Test: p=0.005). The interest for this activity was also significantly higher in the 17-29 age group (n=636, chi-square=20.047, df=4, p=0.000). Looking at web use it seems that those who used the Web often (20.5%) and seldom (14.3%) were more interested in creating reading lists than the occasional web users (8.6%) (n=638, chi-square=7.750, df=2, p=0.021). 27.5% of the avid social media users were interested in creating reading lists, which was evidently more than occasional social media users (14.0%) and nonusers (5.4%) (n=624, chi-square=21.930, df=2, p=0.000). Looking at the different activity groups, there was also higher interest among those who engaged in contributing (29.9%) and creating activities (26.0%) than in other activities.

Contributing

Those who engage in other contributing activities on the Web were seen also to be positive to social media services in libraries overall. There were, however, differences in the intentions to contribute to these services.

As mentioned earlier, 18.5% of the respondents were interested in creating reading lists. When asked if they wanted to share their reading lists with other users, only 9.8% of the respondents were interested in this. Those who often or occasionally visited libraries were more interested in sharing their reading list than those who only seldom visited the library (n=633, chi-square=8.186, df=2, p=0.017). Avid social media users were also more prone to sharing their reading lists. Those who generally engaged in contributing (17.5%) and creating activities (16.9%) on the Web were also more willing to share their reading lists with other users.

The respondents showed some interest in contributing by rating books/ films/music on the library web site or in the library catalog; with 24.4% wanting to do this. The interest in rating was significantly lower among those who seldom visited the library (n=633, chi-square=12.919, df=2, p=0.002). The youngest age group (10-16) also showed a greater interest in rating content (42.3%) while the 30-45 age group showed the least interest among all the age groups (16.4%) (n=636, chi-square=26.004, df=4, p=0.000). There were no significant differences concerning social media user groups. The respondents who engaged in contributing and creating activities overall on the Web were also more interested in rating than the other activity groups.

Commenting on books/films/music on the library web site or in the library catalog was of interest to 28.5% of the respondents. Women are more prone to comment on books/films/music (n=626, Fisher's Exact Test: p=0.026). Avid social media users were also more interested in commenting than those who used social media less frequently (n=624, chi-square=13.221, df=2, p=0.001). The interest in commenting was quite high in all the activity groups, although lowest among those engaging in seeking activities (29.3%) and highest among those who engaged in contributing activities (40.3%). The avid social media users were more interested in commenting than the occasional users. The respondents were also asked about their opinion about writing the first comment in order to see if a high level of interactivity creates more activity. The majority, 63.0% of the respondents answered that they did not care whether they had to write the first comment, that is, there was no need for anyone else to have written a comment before them.

A clear majority of the respondents, 68.3%, preferred to be anonymous if they were to comment on the content in the library catalog on the Web. Women were slightly more concerned with being anonymous than men, although, at the same time, the men were more undecided by answering - do not know (n=648, chi-square=10.737, df=2, p=0.005). There was also a small, but significant, difference depending on web use (n=662, chi-square=9.690, df=4, p=0.046). Those who used the Web often were less concerned with anonymity than those who used the Web only occasionally, and than those who seldom used the Web. In this case, no significant differences could be found concerning age group, social media user group, or library use. Respondents overall valued anonymity. Interestingly, those who normally engaged in contributing activities were the most concerned about maintaining anonymity, with a total of 72.0%. However, the other activity groups were close to this figure, as even the least concerned, those who engaged in creating activities, had 65.2%.

With regard to spending time commenting on books in the catalog, 42.4% of the respondents were moderately or strongly positive. Nearly as many (42.2%) had a negative reaction to spending their time on commenting, and 15.4% did not know. Among the age groups the 17-29 year olds were the most positive to spending their time commenting, while the youngest and oldest age groups were the most uncertain with a third of them answering do not know (n=642, chi-square=47.277, df=8, p=0.000). Respondents who visited the library often were more positive towards giving their time than were the more occasional library visitors (n=641, chi-square=17.244, df=4, p = 0.002). Looking at web use, the greatest difference was found among those who answered do not know, that is, among those who seldom used the Web, as of these, up to 40.7% remained undecided (n=649, chi-square=20.574, df=4, p=0.000). Avid social media users were more positive to spending time commenting (52.3%) than occasional social media users (37.2%) and nonusers (24.3%) (n=635, chi-square=19.899, df=4, p=0.001). There were no noticeable differences between the activity groups, but the most positive were those engaged in contributing (52.5%) and creating (52.0%) activities, while a smaller number of those interested in seeking activities (44.3%) were positive.

Users were also asked about their opinions of the amount of work and the enjoyment contributing to the catalog could bring. The findings show that users were more convinced that it would be laborious to contribute to the catalog (45.3% of n=632) than it would be fun (37.4% of n=650). The age groups between 17-29 and 30-45 seem to find it most laborious among the age groups, while the other groups were

more uncertain (n=623, chi-square=26.317, df=8, p=0.001). The 17-29 age group was, on the other hand, the one who thought it would be most fun (46.2%, n=210), while the uncertainty among the youngest and oldest age group continued to be the highest (n=641, chi-square=25.628, df=8, p=0.001). Moreover, those who visit the library occasionally or seldom stated they would find it more laborious than those who visit the library often (n=622, chi-square=11.240, df=4, p=0.024). In contrast, about 54% of those who often visited the library thought it would be fun to contribute (n=640, chi-square=21.898, df=4, p=0.000). There were also some significant differences concerning the social media user groups (n=633, chi-square=12.517, df=4, p=0.014): avid social media users found it more fun while occasional and non-users were more uncertain. Those who engaged in creating activities and contributing activities found it to be most fun contributing to the catalog. Respondents did not expect any form of reward for contributing to the catalog (52.1% of n=649). A substantial number of the respondents, 80.2% (n=658), agreed that the library should have rules for what users write in the catalog. The youngest age group is most uncertain about this statement (n=649, chi-square=32.493, df=8, p=0.000). It is actually among those who engaged in contributing activities that the expectations of rules was the highest (84.6%), although it was high concerning all categorized information activities.

Half of the respondents (49.8% of n=643) believed that user participation would make the catalog better. There was, however, a clear uncertainty among users as 25.8% of them answered that they did not know. The uncertainty was greater among occasional social media users and nonusers (n=626, chi-square=37.204, df=4, p=0.000). Avid social media users, however, were more positive (61.5%) than the average opinion of this statement. Those who often used the Web were also more positive than those who used the web less frequently while the uncertainty was higher in the latter group (n=640, chi-square=10.351, df=4, p=0.035). Respondents in the age groups 17-29 were most positive to this statement (61.4%) while the oldest age group was most negative (21.1%) and unsure (44.7%) (n=634, chi-square=33.285, df=8, p=0.000). Furthermore, the youngest age group showed a high level of uncertainty by answering that they did not know (35.9%). There were no significant differences among the categorized information activities, there was a 50% level of positive opinions approximately, and about a 20% level of uncertainty in connection to all the information activities. These numbers were interesting when compared with the results of the questionnaire answered by library professionals, where over 80% were convinced that user participation in the library catalog would make it better (Figure 6.13).
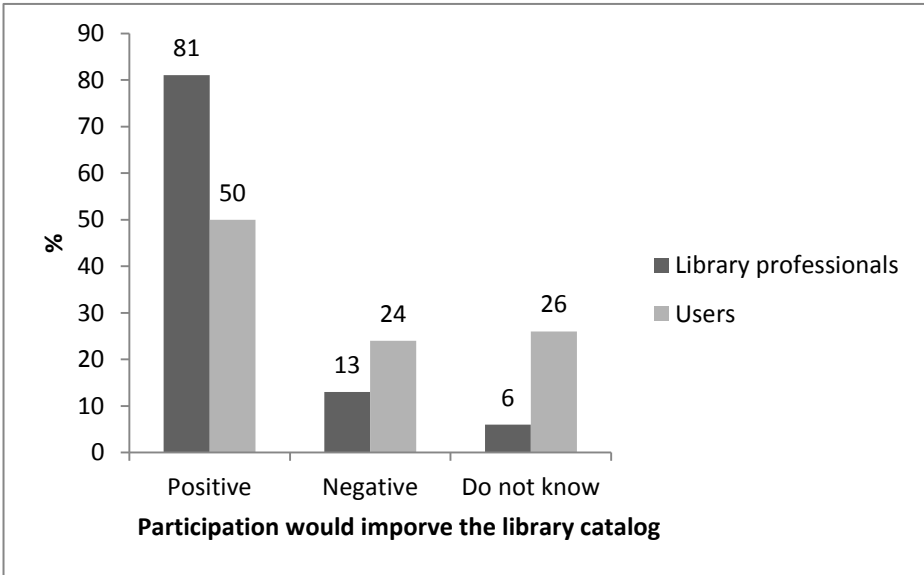
Figure 6.13 Opinions of the statement "User participation would make the library catalog better" (%)

6.2.5 Summary

The background information collected and used in the user questionnaire are gender, age group, library visits, and web use. The background factors were important in the statistical analysis of the questionnaire answers.

The users were also divided into different social media user groups based on the number of social media services they use. Social network sites and wikis were also the most popular among the users. Looking closer into the users' web and social media use, they most frequently engaged in seeking information and viewing pictures/videos, and the least in visiting 3D worlds and writing blog posts. They were also asked to rate how much they liked the activities of viewing/reading, creating, seeking, and communicating on the Web. Seeking and communicating emerged as the most well-liked while creating came last. A categorization of information activities was made including seeking, reading, viewing, communicating, creating, and contributing. The

respondents typically engaged in more than one of these activities on the Web.

After mapping the general social media use, attention was then focused on the users' perception of Library 2.0 services. A majority of the respondents were familiar with the library web site and the catalog, however, very few were familiar with library blogs. With regard to the web presence of library professionals opinions were divided, but the requirements remained low. According to the respondents, the library professionals can either provide their name and contact information or remain anonymous. The youngest age group and avid social media users would also appreciate a picture with the contact information or even the library professionals using a pseudonym. The youngest age group, on the other hand, did not support anonymity. The implementation of social media services in libraries was supported by the users, although some uncertainty remained. The youngest age group and the avid social media users were most interested in the option that the libraries provide services through external social media sites, while generally there was slightly higher support for building library-specific social media services. Furthermore, half of the respondents were following or would consider following the libraries' Facebook pages, mainly because of their appreciation of the physical library. Few considered the networking possibilities of these pages.

The opinions and intentions concerning Library 2.0 services were further investigated through a range of questions and the results were categorized according to the presented information activities. The respondents did not seem to have any higher interest in Library 2.0 services in connection to seeking activities. They preferred the library catalog to be fast, reliable, and easy to use, whereas the social features were not important. Reference services by chat/IM were only of moderate interest to the users and RSS-feeds were even less popular. Reading activities and the intention to engage in them seemed, on the other hand, to attract the most interest. Communicating activities were as mentioned earlier, popular on the Web in general, but the users' intentions of engaging in such activities in a Library 2.0 context were moderate. The preference, especially concerning communicating with library professionals, was for the contact to be face-to-face. The users' willingness to participate in creating activities was also modest; a few could imagine writing reviews and creating reading lists. Central to the questionnaire was the charting of the respondents' intentions to engage in contributing activities. About a third of the respondents were ready to contribute with comments in the library catalog or on the library web site. However, they expected to be able to do this

anonymously, and that the libraries should provide sufficient rules to monitor the commenting. A majority also felt it would be laborious to contribute with comments to the catalog. There was, furthermore, some interest in rating books and different types of content on the library web site, as well as sharing reading lists.

The users were asked to give their opinion about the same statement as in the library professionals' questionnaire: if user participation would improve the library catalog. The difference proved to be significant, as while 50% of the users thought that user participation would make the catalog better, as many as 81% of the library professionals believed it would improve the catalog. Here, the uncertainty of users was evident, they did not know what to expect from Library 2.0 services. An integrated analysis of the users' and library professionals' expectations, information activities, and perceptions can be found in the next chapter, Chapter 7.

6.3 Content analysis of the libraries' Facebook pages

In this section, the results of the content analysis of the 25 Facebook pages maintained by libraries in Finland Proper are presented. This part of the study was conducted in order to follow up on some of the findings from the questionnaires, and the focus was placed on information activities. The coding framework was developed during the pilot study on the library Facebook pages, and is shown in Table 6.18.

Table 6.18 The coding frame for the libraries' Facebook pages

Wall posts	
1. Number of likes	
2. Number of comments	
3. Author	3a The library 3b Internal library professional 3c External library professional 3d User 3e Other (politicians, former co-workers, organizations)
4. Type of wall post	4a General (text) 4b Events 4c Photos 4d Links

	- Links to own services - Links to joint library services - Links to national library services - Links to traditional media - Other links 4e Videos 4f Notes 4g Pages 4h Multiple types

5. Topic of wall posts	5a Library
	
	    - Events in the library
	    - Library services
	    - Professional issues
	    - Library building
	
	5b Literature
	
	    - Book recommendations (fiction and nonfiction)
	    - Exhibitions
	    - Authors
	    - Book reviews
	
	5c Art
	
	    - Exhibitions
	    - Photos
	    - Paintings
	    - Handicrafts
	
	5d Music
	
	    - Reviews/recommendations
	    - Displays
	    - Releases
	
	5e Performances
	
	    - Films and actors

	- Shows/plays/theatre - Dance performances 5f Community - Lectures - Different cultures - Events in the city/municipality
6. Information activity	6a Informing 6b Mediating 6c Creating 6d Seeking 6e Communicating 6f Contributing
7. Location	7a The library 7b Branch library 7c The Web (online) 7d External library 7e City/municipality 7f Multiple locations 7g Other

Comments

8. Number of likes	
9. Author	9a User
	9b The library
	9c Internal library professional
	9d External library professional
	9e Other (politicians, former co-workers, organizations)
10. Information activity	10a Informing
	10b Mediating
	10c Creating
	10d Seeking
	10e Communicating
	10f Contributing
11. Nature of content	11a Positive
	11b Negative
	11c Neutral

Each wall post was coded into seven categories: number of likes, number of comments, author, type of post, content of post, information activity, and location.

The author is one of the following groups: the library, internal library professionals, external library professionals, users, or others, such as

people who have a public position (for example politicians or repre-sentatives of organizations) or former co-workers. The type of post (wall post or status update) includes the following subcategories: general (only text), events, photos, links (the link source is also coded), videos, notes, pages, and multiple types (for example both general and link). The topic of the posts is related to library services (opening hours, events, etcetera), literature, art, music, performances, and community (for example lectures on different cultures, popular sci-ence). Information activities are divided into informing, mediating, creating, seeking, communicating, and contributing. The location is about the settings the wall posts refer to, and the categories are the physical library, branch library, the Web, external library, municipali-ty, or multiple locations.

Each comment was coded in four categories: number of likes, author, information activity, and nature of comment (Table 6.18). The first three categories are the same as the wall post categories. The nature of the comment refers to whether the comment is written in a positive, negative, or neutral manner. The reason for the lower number of cate-gories in the analysis of the comments is that the topic of the com-ments proved to relate, without exception, to the same topic as the wall post commented on and also the same location.

First, the key numbers concerning the library Facebook pages are ac-counted for in section 6.3.1. This is followed by a description of the contents of the wall posts and the comments, i.e. the type and the top-ic. In section 6.3.3, the information activities found are presented with descriptions, and wall posts and comments are quoted to highlight the different activities. The numbers related to the frequency of the differ-ent information activities are also accounted for.

6.3.1 Wall posts, comments, and likes

The Facebook pages had on average 242 followers, although the range was from 22 to 2,222 followers in August 2011 when the material was collected. The entire number of wall posts was 2,164 and the number of their enclosed comments was 876, with a total of 4,505 likes. Liking was, in other words, more common than commenting. It was, howev-

er, more unusual to like comments: the 876 comments received a total number of 288 likes.

The range of wall posts written per month was between less than one (0.08) and up to 35, but the average number was 7.2. This was far more than in Aharony's (2012) study of library Facebook pages in North America, where the average wall posts per two months was only 1.68.

Almost all the wall posts, 96.9%, were written by the library. Internal library professionals wrote 0.8%, external library professionals wrote 0.5%, and others wrote 0.8% of the wall posts. Users (or followers) only wrote 1.0% of the wall posts on the investigated library Facebook pages. Users were, in relation to posts more active in the comment sections, writing 40.6% of the comments. External library professionals wrote 8.1% of the comments and 3.1% are written by others. The library wrote 25.2% of the comments and internal library professionals wrote 23.0% of the comments, which means that the majority of the comments were written by the library or its representatives (48.2%). The libraries utilized the comment section to give more information concerning the wall post, as well as to actively respond to users' comments.

6.3.2 Content of the wall posts and comments

Facebook events were the most popular type of wall posts; 26.9% of the wall posts were events. Libraries could create different type of events by generating a separate event page on Facebook (these pages have not been analyzed further). Most of the events, 62.1%, took place in the physical library settings (the main library or in a branch library). Libraries quite seldom shared events created by other organizations even within the same city or municipality. The most common type of wall posts, after events, were photographs, 23.8%, followed by general wall posts consisting of only written text (22.1%). Aharony (2012) also found uploading of photos to be the most common use of library Facebook pages in North America. However, in North America they did not use events to any higher degree. Links were also quite common, 21.2%, and were often accompanied with some written text. Libraries mostly link to library services of different kinds 36.6%; their

own services, external services, joint library services, or national library services. Close to this number were the links to traditional media sites, such as newspapers and the national public service broadcasting company (YLE), which constitutes 31.4% of the links. Only 2.1% were links to the municipality or the city and 6.6% were links to social media sites. Notes only constitute 5.1% of the wall posts (the separate notes pages have not been analyzed further). However, the least usual wall posts were those containing videos (0.1%) and other Facebook pages (0.4%). It should be noted that YouTube videos or similar video services were categorized as links, that is, wall posts containing videos were only concerned with videos directly uploaded to Facebook.

Up to 39.9% of the topics on the wall posts concerned library-related information. Wall posts related to literature constituted 22.7%, followed by art-related posts (14.0%) and community-related posts (12.8%). The least common were wall posts related to music (4.7%) and performances (4.2%). In Aharony's (2012) analysis of library Facebook pages in North America, about 70% of their wall posts were library-related. This implies that the Finnish library Facebook pages investigated here were more versatile in regard to the topics on the wall posts.

The majority of the comments, 63.5%, could be described as positive. Comments of a neutral nature constituted over 32.4% and only about 4.2% could be considered as negative comments. Considering only the comments written by users, 64.9% were written in a positive tone, 26.3% in a neutral tone, and 8.9% were written in a negative tone. The comments were, in other words, mostly used to contribute with positive feedback. The relatively high number of likes can also be seen as positive feedback. Although it is noteworthy that there is no "dislike"-button available on Facebook. To contribute with negative feedback on Facebook demands, in other words, more effort than giving positive feedback.

6.3.3 Information activities

A total of six different activities have been recognized: *informing, mediating, creating, seeking, communicating*, and *contributing*. In other

words, this categorization follows the same pattern as the categorizations presented in connection with the survey results (Section 6.1 and section 6.2). In Table 6.19, the information activities found on the library Facebook pages are shortly described.

Table 6.19 Information activities on library Facebook pages

Information activity	Description
Informing	Providing first-hand information
Mediating	Providing information through another source, including linking and quoting
Creating	Sharing Facebook events, pages and media (uploading pictures, videos) of one's own making
Seeking	Seeking actively for information, posing questions and asking for references
Communicating	Exchanging comments and polite phrases, writing in a conversational tone and expressing emotions
Contributing	Participating by commenting, liking and sharing one's opinions

The activities did not generally appear separately in the status updates or comments, instead, most of the wall posts were a combination of different activities. Here, however, the activities are described separately in order to highlight their distinct features.

Informing

Informing activities were deemed to be those concerned with the library or the user providing information about something first hand. Informing was the most prominent activity on the wall posts (W) of the library Facebook pages; there were as many as 77.8% which had an informing element. It was also the library that was responsible for 97.2% of the informing activities on the wall posts. The libraries gave information about events, changes in opening hours, library services, exhibitions, and etcetera. The following as some examples:

> W: "The library is closed October 22nd due to in-service training."

> W: "there is still time to borrow reading for the Holidays, the days between Christmas and New Year we serve according to normal opening hours."

> W: "The library plays on Saturday! Come to N.N. and familiarize you with the N.N. game club's activities and the new board games. The guest of honor of the event is the Finnish game designer Touko Tahkokallio and this year the theme especially easy and quick card games."

> W: "The library's computer system is currently experiencing technical difficulties. The Main Library can take returns, but lending is not possible. We apologize for the situation, the matter is currently being explored."

These examples are of wall posts concerning practical issues and they are also very closely connected to events in the physical libraries. The examples also show that the length of the wall posts varied.

The informing activity was a fundamental part of the posts on the wall of library Facebook pages. The comments (C) to the wall posts were not fundamentally informative but rather communicative. 34.7% of them, nevertheless, still included some kind of informing activity. In the following example, a user provides more information on the topic in question:

W: "The fountain in front of the old library building has received lighting" [Library informs]

C: "Particularly nice is that LEDs are used in the lighting!" [User informs]

There were also examples of users correcting the information in the status updates of libraries, for example:

C: "the link says access denied, you do not have rights to the page…" [User informs]

C: "Lahtinen has been altered to Lehtinen in the title… http://www.youtube.com/xx" [User informs]

The users, however, mostly gave information from their own personal point of view, and gave information about their own experiences in the libraries. Here are some examples:

C: "I got so helpful service and the books were so nicely displayed, that I borrowed two biographies" [User informs]

C: "Magnificent handicrafts, I went and saw them yesterday!" [User informs]

Most of the comments expressing informing activities were neutral and written by the library or a library professional in order to give more information on the topic of the status update, for example:

C: "Next week 17.3 at 17-18 o'clock in N.N. the professor of cultural history Hannu Salmi lectures in the subject of the history of love. NB: the event starts already at 17 o'clock!" [Library informs]

Libraries, and hence library professionals, engaged more in informing activities than users on the library Facebook pages. Information delivery or provision can also be seen as one of the traditional tasks public libraries assume, however, users' engagement in information activities was far from negligible. Almost a third (26.9%) of the comments users wrote were categorized as informing, and were of value to the library as well as to other users.

Mediating

Mediating is when information is given through another source. Mediating is very close to informing, they are both part of information sharing activities. In this case, the distinction made between the two is that mediating is about sharing information by linking to other sources while informing is giving direct information. 25.9% of the wall posts could be regarded as mediating. However, a large number were mediating information from the libraries' own services, joint library services, or national library services. The following are examples:

W: "N.N. library shared a link. New acquisitions in the stacks of world music >> http://musasto.wordpress.com/" [Musasto is a joint blog among some of the libraries in Finland Proper]

W: "During the winter break there are lots of activities for children and young people in the N.N. library! Games, crafts, stories… Read more: http://www.libraryN.N…"

Links to traditional media sites were also common. For example:

W: "N.N. library shared a link. Tommy Tabermann has passed away. http://www.hs.fi/" [Tabermann was a Finnish author and hs.fi is the web site of the leading newspaper in Finland]

W: "N.N. library shared a link. E-books will be in stores this autumn. http://www.yle.fi". [Domestic news from the national public service broadcasting company]

The content of the links were most often literature-related, 40.5%, while about 26.4% were library related links.

There were also mediating activities in the comments, 6.8% of which mainly engaged library professionals. Users were, however, not keen on mediating. There were only a few examples of users sharing links and also a few examples where users quoted the work of Finnish authors in the comments. Often it was the libraries sharing links to their own services in the comment section. Interestingly, the libraries seemed to share more links to social media sites here than in the wall posts. For example:

C: "A foretaste of the production of Niillas Holmberg, who will perform at the poetry picnic, is available here: http://www.myspace.com/niillassuolovarri" (library mediating)

The libraries' cautiousness in sharing links to social media sites and services outside the libraries' own services, limited their role as information mediators on Facebook.

Creating

Creating included uploading photos/videos or creating events, pages, or other media. The creating activities were mostly shown in the form of the libraries creating different events, notes, and uploading photos. Creating an event often included uploading a photo and creating a subpage describing the event. 54.8% of the wall posts demonstrated

some kind of creating activity and up to 99.4% of these were contributed by the library.

The creating activities were most often library-related (36.6%). They were also connected to art (19.8%), literature (19.3%), and community (14.4%) to some extent. Few of the creating activities were related to performances (4.6%) and music (3.8%).

Users' participation in creating activities on the libraries' Facebook pages or in the comments overall was barely noticeable (the act of writing comments was considered here to be contributing rather than creating). Only one user shared a poem he had written himself in the comments and another user uploaded a photo onto the library Facebook pages as a wall post.

Seeking

Seeking is when the library or the user actively seeks information, for example references, or answers to questions. Seeking activities were also among the rarer activities visible on the Facebook pages, only 3.0% fell into this category. Most of the seeking activities were literature-related (40.6%) and library-related (32.8%). The libraries most often engaged in seeking activity in the form of different surveys directed to the users, or asking questions that were of a more rhetorical nature. The rhetorical questions were often followed by an informing activity. Some examples of seeking activities are:

> W: "Have you already tried out one of the e-book readers the library lends out? If you have, share your opinions and experiences! Among the participators in the survey an Elonex reading device will be raffled. You can access the survey from this link: https://www.webropol.com/xx"

> W: "Do you have itchy feet? Are you planning a trip? The newest acquisitions to the main library's travel shelf are the TOP 10 series' New York and Miami. And they are also nice for armchair travel."

> W: "This year's candidates for the Finlandia literary prize are chosen. Do you have your own favorite yet or do you find some book

among the candidates that do not fit in at all? Give your opinion..."
(+link to newspaper site)

Seeking activities occurred, to a higher degree, in the comments; up to 8.0% of the comments had inherent seeking activities. Looking only at the comments written by users, 8.6% had seeking elements. These were most often direct questions to the users. For example:

C: "Can I borrow e-books from you to my own reading device?"

C: "wait a minute… so this event already took place in october?"

C: "Who is Mikko Rimminen?"

C: "are there any new write-off books?..."

Seeking activities have traditionally been a part of the users' role in the libraries, but it did not seem that the library Facebook pages were utilized to any great extent to engage in seeking activities. The users were actually more engaged in informing than in seeking.

Communicating

In the communicating activities on the library Facebook pages, the user or the library writes in a conversational tone, exchanges polite phrases, expresses emotions, and exchanges comments. There are two types of communicative activities: one-directional and two-directional.

One-directional communication occurs when the library or user writes polite phrases and in a conversational tone such as "Welcome!", "We apologize…", "Congratulations!", "Thank you!", "I will come…", "Great!". This was the most common type and did not seem to lead to any further dialogue in most cases.

In two-directional communication, dialogues between users and library professionals occur; for example, the user comments on something the library has written and the library or another user writes a comment back. The libraries were active in responding to users comments. It was more uncommon that the users communicated with each other and, for example, the few wall posts written by users did not engage the other users. Here are some examples of two-directional communicating activities on the library Facebook pages:

W: We wish all our customers a happy May Day and a bright spring! May Day 1.5 all N.N. branches are closed. [Library]

C: May Day Eve is open as normal?????? [User]

C: May Day Eve we are open as usual, welcome! [Library]

C: ok [User]

W: The library congratulates Sofi Oksanen for receiving the French literary prize Le Prix du Roman Fnac! Have you already read her celebrated and laudable work Purge?

C: I would read it, if it wasn't always on hold… =([User 1]

C: I wouldn't read it in any case! [User 2]

C: I have read it and liked the book [User 3]

C: I have just borrowed the book and going to read it! [User 4]

Communicating activities could be found in 37.0% of the wall posts and 85.5% of the comments. Communicating activities were often visible in connection with the general wall posts, photos, and links, but quite seldom found in connection to events. About 50% were connected to library- related information.

Contributing

Contributing is commenting, liking, and sharing one's opinions (for example book recommendations), in other words, adding value to the content of the library Facebook pages. Contributing activities include writing comments, pushing the "like"-button and writing wall posts.

The wall posts that receive the most likes often included photos and were entertaining, related to the local community, or about changes in the library services. The most likes overall, 48, were received by the following wall post (written by the library with the most followers):

> W: "The flowers on the cherry trees have started to blossom!" [Includes a photo of the tree outside the library]

The wall posts that received most comments were often related to new library services, local communities, and literature. The most comments overall, 21, were received by a post about a Twin Peaks exhibition (including a link to a YouTube video). It is notable though, that most of these comments were written by library professionals. The wall post that had the most comments written by users was a part of an instruction assignment in information seeking given by a library to a school class. The students were asked to find young adult books about ghosts in the library's collections and then write their answers in the comments (overall, 11 comments were posted). This was a quite innovative way for the library to create interactivity on their Facebook page.

6.3.4 Summary

In the beginning of this section the coding framework for the content analysis of the library Facebook pages has been presented. The wall posts were coded into seven categories (with their own subcategories) including: number of likes, number of comments, author, type, topic, information activity, and location. In addition, the comments on the

wall posts were coded into the following categories: number of likes, author, information activity, and nature of content.

Most of the wall post and comments on the Facebook pages were written by the library or a library professional. Users were, however, more active in the comment section than in writing wall posts. The most common type of wall posts were Facebook events, mostly describing events taking place in the physical library. Photos and general text wall posts were also common, closely followed by links. It seemed, however, that libraries mostly link to library web services and traditional media sites. The most common topics on the wall posts were library-related information and literature-related information, while wall posts related to music and performances were quite uncommon. The comments followed, without exception, the same topic as the wall post. The comments were mostly written in a positive tone.

Central to the analysis was the investigation of different information activities and six were depicted: informing, mediating, creating, seeking, communicating, and contributing. The wall posts usually contained more than one of the mentioned activities. The libraries engaged mainly in informing activities on the library Facebook pages. They used the wall posts to supply information about events, changes in the library services, and so forth. Libraries continued to provide information in the comment section, often in a neutral tone. Users also provided information, mainly by relating their experiences of library services, but also to correct or supplement the information provided by the library. Information mediating activities mainly consisted of linking, and as mentioned earlier, the links were mostly directed towards library web services and traditional media sites. The links were quite often related to literature. Users were not keen overall on mediating; there were only a few examples of links and a few quotations of Finnish authors provided by the users. Information creating activities were quite common among the libraries, but almost nonexistent among users. Libraries created events and pages, and uploaded pictures on their Facebook pages. The activities were mostly library-related, but, to some extent, also related to art, literature, and community. Information seeking activities were among the rare activities on the Facebook pages; libraries in particular do not generally engage in seeking. Users were more prone to seeking in the comment section and this activity is generally related to straightforward questions about literature and library services. Two types of communicating activities were found. The most common were wall posts or comments written in a conversational tone and using polite phrases. The other type was a dialogue occurring between users and libraries, and

there were also examples of users engaging in conversations with each other. Communicating activities proved to be an essential part of the comments. The last activity included, contributing, commenting, liking, and sharing opinions. Wall posts that attracted contributing activities were mainly related to library services, the local community, and included photos.

These findings are in the following, in Chapter 7, analyzed together with the findings from the questionnaires to better understand the interface between public libraries and social media.

7   An integrated analysis

In this chapter, the findings of all three investigations presented in Chapter 6 are integrated and analyzed as a whole from a socio-cognitive point of view. The findings of this study are also considered in relation to the theory and earlier research depicted in Chapters 2-4.

From the socio-cognitive view, the way in which people handle information is seen as being shaped by the social and documentary domain as well as by individual cognition (Bates, 2006b). According to this view, analysis should start from the outside-in, recognizing the social, organizational, and professional contexts or domains. Domain analysis is central to the socio-cognitive view, with a focus on the professional and scientific domains (Talja, Tuominen, & Savolainen, 2005; Hjørland, 2002). This study is not a domain analysis; the aim is only to follow the fundamental ideas of the socio-cognitive view in order to gain a better understanding of the interface between social media and public libraries.

To facilitate and guide the analysis a model has been created (Figure 7.1). The structure of this chapter also follows this model starting with the contexts of social media and libraries, and finishing with the stakeholders. In the center are the interactivity, information activities, and perceptions. The chapter concludes with a short summary.

7.1 A model of the interface

The aim of the study was to investigate the interface between public libraries and social media, and how this is perceived and acted upon by the main stakeholders. A model (Figure 7.1) has been created to facilitate the analysis of the studied interface.
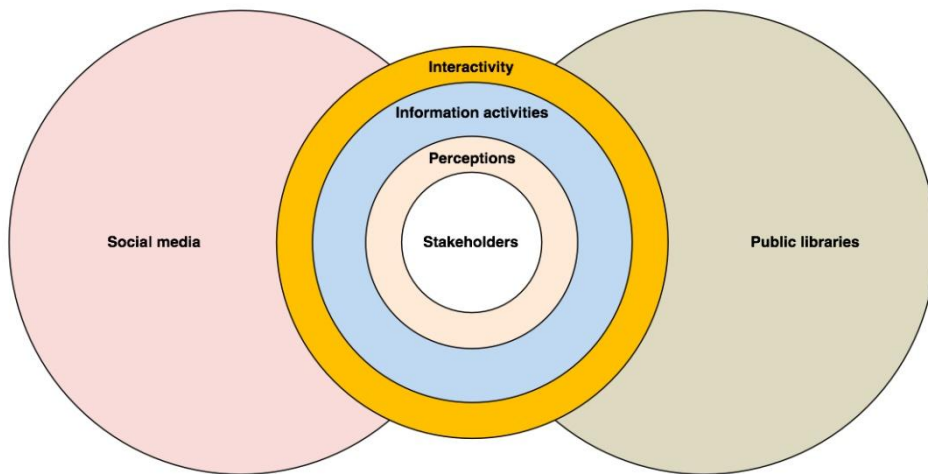
Figure 7.7.1 A model of the interface

This model utilizes the Library 2.0 building blocks proposed by Holmberg et al. (2009a), however, it attempts to provide a more focused view of the social media in a public library context. It also builds on the outside-in approach adapted from the socio-cognitive view. This approach starts with the context, then moves on to the interactivity, and the information activities, and finally the perceptions, thus building an understanding of the stakeholders and the Library 2.0 context as a whole. The context or rather the contexts are also where this chapter on analysis begins.

7.2 Social media and public libraries

Social media and public libraries are two integral parts of today's information society. Their history and development both differ and converge. The public libraries have long traditions of user-centeredness and access (Ranganathan, 1931; Wilson, 2008b) while social media, during the recent years, has expanded the use of the Web to also include those with limited computer skills. Libraries have

used the possibilities of the Web since its creation, as a means to provide information and seek information. Now social media can be used to open up a new potential for interactivity between libraries and users beyond the walls of the physical library.

Social media and public libraries are two contexts that have been brought together. Library professionals' interest in social media created a notion of Library 2.0, which would provide a context of its own. Library 2.0, as a concept, seems to have played out its role in the library discourse, perhaps because of its overstated importance and relevance to the libraries' development (Carlsson, 2012; Crawford, 2011). However, the practical implementations of the social media in libraries continue and make it essential to look at the context that has developed around these two entities to understand this new part of library services. Further focus should also be put on the role of information in this joint context. The character of information has changed (Webster, 2006) and we live in a culture of convergence (Jenkins, 2006) where information is not constrained by physical and online boundaries. Libraries and the Web are both important for the flow of information and have an influence on the way people handle information. In this study, the social media and public library (Library 2.0) context is depicted first and followed by an analysis of how information is a part of this context.

7.2.1   The social media and public library context

Context is a part of research both as regards information behavior and information practice (see section 3.2). In information behavior, it is seen as a background factor belonging to individuals, while information practice acknowledges context as an important actor in shaping activities. Lave (1988) described context as consisting of both arena and setting. Arena is the objective part of the context, which is outside the control of individual actors. In the social media and public library context, the arena consists of the technologies behind social media sites, the construction and discourse of Library 2.0, and the established norms followed by libraries and users. The setting is the subjective experience of the context. This is formed when the stakeholders perceive and use Library 2.0 services; it also means that the stakeholders may have different settings.

This study focuses on the Library 2.0 context developed in Finland. In Finland, information technologies are a part of the population's everyday lives and at the same time there is continuously strong support for public libraries (Ministry of Education and Culture, 2011; Suomen virallinen tilasto, 2012). Library and web use do not exclude each other, instead they support and complement each other (Vakkari, 2012). The libraries in the specific region studied, the region of Finland Proper, have made significant effort to develop and maintain social media services. In other words, this particular platform seems favorable for shaping a successful Library 2.0 context.

The notion of Library 2.0 started to spread in 2005. However, most of the library professionals in this study learned about Library 2.0 in 2007-2008. This was when the use of the concept was at its peak (Crawford, 2011). The respondents mainly came into contact with Library 2.0 through attending lectures or discussing with colleagues. The offline professional networks appear to have played an important role in disseminating information about Library 2.0. It has been proven before that those who are professionally active are more positive to new ideas (Audunson, 1999). The early adopters in this study had also participated in social media courses to a higher degree than the laggards. It is noteworthy that there are more early adopters in the larger libraries, indicating that they have better opportunities to participate in courses and have easier access to professional networks. A slower rate of adoption among smaller libraries has also been noticed in other countries (Lietzau, 2009).

The Library 2.0 setting is still developing in most of the studied libraries and many had already or were about to implement social media sites and blogs as a part of their library services. In other words, the implementation had so far mainly been concerned with selectively working with a set of social media tools alongside the static library web sites, and creating shortcuts to the libraries web services through external web services. This is also noticeable in the results of the content analysis, where the majority of the wall posts are library-related and their mediating activities are mainly about linking to library web services. Library professionals see Library 2.0 as an opportunity to develop the library, keeping it relevant and marketing its services. The library users support both the library creating its own social media services and offering services through external social media sites. The users are, however, in general not familiar with Library 2.0 services. Few users read the library blogs and a significant number of users were surprised to hear about the library's presence on Facebook.

The involvement of social media services in everyday work differs between the respondents, that is, their Library 2.0 settings differ. The library professionals report spending a range between 0 hours to up to 15 hours of their work per week on Library 2.0 services. Furthermore, the responsibility of maintaining the services often falls on a working team and it is seldom seen as the responsibility of every staff member. The contact library professionals have with Library 2.0 services varies greatly and it is treated more as a separate service than a notion encompassing all aspects of the public libraries. The use of Facebook also differed significantly considering, for example, the frequency of wall posts. On average, the libraries posted about 7 wall posts per month, but the range was still between less than one and up to 35 (that is, more than once a day). There are also differences in the overall use of social media services and the number of services library professionals use in their work and in their leisure time. The professionals used social media services in a more limited way in their work than in their leisure time. Interestingly, their use in leisure time is similar to the library users'. However, the library professionals proved to be even more avid social media users in regard to some services (see Figure 6.7). Notable differences were found with regard to the use of blogs and RSS readers, where the library users lag significantly behind the library professionals (considering both work and leisure use). Library users are instead keener on using music services, podcasts, and instant messaging. Overall, it still seems that social media is a larger part of the library professionals' everyday lives than those of the average user.

The forming of a social media and public library context is not unproblematic. In the survey, the main barrier, according to library professionals, is the lack of time. Public libraries today are faced with the difficult equation of keeping the library relevant for users and society with limited resources (including time, staff, and funds) while maintaining their traditional tasks (Almgren & Jokitalo, 2010). Another barrier observed in this study is a lack of clear strategies. In the literature, strategies have been pointed out as an essential factor in the implementation of social media (Joint, 2009; Rutherford, 2008a). These two issues, lack of time and lack of strategies, are probably related. Clear strategies could guide the amount of time (and other resources) spent on the different tasks inherent in library work and calculate the cost and benefits of different services.

The social media and public library context observed in this study is in a state of development. Library 2.0 seems to be treated rather as a new set of library services than encompassing all aspects of library work. Library professionals are educated in, and can manage, social media services, and users are familiar with social media. There is also adequate interest and support in both groups. The challenges are to find the right place for Library 2.0 services in the libraries, and to increase the users' knowledge and use of them.

7.2.2 Information in the Library 2.0 context

Looking at information and the part it plays in the social media and public library context prepare for some interesting findings. It is mainly a question of social information with both tangible and elusive elements.

In the content of the analysis the wall posts and comments consist of information about the libraries and their services, literature, art, the community, music, and performances, which are also quite common topics in the physical public libraries. This type of information on Facebook pages can be categorized as information-as-thing (Buckland, 1991), but Bates' (2006a) more dynamic forms of information can also be applied (see section 3.1). It is exosomatic information (recorded and embedded) based on experienced information (the users sharing their reading and library activities), enacted information (pushing the like button, commenting), and expressed information (the communication taking place in the wall posts and comments). It should, however, be noted that durability of this particular type of recorded information proved to be insufficient.

The information topics that seem to activate the users the most are community-related, literature-related, or about changes in the library services. Interestingly, it seems that information in the form of photos are appreciated by users along with entertaining types of information. This supports the notion by Case (2012) that people tend to prefer to be informed in an entertaining manner (section 3.1). Vakkari and Serola (2012) have also pointed out enjoyment as one of the most common benefits of regular library use (section 4.2.2). The users also choose to provide the library with positive information, rather than

negative. The results further point to the significance of situation for something to be informative as put forward by Buckland (1991). For example, the post about the cherry tree blossoming outside the library that received the most likes was, in addition to including a picture, also posted at the right time: the time when everybody is looking for signs of spring and approaching summer.

Recognizing information as a part of the Library 2.0 context is, in other words, helpful in developing an understanding of the activities taking place in this context. In the remaining parts of this analysis it will be seen not only how the context of social media and public libraries shapes the interactivity, the information activities, and the perceptions of library professionals and library users, but also how these elements shape the context.

7.3 Interactivity

Interactivity between people, content, and tools are part of the main ideas of Web 2.0 and the ideas of user generated content and wisdom of the crowds (P. Anderson, 2007a; 2007b; Kaplan & Haenlain, 2010). Interactivity has also played an essential role in the Library 2.0 discourse, and is often seen as central in the implementations of social media services. The majority of the definitions of Library 2.0 include interactivity and participation as essential elements (Casey & Savastinuk, 2007; Fichter, 2006; Lankes et al., 2007; Maness, 2006). Interactivity is also suggested as the central building block of Library 2.0 (Holmberg et al., 2009b) (see Chapter 2).

The goals of increased interactivity have still proven to be more difficult to attain than the Library 2.0 literature has suggested. The implementation of social media services has not automatically led to increased interactivity. It seems that interactivity is not prioritized among users. In this study, users did not, for example, find the social features of the library catalog to be significant, coinciding with the findings of Calhoun et al. (2009) presented in section 4.2.3. Users enjoyed interacting and communicating on the Web in general, but they prioritized contacting the library professionals face-to-face. A study by Nielsen (2009) also indicated that the library reference service, through instant messaging, often being reduced to becoming answer-

ing machines, lacking interactions. Earlier research also shows low numbers of users who are actually willing to create, share, and interact in Library 2.0 services (De Rosa et al., 2007). Only a few of the users in this study recognized the networking and interaction possibilities on the library Facebook pages. Social networks are, in general, used for connecting and communicating with people who are a part of one's existing social network (boyd & Ellison, 2007) and that establishing connections with unknown people have proven to be difficult (Södergård, 2007). Taking this into consideration, it might be complicated to use social media services to create networks with new users, which a majority of the library professionals in this study saw as a significant reason for providing Library 2.0 services. The findings also point to the importance of regarding the context in which new services are implemented and the agency of objects.

From the results of the questionnaire, it seemed that the library professionals' attitude towards interactivity was also ambiguous. Although social networks and blogs were the most implemented services in the studied libraries, the library professionals found it the least important to provide the users with the opportunity of following the library on Facebook and commenting on blog posts. They did, however, clearly support more active user participation in connection with the libraries collections and the library catalog. In regard to the library professionals' interest in tasks related to social media services, they were more interested in participating in other activities than in the more outspoken interactive tasks, such as leading book or web discussions. It seems, however, that avid social media use among library professionals increases the interest in both providing and working with more socially interactive services. Notable in earlier research was the fact that the library professional tends to be more interactive and more versatile in social media use in professional networks rather than with library users (Hall, 2011; Loudon & Hall, 2010). In the present study, there are also findings indicating that this is the case. For example, the most vivid discussion (attracting the most comments) on the Facebook pages investigated was mainly between library professionals.

Interactivity rarely comes automatically or without effort. In the content analysis of library Facebook pages there were both examples of how libraries consciously were trying to interact with users and how they (unconsciously?) write wall posts that could only be categorized as neutral information delivery to information recipients. Conscious ways of increasing activities could be exemplified with the libraries asking direct questions of users, writing about current interests of the

users or finding other ways of encouraging them to write comments. The wall post that received the most comments was a part of one library's instruction assignment in information seeking, which probably meant that the interaction by these particular users (school students) was perhaps compulsory. Nonetheless, this type of interaction can still help to lower the barrier for engaging in further interactions with the library.

In other words, the obvious type of interactivity is not the most common type of participation even in the Library 2.0 context. Participation and interactivity do actually encompass a range of information activities and highlighting these has been an essential part of this study.

7.4 Information activities

Information activities, in their simplicity and transparency, serve as a key to understanding interactivity, the context, the perceptions, and the stakeholders. Hektor's (2001, p.62) definition of information activities are "the sets of behavior that people display […] in their interaction with information" and in the present study the focus is on the sets of behavior or practice people display in the Library 2.0 context. Activities have been put forward as being shaped by the context, but also as shaping the context (Nolin, 2010). Activities can also be seen as shaping the other elements in the context: interactivity, perceptions, and stakeholders, while also simultaneously being shaped by these elements.

The information behavior approach and the information practice approach have provided the basis for recognizing and analyzing information activities (see section 3.2). In the present study, a total of seven information activities were discovered and categorized in the social media and public library context. The information activities found were reading, seeking, informing, mediating, communicating, creating, and contributing. The first four information activities can be seen as more widely recognized and "traditional", while the latter three have been more specifically highlighted in connection to social media.

Reading and viewing (and listening) is a fundamental part of web, social media, and library use. Hektor (2001, 2003) categorizes reading and viewing as unfolding, although he has described it as a deeper engagement while other studies point to the shallowness of reading and viewing on the Web (Rowlands et al., 2008). Reading in any form is still one of the more elusive activities to study. The library Facebook pages investigated attracted up to 2000 followers, but often a very small number of comments and likes, which indicates there are silent users. In earlier research on virtual communities and social media, people with non-interactive information behavior have been called lurkers or spectators (Burnett, 2000; Li & Bernoff, 2011). Nielsen (2006) suggested that on average as many as 90% constitute lurkers on a typical web service. Preece and Schneiderman (2009), however, illustrated that being a reader was a step on a ladder, allowing users to progress and become more active (see section 4.2.1). In this study, reading and viewing belong to the more appreciated information activities among library users. The library professionals also emphasized, for example, the importance of providing the users with the opportunity to read reviews on the library web site or in the catalog. Reading activities should not be undervalued, not even in the social media context and especially not in the social media and library context. Reading activities remain one of the cornerstones of public libraries.

Overall, information seeking is the most studied information activity in information behavior research. It has also been studied using an information practice lens (McKenzie, 2003). Information seeking can be further divided into different types of seeking such as browsing, searching, retrieving, and encountering (Björneborn, 2008; Hektor, 2001). The findings of this study show a large recognition of the Web as an information seeking tool among the library users. Only the youngest age group seemed to be more unaware of their seeking activities, which have also been highlighted in the research literature (Cox, 2012; Södergård, 2007). Seeking activities also occur in the social media and public library context, although they do not have any prominent place among the other information activities. The interest among users for tags, RSS feeds, and social features in the catalog is very modest. The engagement in seeking activities on the library Facebook pages also proved to be modest, both among users and library professionals. Nevertheless,, it seems that Facebook pages could serve as an easily accessible space for information seeking and there are examples of users and library professionals posing questions and asking for references. On the pages analyzed, the library professionals answered very thoroughly the questions posed by users. The users often also answered direct questions posed by the libraries; however, the rhetorical questions seldom lead to user participation. Active in-

formation seeking has as yet still not found any significant place in the social media and public library context, although information seeking on the Web remains high. The more inactive and hidden ways of seeking information, such as encountering, have not been investigated in this study and it might be that social media primarily could support the divergent explorative information seeking activities pointed out by Björneborn (2008) (see section 4.2.2). In other words, the findings from this study imply that the goal-directed, problem-solving seeking activities, which are often the focus of information behavior research, are less frequent in the social media context than in general web use.

Seeking and reading activities have been traditionally assigned to library users while informing activities are performed by library professionals (Hedemark et al., 2005; Holmberg et al., 2009b, p. 122; Talja, 2005; Tuominen, 1997). Informing, in this study, is recognized as providing first-hand information. On the library Facebook pages, this is the most prominent of information activities among library professionals. Informing can be compared to disseminating in Kari's and Savolainen's (2003) categorization and be seen as a mix of Hektor's (2001, 2003) publishing and instructing categories (see section 3.2.2). Hektor described instructing as an activity aimed at an anonymous or general institution; on the Facebook pages studied, some of the informing activities can rather be seen as the institution (the library) instructing a relatively anonymous group of library users. Users did in fact, to some degree, motivate their choice of following the library on Facebook with the prospect of being informed about events in the library and about new acquisitions. Even if the informing activities of library professionals were the most dominating, users were also engaging in informing. In the content analysis, there are examples of how users are supplementing information and correcting information provided by the library, although users mostly provided personal information about their library experiences. This type of information is not always easily distinguishable; however, its value is vital in the development of library services.

Mediating is closely related to informing, and in this study, mediating is recognized as providing information through another source, for example, by linking and quoting. Kari and Savolainen (2003) have also recognized mediating as an information activity. Library professionals engaged in mediating activities on the library Facebook pages mostly by linking to different library web services or traditional media sites. Library professionals seemed very cautious concerning the sites they were linking to, which in a way limits the benefits users can

have from the library Facebook pages. The changing and growing information flow on the Web poses a challenge and the library professionals could aid the users by guiding them to useful links. Users engaged in mediating activities significantly less than the library professionals, in fact, users spent more time informing than mediating. There is, in other words, much room for development in the mediating activities of both users and library professionals. One of the benefits of social media technologies nevertheless is the effortless sharing of links.

Communicating activities are particularly closely connected to the interactivity discussed previously (section 7.3) and to the concepts of information exchange and information sharing that often occur in the information behavior approach (Burnett, 2000; Hektor, 2001). Generally, communicating on the Web was engaged in by many users, but the interest in communicating in a social media and public library context was significantly lower. Face-to-face seemed to be the preferred way of communicating with library professionals, although other channels were also recognized. On the library Facebook pages, users, however, engaged quite frequently in communicating activities with the library professionals. Virtual communities have been described as spaces where communication and information converge (Burnett, 2000; Ellis et al., 2004), a description that could also be applied to library Facebook pages. The content analysis unveiled both one-directional communication such as polite phrases and using a conversational tone, and two-directional communication including dialogues between users and library professionals. The topics of the communication activities were usually library-related and users often took a positive tone in their communication. The library professionals' wall posts on the Facebook pages were more concerned with informing than communicating. The library professionals were efficient at replying to the communicating activities of users, however, they could improve their ways of initiating these activities with users.

Creating activities are emphasized in the Web 2.0 and social media discourse, although there are some indications that only a few engage in creating (Nielsen, 2006).This study also indicated that the majority of users did not engage in creating activities. Users were generally more interested in taking part in what other users and library professionals had created. It also seemsed that it is the same people who generally enjoy creating and contributing activities on the Web that were willing to create in the library web services. Library professionals were, on the other hand, more interested in creating activities. They were willing to write reviews, write about events in the library,

and develop the library web services. On the library Facebook pages, they were also actively creating events, pages, notes, and uploading photos. Furthermore, they were positive to the notion of users engaging in creating activities within Library 2.0 services. The library professionals' keen engagement in creating activities also indicates that on average they were more familiar with Library 2.0 and its possibilities than the regular library user.

Contributing activities is perhaps the most diverse form of participation, demanding sometimes more and sometimes less effort by the participant. Contributing involves adding value to some information published, for example, by grading, rating, commenting, liking, etcetera. In comparison with the other information activities, contributing activities (in general on the Web) engaged the least of the users in the survey study. Furthermore, those who did engage in contributing proved to be young men who were avid social media users, which is a challenging library user group. Looking more closely at contributing activities in the Library 2.0 context, there was still an interest among users to contribute, for example, by commenting and rating in the library catalog. Even if the users found it more laborious than fun to contribute in the Library 2.0 services, they were, to some extent, willing to spend their time on contributing. Avid social media users and keen library users especially were positive to the idea of engaging in contributing activities. In this context of social media and public libraries it seemed that anonymity and norms play a more significant role in these kinds of activities than in other social media contexts. The Library Facebook pages provided several ways of contributing by commenting, liking, and sharing one's opinions. On some of the library Facebook pages there were few signs of user contributions, while others had a more steady flow of comments and likes. Different topics, such as the local community, and some types of wall posts, such as photos, triggered the contributing activities. Library professionals value the effort users put into participating and saw the contributing activities as improving the library services.

Looking at the information activities focuses attention on the division of labor, which is a part of the activity theory described in section 3.2.2 (Wilson, 2006b). The division of library professionals into being information providers and library users into being information recipients was evident . Library professionals mediated and created while users read and sought. This division was further consolidated by the fact that the users never diverged from the topic provided by the library professionals on the library Facebook pages, thus giving the library professionals control of the choice of topic. On the other hand,

users did engage in informing and contributing activities, which may indicate that the division of information activities among the two stakeholder groups is changing and the differences diminishing.

It is too early to distinguish a Library 2.0 information practice or behavior, but the findings from this study point to possible and initial ways people interact with information in the social media and public library context. The benefit of recognizing different information activities is that it creates a better understanding of the interface between social media and public libraries, and, more specifically, which activities can be developed further. In the Library 2.0 context, the activities and perceptions related to library work and library use remain dominant It is, in other words, important to recognize the activities inherent in the physical library, because these influence the practice and behavior of the stakeholders, at least to the same degree as activities in the social media context influence practices and behavior.

7.5 Perceptions

In the information practice approach, activities are seen as partly arising from expectations (Lave, 1988), while in the information behavior approach it is the needs and goals that are highlighted (Case, 2012; Wilson, 2006a) (see section 3.2). Perception is the way something is understood, and it is largely on these understandings that expectations and goals are based. Perceptions are clearly shaped by the prevalent context, and the following is a depiction of the different settings in which library professionals and users are active.

In the Library 2.0 discourse, social media has been highlighted as an evolution, if not a revolution, in most in public libraries. The interest of users and the benefits have, moreover, been assumed to be self-evident (Casey & Savastinuk, 2007; Crawford, 2006, 2011). In this study, the library professionals seemed to have been influenced by the Library 2.0 arena. They believed that social media services could help develop and market the library. Overall, their perceptions of technological changes were mainly positive, which follows the pattern made visible in earlier studies (Rabina & Walczyk, 2007; Spacey et al., 2004) and they perceived the changes as necessary. The library professionals furthermore had confidence in the interest of users towards Library

2.0 services and that it could attract new users. The library profession-
als also to a high degree (81%) believed that user participation would
make the library catalog better. On the other hand, the library profes-
sionals seemed to lack confidence in the social media skills among
themselves and the interest in Library 2.0 among their colleagues. A
lack of confidence among library professionals has also been noticed
in earlier research (Sevón, 2007; Sinikara, 2007) and it can now be seen
as being repeated in the social media and public library context.

Considering the technological development in libraries (Saarti, 2008),
it is a quite natural step for the library professionals to incorporate
social media services. However, the technological development in
libraries is not a very robust part of the users' perception of the library
(De Rosa et al., 2005; Fidishun, 2007). The users are therefore a part of
a different setting.

In this study, about half of the users supported the implementation of
social media services in public libraries. Many of them were positive
to Library 2.0, but they also showed a high level of uncertainty: social
media in public libraries seemed to be an unfamiliar notion to them.
When asked if user participation would improve the catalog, about
50% were positive; while as many as 26% remained uncertain. Library
users tended to choose the familiar before the new, for example, by
emphasizing traditional features in the catalog and wanting to contact
the library professionals face-to-face as mentioned earlier. It was espe-
cially interesting to look at how the users chose to motivate their will-
ingness to follow the library on Facebook. Mostly, they referred to
their use of the physical library and their reading habits, only a few
considered what use they could have of a library Facebook page.
Some also answered that they had never thought before about looking
for the library on Facebook. The users, who were negative to follow-
ing the library on Facebook, were generally apprehensive towards
Facebook.

There were noticeable differences between the perceptions of users
and library professionals concerning the social media and the public
library context. Social media services had an obvious place in the li-
brary's development and activity from the library professionals' point
of view. The library users had not thought of the idea of combining
social media and public libraries, although they were keen users of
both. This means that the library professionals and library users have
two quite different starting points in engaging in Library 2.0 services
and often insufficient understanding of each other's perceptions. Prac-

tices are described as groups of activities "centrally organized around shared practical understanding" (Schatzki, 2001, p. 2). This study implies that the library professionals and library users are shaping different Library 2.0 practices as their practical understanding and perceptions differ.

7.6 Stakeholders

Library professionals and library users, together with books, are the most important parts of a growing library organism (Ranganathan, 1931). It is, in other words, highly significant to consider the stakeholders in relation to the social media and public library context, the way they interact with each other, their information activities, and their perceptions. What remains to be considered are the individual factors of the stakeholders, which are traditionally key in information behavior research, although of very little significance in the information practice approach.

In the survey study, a range of individual factors were taken into account. Factors of significance among the library professionals proved to be age, work experience, work role, computer experience, adoption rate, and social media use. Individual factors among users were gender, age group, library visits, web use and social media use. In the following, the factors concerning social media use, age, gender, and skills are highlighted.

Social media use proved to be interesting to consider as regards both the library professionals and library users. Of the users 40% were avid social media users, 53% occasional social media users, and 6% nonusers. Library professionals had 53% avid users, 35% occasional users, and 12% nonusers of social media. In other words, in comparison there were more avid users among library professionals, but also more nonusers. Both among the library professionals and the users it was the avid social media users who were the most interested and supportive of Library 2.0 services. Library professionals who were avid social media users showed more interest in providing services with a higher level of interactivity, and also engaging in tasks involving more interactivity between themselves and library users. The avid

social media users, among the users, demonstrated the most intention to participate in Library 2.0 services.

Age is also a factor of significance. Among library professionals there were more avid social media users in the younger age groups and they were more prone to being active and interactive in the Library 2.0 context. Age groups have also been of interest in earlier research of Web and social media use (Connaway et al., 2008; De Rosa et al., 2011; Jones & Fox, 2009; Nicholas et al., 2011) (see section 4.2.1), and some interesting findings were made in this study concerning the age groups of users. The youngest age group (10-16 year olds) was notice-able in several respects. They were the least interested in information seeking activities, and mainly engaged in creating, contributing, communicating, and reading/viewing on the Web; this is in accord-ance with earlier studies (Jones & Fox, 2009; Nicholas et al., 2011). However, they were still not very familiar with the library web ser-vices. Nevertheless, they did show significant support for the library providing services through external social media sites and for more social features in the library catalog. With regard to the notion of whether there should be rules for participating in the catalog, the youngest age group remained the most uncertain. The 17-19 age group was obviously the one most positive to social media services in libraries overall. This age group also had the most avid social media users and they were among the highest of those who had familiarity with library web services. The 17-29 year olds showed both interest in participating and intention to participate in Library 2.0 services; they were also the most positive to the notion that user participation would improve the library catalog. In contrast, the 30-45 age group was the most negative, overall, to social media services in libraries. They did show some interest in reference service through IM, however, they are the least interested in contributing to ratings on the library web site. The 46-64 age group were only distinctive in their interest in contact-ing the library professionals by email (while the youngest age group are the least interested in email), which is in accordance with the find-ings of Jones and Fox (2009) and Nicholas et al. (2011). The oldest age group used the social media the least and many were also unfamiliar with the library web services. Thus, they also expressed the highest level of uncertainty towards social media and public library services.

Earlier research has identified some differences in the use of social media among women and men (Hargittai & Walejko, 2008; Lim & Kwon, 2010; Suomen virallinen tilasto, 2010), and similar findings are presented in this study. Women, for example, are more engaged in communicating (Lim & Kwon, 2010; Suomen virallinen tilasto, 2010).

In the present study, women showed significantly more interest in connecting with the library on Facebook and participating in book discussions. Men, however, were more confident in their use of social media and post more content onto the Web (Hargittai & Walejko, 2008; Lim & Kwon, 2010). The findings from this study also suggest that the men engaged more in creating and contributing activities in general on the Web. On the other hand, women showed more interest and intention than men with regard to contributing and creating in the social media and public library context. Women also used the library web services significantly more than men. The findings imply that women would also use Library 2.0 services more than men. They were, however, slightly more concerned about remaining anonymous in the Library 2.0 services. In this study, it seemed that the users who visit the library only occasionally used both social media services and library web services more than the keen library visitors. Nevertheless, the interest for Library 2.0 services still seemed to be adequate among both the keen and the more occasional library users. Users who seldom visited the library, seldom used the library web services. They also showed the least interest in engaging in social media and public library services. These findings again indicate the difficulties of attracting new users by implementing social media services. The impact of earlier experiences, habits, and practices are especially evident looking at the users. Factors of library, web, and social media use determine much of the interest and intentions for using Library 2.0 services

In the survey study, the library professionals were asked about the characteristics and roles that describe them in their work. The majority described themselves as helpful, obliging, co-operative, flexible, and open. The three latter characteristics are the same as Olander (2009) found in her study of library professionals and library students in Sweden (see section 4.1). The skill of being flexible has also been seen as the most important in earlier research (Ashcroft, 2004; Baruchson-Arbib & Bronstein, 2002; Fourie, 2004; Martell, 2003; Melchionda, 2007). In the study by Huvila et al. (2013), the key traits of a Librarian 2.0 were being active, interactive, and a producer. These types of characteristics are not used to any high degree by the library professionals themselves in the present study, however, their information activities point to another direction. The interest in being active, interactive, and providing services with a high level of interactivity is adequate among the library professionals, particularly among the younger age groups, those with less work experience, those with higher computer experience, and avid social media users. In the content analysis the library professionals proved generally to be active on the library Facebook pages and also of taking on the role of producers by

engaging in creating activities. The many characteristics and skills put forward in the literature in relation to technology in general (Ashcroft, 2004; Baruchson-Arbib & Bronstein, 2002; Fourie, 2004; Martell, 2003; Melchionda, 2007) and more specifically in connection with Library 2.0 (Huvila et al., 2013; Partridge et al., 2010; Stephens, 2007) clearly indicates that public library professionals somehow need to be both generalists and specialists at the same time, with regard to form and content (Olsson, 1995; Hjørland, 2000). It is a nearly unattainable scenario that one library professional could encompass all these characteristics, roles and skills. Therefore, it is probably sensible that a working team has the responsibility for the social media services, or that there is a possibility to be a part of professional networks outside of a specific library in order to share experiences.

Individual factors do add to a better understanding of the stakeholders in relation to the social media and public library context. However, information activities may reveal factors of which the individuals are not aware. Combining individual factors, contextual factors, and information activities, or to be precise, the information behavior approach and the information practice approach, gives a special insight into the interface between users, public libraries, and social media, and the inherent opportunities and challenges.

7.7 Summary

This integrated analysis has approached the interface between social media, public libraries, and stakeholders from the outside-in. A model of this interface was put forward including elements of context, interactivity, information activities, perceptions, and stakeholders. Each element was then analyzed separately.

Social media and public libraries are combined in a context of Library 2.0. This context is still under development and libraries are trying to find a suitable place for social media services alongside other library services. Social information is an important part of combining social media and public libraries. Interactivity has been emphasized in the Library 2.0 discourse, however, often without considering the inherent issues. The present study has highlighted the complexity of interactivity and that it, in fact, demands significant effort particularly

from the library professionals. Interactivity has its starting point in the different information activities. These activities display how the stakeholders interact with information in the social media and public library context. The information activities depicted in this study show that the underlying context is important for determining their form. It still seems as if the more hidden activities (such as reading) engage the users more while library professionals take a more active role. This is assumed to be partly because of the differences in perceptions between the two stakeholder groups. Library 2.0 is part of a longer development for library professionals, while library users are only now beginning to see the more interactive connection between the physical library and the Web. Finally, the individual factors of the stakeholders were analyzed concerning social media user groups, age, gender, and skills. These factors proved to aid the understanding of the stakeholders in the social media and public library context.

Information activities are central elements in understanding the interface between social media and public libraries. They are the visible output formed by the stakeholders and their perceptions, the context and the interactivity, while at the same time the information activities are continuously forming these other elements.

8 Discussion

The aim of this thesis was to investigate the interface between users, public libraries, and social media as well as the inherent information activities. In this chapter, the thesis will be discussed as a whole, combining the insights gained from the earlier literature, the empirical investigations, and the integrated analysis. This study is mainly explorative, encompassing a survey study of library professionals and library users, and a content analysis of library Facebook pages. The study endeavors to answer to the main research question: *How is the interface between public libraries and social media perceived and acted upon by its main stakeholders?*

The point of departure is the three more specific research questions presented in Chapter 1, including the relationship of public library professionals with Library 2.0, the library users' perceptions and experiences of Library 2.0, and a comparison of these two stakeholder groups. Before the conclusions of this thesis, the limitations will be considered as well as a review of the opportunities and challenges public libraries face in this context. The contributions of this thesis are summed up in the final conclusions. Possible applications of the findings and suggestions for further research are included in the final part of this chapter.

8.1 Public library professionals and Library 2.0

Technology has long been a part of the everyday work of library professionals and they have learned to adapt to numerous changes of a technological nature (Melchionda, 2007; Olsson, 1995). These changes have also created a vast new range of roles for library professionals to undertake (Aschcroft, 2004; Fourie, 2004; Olander, 2009). In this matter the changes created by social media is no different, although social media is often described as something greater than solely a technological development (Joint, 2009).

Earlier research has shown that library professionals use social media, but more passively than is desired of a Librarian 2.0 (Chawner, 2008; Partridge et al., 2010). This seems particularly true in librarians' interaction with users through social media tools (Hall, 2011; Loudon & Hall, 2010). The relationship of The Finnish library professionals with social media and Library 2.0 is outlined in the following. It is also discussed with regard to motivation, skills, and available support, as well as the actual information activities inherent in the implementation and use of social media services.

8.1.1   Motivations

What are the motivations of public library professionals to adopt, develop, and maintain social media services?

The motivation of library professionals to implement and manage social media services in the library is to a high degree derived from their professional context. The hype surrounding Library 2.0 quickly spread through social media services and its advocators were easily seen and heard. Social media was described as an opportunity to reach out to both new and regular users, create communities, and increase interactivity (Casey & Savastinuk, 2007; Rutherford, 2008a). The discourse that surrounded Library 2.0 in the field even gave the impression that Library 2.0 was an inevitable development (Carlsson, 2012).

The influence of this discourse can be seen in the findings of this study. The library professionals seemed to see the implementation of Library 2.0 services mainly as a way of developing the library. It was also seen as a way of increasing the marketing possibilities and thereby reaching out to users. The marketing aspect was also visible on library Facebook pages, where a great deal of the wall posts was about marketing events in the libraries and library-related information.

The social media and public library context, encompassing the Library 2.0 discourse, has shaped the library professionals' perceptions. In this study the library professionals were very convinced of the users' interest in Library 2.0 services, and the inherent benefits of user participation. In other words, these positive perceptions and expectations of

social media services motivate the library professionals to implement them. With this in mind, it is interesting to look at the dichotomy found in the study that most libraries already maintain blogs and Facebook pages, despite the fact that they then rank them among the lowest social media related services they want to provide for users. This could be an indication that blogs and Facebook pages have not achieved the high expectations promised in the Library 2.0 discourse.

The impact of social media in the library field can also be seen in the library professionals' own use of social media services. The study indicated that they used, on average, more diverse social media services than the ordinary user and that they also had a higher number of avid social media users. It is also the avid social media users who showed most interest in working with Library 2.0 service, meaning that personal social media use also serves as a motivator for managing Library 2.0 services. Nonetheless, the average library professional seemed to be more interested and motivated by developing and starting up Library 2.0 services than in maintaining the services and interacting with users. The library professionals were more motivated by undertaking information activities such as creating, by developing the library web site and writing blogs. They were less motivated when undertaking activities involving communicating, as these demanded a higher level of interactivity with the users.

Motivations for social media use are dependent on social and individual factors. The motivations of library professionals to engage in Library 2.0 were dependent on context, practices, and expectations, as well as on individual factors such as age and interest in technology. In order to keep library professionals motivated it was important for them to have positive experiences, which may demand multiple ways of calculating the cost and benefits of social media and public library services.

8.1.2   Support and skills

What kind of support do library professionals have and what skills do they need to implement and maintain social media services in public libraries?

In the Library 2.0 literature, significant resources for a successful implementation have to be provided through: support from management, library strategies, justifiable investment of money and time, education of staff and users, good timing and good marketing techniques (Evjen & Audunson, 2009; Joint, 2009; Rutherford 2008a). The library managers who participated in this study were positive to social media, on the other hand, the respondents desired improvements concerning strategies and education. The majority of library professionals were still of the opinion that the libraries invest enough resources overall into Library 2.0 services. Financial support or resources did not seem to be an issue, probably because there were seldom any direct costs in implementing social media, instead the findings point to insufficiencies concerning time and skills.

Lack of time is propounded as the greatest barrier to implementing social media services in libraries. However, an adequate number of the library professionals still had the possibility to allocate some of their working time to managing Library 2.0 services. Most libraries managed these services by giving the responsibility to a specific work group or a specific member of the staff. The issue with lack of time was probably more related to the challenges facing public libraries presented by Almgren and Jokitalo (2010). These challenges include maintaining and developing the traditional tasks of libraries, while having to invest resources into new services. The content analysis of the Facebook pages indicated a fairly low number of user participating on a level that can be measured quantitatively, such as number of followers, likes, and comments. This might lead to difficulties in justifying the time invested in implementing and maintaining the services in question. However, there is research highlighting the value of the seemingly non-active participators, also known as lurkers, spectators or readers (Burnett, 2000; Ellis et al., 2004; Preece & Schneiderman, 2009). Distinct strategies are needed for the library to be able to prioritize and most efficiently manage the limited time and resources available.

There seemed to be a lack of confidence among the library professionals concerning their skills that has also been highlighted in earlier research (Sevón, 2007; Sinikara, 2007). Among the library professionals, those who were nonusers of social media saw their lack of skills as a major issue in the implementing of Library 2.0 services. An adequate number of the respondents in this study nevertheless showed both interest and competence for implementing and maintaining social media services; these figures were even higher than those of the average library user. Half of the library professionals had become aware of

Library 2.0 at quite an early stage in its implementation (2005-2008). These members of staff were willing to take on tasks to develop the library's services, and were interested in technology in general as they had a high level of computer experience and used social media both in their work and in their spare time. Some of the roles of a Librarian 2.0 (Huvila et al., 2013; Partridge et al., 2010) also coincide with the characteristics recognized by the respondent in this study, such as being flexible and open. At the same time, however, they remained somewhat critical of the technology and social media, and placed more value on the library's traditional missions and some traditional characteristics. In other words, the library professionals may have the skills to implement and maintain social media services but issues concerning adequate interest and lack of time should be acknowledged.

8.1.3 Information activities

How do library professionals engage in information activities in the Library 2.0 context?

The library professionals used social media services in a versatile manner both in their work and in their spare time, to a higher degree than the average user. The findings from the survey indicated that library professionals are more interested in performing work tasks involving information activities, such as creating, than in communicating. Chawner (2008), however, found that most library professionals are more at home in the consuming and collecting activities, rather than creating and communicating. Even if creating activities interests the respondents in this study more than in Chawner's study, the modest engagement in communicating through social media, is a common finding in both studies.

The content analysis of library Facebook pages revealed six information activities: informing, mediating, communicating, contributing, seeking, and creating. It also became evident that libraries are, on average, active in writing wall posts and utilizing different features of Facebook such as photos, events, and notes. Informing and creating activities are the most evident, followed by communicating, contributing, mediating, and lastly seeking. The library professionals also assumed the traditional role as information providers in this arena, as although they engaged in communicating activities it was more often

in a one-direction rather than a two-way interaction with users. For example, the library staff used a conversational tone in their wall posts. However, they responded adequately to the communicative activities of the users. The creating activities encompassed events, notes, and photos and are mostly library-related. The library professionals were very careful in their mediating activities: in general they link to library sites or to traditional media sites, but seldom to social media related sites such as blogs (unless it was the library's own blog) This somewhat limits their role as information mediators. Their contributing activities were mainly related to literature (sharing book recommendations), to other libraries, and to the community (helping to disseminate information about different events). The infrequent seeking activities of library professionals were mainly inquiries about participation in different surveys, or more or less rhetorical questions.

Other studies have shown that libraries focus on information dissemination rather than taking advantage of the communicating possibilities of Facebook (Aharony, 2012). The libraries in the present study nonetheless could be seen to be utilizing their Facebook pages in a quite versatile manner through creating, communicating, seeking, and contributing. The library context, however, remains strong, and considerably influencing the information activities taking place on this particular social media service. A certain level of caution was also detectable in the library professions' activities, for example concerning mediating. In summary, the library professionals were active (perhaps even more than they believed themselves to be) and in the social media and library context their information activities were more transparent.

8.2 Library users' experience of Library 2.0

The users were a very diverse group, irrespective of the categorizations into web users, social media users, or library users. In Library 2.0 these roles are combined into one and a Library 2.0 user is described as tech-savy, self-sufficient, and having the role of co-creators (Nguyen, Partridge, & Edwards, 2012; Peltier-Davis, 2009). The expectations of user participation can be seen to be high in the library field and in the Library 2.0 literature, but there are few earlier studies focusing on this aspect, and the few existing studies show low interest among users (Calhoun et al., 2009; De Rosa et al., 2007).

The following is a discussion on the findings concerning the Library 2.0 experiences of Finnish library users. The focus is on the users' expectations, motivations, and intended as well as actual information activities in connection with Library 2.0 services.

8.2.1 Expectations

What are the expectations of users concerning library activities and social participation on the Web?

Overall, the expectations of users concerning library web services can be described as traditional. For example, the users highlighted the traditional features of the catalog, and found little need for social features. However, a certain level of interest for social media and public library services was detected, particularly among those who were, in general, avid users of social media.

Users valued and expected a certain level of anonymity in the library context, also when the Web and social media were included. They expected to be able to remain anonymous when commenting in the catalog. Users also accepted that the library professionals acted anonymously to some degree. Furthermore, a high majority of the users expected the library to have rules governing what users write in the catalog. They also believed that contributing to the catalog would be more laborious than fun. It also seemed that they base part of their expectations on their experience of the physical library, for example, they motivated following the library on Facebook with their fondness of the physical library. Users also expected to receive library-related information of events and acquisitions through the library Facebook pages, rather than reflecting on any other of the networking opportunities.

Overall, there was an uncertainty among the users as to what to expect from social media services in the library context; De Rosa et al. (2011) also drew similar conclusions. This was also evident in this study regarding the users' opinions towards user participation in the catalog. Half of the users believed participation in the catalog would

improve it, while as many as 26% did not know whether it would or not. The uncertainty was particularly obvious among those who in general used social media to a lesser extent.

In summary, the users based their expectations of the Library 2.0 services on their experience of traditional library services rather than social media experiences. A higher level of social media use did, however, seem to have an increased interest in Library 2.0, but the library context was still highly influential. It could be beneficial for the libraries to focus on the perceptions users have concerning the library to predict expectations and needs rather than to focus on their social media experiences. The public libraries could benefit from finding ways to integrate their strengths, inherent in the physical library service, into the social media context.

8.2.2   Motivations

What are the motivations of users engaging in information activities in the interface between social media and public libraries?

The research literature often divides motivations into extrinsic and intrinsic motivations. Extrinsic motivations are connected to the outcome of an activity, often this is a reward or an increased reputation, but can also be the achieving of personal goals (Cho et al., 2010; McKenzie et al., 2012). In this study, the impact of extrinsic motivations was a little unclear. About half of the respondents did not find,, for example, that any rewards were necessary when contributing to the library catalog. The willingness to remain anonymous also decreases the chances for building reputations. Neither did the popularity of a service seem to be a motivation for the users; they were not concerned whether there were many other users, or if they had to be the one to give the first comment.

Intrinsic motivations are defined as finding an activity enjoyable and interesting in itself; the definition also includes a sense of obligation, and having earlier experiences (Cho et al., 2010; McKenzie et al., 2012). It seemed that these reasons were more embraced by the users in the social media and public library context. That is, the users were moti-

vated by a sense of community, positive experiences of the physical library services, and their general experiences of social media use.

The respondents were asked to motivate why they would follow the library's Facebook page. The answers seemed to be heavily influenced by the library's overall image and role. Although a small group of users thought about the actual use they could make of being part of the library's Facebook page. Thus the impact of the users' traditional perceptions of libraries can be seen.

In the content analysis, the wall posts that received the most comments and likes were considered and an attempt was made to reveal some possible motivations as to why these had particularly captured the attention of the users. It seemed that information related to the local community attracts the users' attention. Users also appreciated visual information (photos) and enjoyable information. It seems that Case's (2012) notion that information is best presented in an entertaining manner is also applicable to library Facebook pages. Users also wanted to know about new services in the library, and literature-related information, which once again indicates the importance and perceptions of the physical library.

8.2.3   Information activities

How do the users intend to utilize social media services in public libraries, and what are the actual information activities of users in this context?

A slight majority of the users supported social media services in the library context; they felt that the libraries should both create their own services and be present on external social media services. When asked directly about one service that is, being connected to the library on Facebook, nearly half of the users reacted positively. With regard to actual use only 6% of the respondents were familiar with and used the library blogs (in comparison with 70% who used the catalog and the library web site).

The findings from the user questionnaire tend to encompass better the first part of this research question, while the second part is better ob-

served in the content analysis. In both investigations, information activities were categorized. The information activities explored in the questionnaires are seeking, reading, communicating, creating, and contributing. In the content analysis, some of these same activities were revealed such as seeking, contributing, communicating, creating, but were also accompanied by informing and mediating. This is a different approach from the work of Chua and Goh (2010), who have also made a distinction between information and social media. They use social media tools as a basis for their categorization while in the present study activities are the starting point; this approach is influenced by the work of Hektor (2001, 2003) and Kari and Savolainen (2003).

There was low intention among the users to engage in the seeking activities enabled by the social media services in libraries (e.g. RSS-feeds, virtual reference, tagging). The users' low likelihood of engaging in tagging is a loss for libraries as research shows that when users created tags, the tags can increase the value and usefulness of library catalogs (Kakali & Papatheodorou, 2010; Lu et al., 2010). Reading or viewing is, on the other hand, the activity that users show most interest in overall. This interest was especially applicable to reading reviews written by other library users. Users only had a moderate interest in communicating activities involving the libraries and social media; although in general they were fond of the communication possibilities available through the Web. They were more interested in connecting with other library users through social media services, but users would rather contact library professionals face-to-face or through email. The intention to engage in creating activities was also modest, particularly as regards writing reviews, but somewhat higher than creating reading lists. Contributing activities such as commenting and rating aroused some interest among users, and over 40% were prepared to spend their time on contributing to the library social media services. They were more reluctant to share reading lists than creating reading lists which might be a result of the anonymity-aspect mentioned earlier.

It seemed that people who engage in contributing and creating activities in general on the Web were also positive to using Library 2.0 services. Avid social media users had, furthermore, the highest intention to utilize social media services in a library context. Nonetheless,, the intention to engage in Library 2.0 services was lower than the actual use of social media overall. In other words, users contributed, created, communicated, sought, and read to a greater extent on the social Web than they intended to do in Library 2.0.

The content analysis shows that the users mostly engaged in the contributing activities that demanded the least effort such as liking. It is also noteworthy that the comments were mainly positive and very few express negative opinions in this setting. Communicating activities were also quite common, although not, however, always written with the intention to start a dialogue. Discussions between users were rare, although the findings from the survey implied a higher interest in this type of interaction. Despite this interest, most discussions taking place involved the library professionals. Information seeking activities also occurred with the users mostly requesting more information on events in the library, the library services, and the collections. Information creating activities were, conversely, almost nonexistent. Users mediated less by linking and more by direct writing of, for example, literature-related quotes. Users also engaged in informing activities, to a higher degree than their seeking activities. They related information about literature, how the library services were working for them, and they also correct mistakes in the information provided by the library or supplied more information. Users rarely informed on topics related to the community, music, art, or performances. One can also presume the users were engaged in reading/viewing activities, but this activity was not measured in this study.

There is scope for developing a higher level of activity among library users, and in this development the information activities of library professionals will play a key role.

8.3 Comparing stakeholders' perspectives of Library 2.0

Library 2.0 is defined as "a change in interaction between users and libraries in a new culture of participation catalyzed by social web technologies" (Holmberg, Huvila, Kronqvist-Berg, & Widén-Wulff, 2009, p. 677). This definition places emphasis on the relationship between users and library professionals, which has earlier been described as an expert-client relationship. In this expert-client relationship the parties are divided into information providers and information users (Hedemark et al., 2005; Tuominen, 1997).

In this study, similarities and differences between library professionals and users have been found. There were similarities in their use of social media services; the number of avid and occasional users among the two stakeholders was adequate and both groups showed interest in the social media. They also engaged in the same information activities, however, not to the same extent. This then leads directly on to the last research question concerning the differences between the stakeholder groups.

8.3.1 Differences

Do users and library professionals differ in their perception of Library 2.0 services and are there differences concerning their information activities in this context?

There were distinct differences in the perceptions of library professionals and library users. They were both part of the social media and public library context, but while the library professionals had been heavily subjected to the Library 2.0 discourse, the users had remained unaware of this development in the library field. The library professionals and users had, in other words, differing Library 2.0 settings in the same context.

The findings from this study pointed to the differences in perceptions. The library professionals were more convinced of the benefits and use of Library 2.0 services than in general the users were. This was made clear from their opinions on the following statement: "User participation by commenting, tagging, grading would make the library catalog better". Half of the users were positive, while as many as 26% did not know. In comparison, over 80% of the library professionals agreed with this statement.

The library professionals were more prone to engage in creating activities while the users were more interested in more effortless and less obvious participation by reading/viewing and liking. The users also engaged more in seeking and communicating activities. It is notable that on the library Facebook pages the users rarely wrote wall posts,

instead they focused their activities on commenting and did not deviate from the subject of the wall post written by library professionals. The users also mainly gave positive comments. This implies that the library professionals direct the interaction and the users follow. In the survey, the library professionals expressed less interest in activities demanding interaction with users. Nonetheless, on the Facebook pages they were often very good at replying to the users' questions and comments. The interest for an activity and the actual performance differs for both the users and the library professionals.

The stakeholders demonstrated some signs of trying to reduce the expert-client relationship; the users were also engaged in informing activities and showed some interest in contributing to the library services. The traditional roles of the library professionals as information providers and the users as information users are, nevertheless, observable and changes in these information practices are slow. The development of information activities and increased interactivity are particularly the responsibility of the library professionals.

8.4 Opportunities and challenges

The Library 2.0 discourse, in the social media and public library context, has been mostly about highlighting the many opportunities of Library 2.0. However, this study, together with earlier research, rather point to the vast range of challenges facing the library professionals in this context. Challenges can, however, be turned to opportunities if they are successfully managed.

The possibility of attracting new users by implementing social media services is very small. Online relationships are built on offline relationships, and it was those who enjoyed the physical libraries who also supported the Library 2.0 services. Social media services in public libraries rather include opportunities to enhance the experiences of regular library users, and a means of developing the library. There are also opportunities related to the transparency of information activities in the social media and public library context. The daily work of library professionals has long remained fairly unfamiliar to the public as regards the extent of the services they provide. However, through social media services such as library Facebook pages library staff are

able to display their activities. The content analysis of the Facebook pages provided interesting insights into the different public libraries. It also provided an evidently more versatile picture of the libraries than can be drawn from traditional library statistics or annual reports. Library 2.0, in other words, can contribute to the justification of the public library activities. There are also opportunities for increased interactivity, however, at the same time it is in connection to this increased interactivity that the main challenges arise.

Interactivity has been seen as more or less automatically synonymous with Library 2.0. The fact is that interactivity demands significant effort and it is mainly considered to be the responsibility of library professionals to assume the lead and guide the interactions. Much is demanded of library professionals and their skills. It is almost unfeasible for one person to live up to the expectations of a Librarian 2.0, and it would perhaps be better to focus on maintaining professional Library 2.0 networks. Another challenge is to understand the information activities of users and the factors that motivate them. On the one hand, social media can facilitate the discovery of some information activities such as creating and contributing, but, on the other hand activities connected to seeking and reading remain difficult to estimate. However, these activities are evidently important in the social media and public library context. The prime challenge is to find the correct balance between social media services and library services, and channeling the strengths of both into a successful Library 2.0 service. It should be acknowledge that this balance appears to be different in every public library, as each has their own unique Library 2.0 situation/ setting to take into consideration. Clear strategies are a good means to start finding this balance.

There are many challenges facing public libraries exacerbated by the fact that they are already struggling with diminishing resources. The key question, therefore, is perhaps continues to be: Is/was Library 2.0 only a fad that can be ignored? If the answer is made by considering the higher purposes of public libraries then social media does certainly serve the library purpose of disseminating culture and knowledge. The fifth law of library science draws attention to the necessity for libraries to be in a constant state of development as a part of society. Furthermore, the legislation and political guidelines that Finnish libraries are required to follow oblige the libraries to develop virtual services. The findings from this study indicate a high level of use of social media services both among library professionals and users, and an adequate interest in Library 2.0 services can be found in both groups. The answer to the question as to whether Library 2.0 can be

ignored is therefore no, even without involving the specific Library 2.0 discourse. Social media in the public library context is now a permanent feature. although a constantly developing feature.

8.5 Limitations

The limitations concerning the thesis as a whole are considered in the following, although the more specific limitations of the methods used have been presented in section 5.3.

This is, as mentioned, an exploratory study and is therefore quite broad. The wide focus on Library 2.0 as a whole means that many important factors are mentioned but the investigations of these factors remains fairly shallow. There are also, in some ways, related limitations to the chosen theoretical perspective of information activities. That is, placing the study in between the information behavior approach and the information practice approach leads to limitations as regards distinguishing a model of Library 2.0 information behavior, or the information practice of Library 2.0. Instead, these approaches have been used rather to guide the recognition and study of information activities.

The material collected for this study has its limitations. It was collected in 2010-2011 and much has occurred during the few years since the study, as a result of the rapid development of the social media. User participation on the library Facebook pages seems, for example, to have increased and more libraries have launched interactive catalogs. The findings indicate that the importance of context and context should also be regarded when attempting to generalize the findings of this study.

This study has been mainly focused on the use and benefits the stakeholders have of Library 2.0 services and important criticism concerning social media has not received adequate attention. This criticism concerns issues of privacy, security, and information divides (Cormode & Krishnamurthy, 2008) that would be important to investigate further.

8.6 Conclusions

The expectations of social media in public libraries have been very high in the library field, and much advocated in Library 2.0 literature. This study depicts a more realistic picture, where user participation is moderate, and the library professionals try to find a balance between social media services and library services.

This study has contributed to Library and Information Science research by following the information in a social media and public library context. Utilizing an information activity perspective may seem a simple and transparent approach, but it has proven to be a useful gateway to identifying the interface between social media, public libraries, and the stakeholders. Furthermore, information activities can be used as a bridge between the information behavior and information practice approaches, and to increase an understanding of the similarities and differences between these approaches. The empirical findings contribute to an exploration of Library 2.0 as a joint platform between users and library professionals. This study recognized a close connection between offline and online relationships. Users base their perceptions of library services on their previous library experiences, which have mainly taken place in the physical library. This study also identifies the significance of library professionals and their information activities in creating successful Library 2.0 services. Consequently, this study can also provide some guidelines to facilitate the everyday work in public libraries. Library professionals often ask themselves what users want, however, considering the findings of this study they should rather ask what are the users doing and how can we foster these activities, online as well as offline.

Finally, the use of Library 2.0 and Web 2.0 as concepts have diminished considerably (Crawford, 2011) but the context of social media and public libraries remain. The use of social media continues to increase as an element of everyday life, and should also evolve as a more integrated part of library services. Social media provides a space where the library can open up and develop their user-centered perspective.

8.7 Application of the findings

The findings of this study can be utilized by public libraries in Finland and in other countries to build strategies and evaluate the use of social media in their specific settings. The study especially contributes to a new perspective on social media by focusing on information activities. This opens up different ways of investigating libraries and their role. Earlier libraries have been equated with collections and buildings, however, this study suggests that the activities inherent in the library context provide a better description. Social media services also allow more activities to be observable and researchable. The line between what was earlier deemed entertainment such as contributing (rating, commenting) has now become as interesting to observe as information seeking, which has always had a prominent place in the information needs, seeking, and use framework. In other words, this study could also contribute to the development of a theoretical framework concerning how people handle information. Information activities are not only a part of the library context, but exist and can be researched in any social media context.

8.8 Suggestions for further research

This has been a mainly quantitative and explorative study into social media and public libraries. Hence, there are many possibilities for further investigations. It would be particularly interesting to investigate the information activities of users using ethnographic methods as this might lead to more knowledge being gained as regards the different levels of participation in the social media. It might additionally help to distinguish information practices in the social media. Interview studies would also provide more depth. Other issues of interest are: the differences and similarities in how organizations' offline and online activities converge, best practices among libraries, evaluation methods, and deeper analysis of information behavior and information practice in the social media context. It would also be important to investigate the negative aspects of social media such as privacy, security, and both the digital and information divides.

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Appendix A: Questionnaire to library professionals

Dear recipient,

This is a survey of social media in public libraries. The aim is to study the expectations, experience and attitudes of library staff towards Library 2.0 services. Library 2.0 services are activities based on social web services that facilitate interactivity between customers and library staff, for example blogs, social networks (Facebook etc.), wikis and interactive catalogs. The questions asked in the questionnaire are both about your own use of social media and your library's use of social media. The questionnaire is sent to all employees of public libraries in Finland Proper. The email addresses have been gathered from Libraries.fi and the libraries' own web sites.

By answering the questions you will contribute to the understanding of social media in public libraries and the library staff's attitudes towards social media. A similar questionnaire will be handed out to visitors at Turku International Book Fair and at Turku City Library to map the customers' attitudes towards social media in libraries.

The survey is a part of a forthcoming doctoral dissertation at the Unit of Information Studies at Åbo Akademi University. It is also a part of the research project Library 2.0 - a participatory context that is financed by the Academy of Finland.

The questionnaire is available for answering 1.10.2010-10.10.2010. All answers are strictly confidential. If you have any questions concerning the questionnaire, please contact research assistant Maria Kronqvist-Berg (MSc) by email: makronqv@abo.fi or by phone: 050-3561992.

Sincerely,

Maria Kronqvist-Berg
MSc, research assitant
Tel: 050-3561992
Email: makronqv@abo.fi

Gunilla Widén
PhD, professor
Tel: (02) 215 4576
Email: Gunilla.Widen@abo.fi

Library 2.0 - Social media in public libraries

This is a survey of social media in public libraries. The aim is to study the expectations, experience and attitudes of library staff towards Library 2.0 services. Library 2.0 services are activities based on social web services that facilitate interactivity between customers and library staff, for example blogs, social networks (Facebook etc.), wikis and interactive catalogs. The questions asked in the questionnaire are both about your own use of social media and your library's use of social media. The questionnaire is sent to all employees of public libraries in Finland Proper. The email addresses have been gathered from Libraries.fi and the libraries' own web sites. By answering the questions you will contribute to the understanding of social media in public libraries and the library staff's attitudes towards social media. A similar questionnaire will be handed out to visitors at Turku International Book Fair and at Turku City Library to map the customers' attitudes towards social media in libraries. The survey is a part of a forthcoming doctoral dissertation at the Unit of Information Studies at Åbo Akademi University. It is also a part of the research project Library 2.0 - a participatory context that is financed by the Academy of Finland. The questionnaire is available for answering 1.10.2010-10.10.2010. All answers are strictly confidential. If you have any questions concerning the questionnaire, please contact research assistant Maria Kronqvist-Berg by email: makronqv@abo.fi or by phone: 050-3561992.

på svenska
suomeksi

Background information

---1. Your gender?---

	man	woman
...	○	○

2. Your year of birth?   select ▾

3. Your job title?   [_____]

---4. How long have you worked in the library field?---

... ○ under 1 year
○ 1-5 years
○ 6-10 years
○ 11-15 years
○ over 15 years

5. How many employees do your library have?   [_____]

6. Your education?

... ○ elementary school
○ intermediate school
○ comprehensive school
○ upper secondary school
○ vocational school
○ institute
○ polytechnic
○ university / college

---7. How experienced computer user are you? Rate on a scale from 1 to 5 where 1 is "unexperienced" and 5 is "very experienced".---

	1	2	3	4	5
...	○	○	○	○	○

Your library and social media

8. Do your library have plans to introduce or has it already introduced Library 2.0-services?

...
- ○ yes
- ○ no (go to question 11)

What Library 2.0-services have you introduced?

9. Which is the main reason for introducing / maintaining Library 2.0 services in your library?

...
- ○ the customers want it
- ○ to develop the library
- ○ to give the library a modern impression
- ○ to market the library
- ○ to keep the library relevant
- ○ other

If you answered "other" to question 9, please specify here your library's main reason:

10. How much of your working hours is needed to manage Library 2.0 services (hours/week)?

11. What is, in your opinion, the main problem with introducing Library 2.0 services?

...
- ○ it is unnecessary
- ○ there is not enough financial means
- ○ library staff does not have the right skills for it
- ○ the library management is critical of it
- ○ there is no time for it
- ○ it is not the library's mission
- ○ other

If you answered "other" to question 11, please specify here the main problem:

12. Which of the following social web services do you use in your work?

- ☐ social networks (e. g. Facebook, IRC-galleria, MySpace, LinkedIn, Ning)
- ☐ blogs
- ☐ microblogs (e.g. Twitter, Jaiku)
- ☐ video-sharing services (e.g. Youtube, Vimeo)
- ☐ music services (e.g. Last.fm, Spotify)
- ☐ podcasts (audio files you can download and listen to)
- ☐ photo-sharing services (e.g. Flickr, Picasa, Photobucket)
- ☐ bookmark-sharing services (e.g. Delicious, Digg, StumbleUpon)
- ☐ wikis (e.g. Wikipedia, Wiktionary)
- ☐ instant messaging services (e.g. MSN, Skype, Google Talk)
- ☐ RSS-readers (e.g. Google Reader, Netvibes)
- ☐ none of the above
- ☐ other

If you answered "other" to question 12, please specify here what other social web services you use:

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13. What is your opinion of the following statements?

	strongly agree	partly agree	partly disagree	totally disagree	do not know
My library invests enough resources in developing Library 2.0 services	○	○	○	○	○
The staff is interested in working with Library 2.0 services	○	○	○	○	○
The library customers are interested in using Library 2.0-services	○	○	○	○	○
Library 2.0-services can attract new customers to the library	○	○	○	○	○
Customer participation (e.g. by commenting / grading / tagging) would make the catalog better	○	○	○	○	○

14. Who has the responsibility for Library 2.0-services at your library?

...
- ○ one of the employees have full responsibility
- ○ a working team has the responsibility
- ○ all the employees share the responsibility
- ○ no one has the responsibility

15. How important do you think it is to offer customers the following possibilities on the Web? Rate on a scale from 1-5, where 1 is "unimportant" and 5 is "very important".

	1	2	3	4	5
rate books / music / films	○	○	○	○	○
comment on books / music / films	○	○	○	○	○
write reviews	○	○	○	○	○
read reviews written by the library staff	○	○	○	○	○
read reviews written by other customers	○	○	○	○	○
participate in book discussions	○	○	○	○	○
create their own reading lists	○	○	○	○	○
tag the collections (assign keywords)	○	○	○	○	○
become fans of the library on Facebook	○	○	○	○	○
comment on blog posts	○	○	○	○	○

You and social media

16. My opinion is that technological changes in general are:
- ☐ interesting
- ☐ troublesome
- ☐ a challenge
- ☐ alarming
- ☐ laborious
- ☐ necessary
- ☐ meaningless
- ☐ threatening
- ☐ entertaining
- ☐ other

If you answered "other" to question 16, please specify here your opinion of technological changes:

17. Which of the following social web services do you use on your spare time?
- ☐ social networks (e. g. Facebook, IRC-galleria, MySpace, LinkedIn, Ning)
- ☐ blogs
- ☐ microblogs (e.g. Twitter, Jaiku)
- ☐ video-sharing services (e.g. Youtube, Vimeo)
- ☐ music services (e.g. Last.fm, Spotify)
- ☐ podcasts (audio files you can download and listen to)
- ☐ photo-sharing services (e.g. Flickr, Picasa, Photobucket)
- ☐ bookmark-sharing services (e.g. Delicious, Digg, StumbleUpon)
- ☐ wikis (e.g. Wikipedia, Wiktionary)
- ☐ instant messaging services (e.g. MSN, Skype, Google Talk)
- ☐ RSS-readers (e.g. Google Reader, Netvibes)
- ☐ none of the above
- ☐ other

If you answered "other" to question 17, please specify here what other social web services you use:

18. What year (roughly) did you first hear about Library 2.0? `select ▾`

19. Where did you first hear about Library 2.0?

... ⊙ I read about it in a magazine / journal
⊙ I heard about it from a colleague
⊙ I heard about it on a lecture
⊙ I saw it on the Web
⊙ som other place

If ypu answered "some other place" to question 19, please specify here from where:

20. Have you received any education / in-service training in the use of social media / Library 2.0 tools?

... ⊙ yes
⊙ no

What kind of education / in-service training (e.g. course, lecture)?

21. How big is your interest in performing the following work tasks in adherence to the library web site? Rate on a scale from 1-5, where 1 is "not interested at all" and 5 is "very interested".

	1	2	3	4	5
write reviews (books, film, music)	⊙	⊙	⊙	⊙	⊙
write about happenings in the library	⊙	⊙	⊙	⊙	⊙
write about subjects related to the library field	⊙	⊙	⊙	⊙	⊙
lead book discussions	⊙	⊙	⊙	⊙	⊙
reference service through chat / instant messaging	⊙	⊙	⊙	⊙	⊙
lead web discussions	⊙	⊙	⊙	⊙	⊙
teach customers about social media	⊙	⊙	⊙	⊙	⊙
develop the library's web services	⊙	⊙	⊙	⊙	⊙

22. Mark the characteristics / roles that describe you as a library employee:

☐ open ☐ up-to-date
☐ expert ☐ co-operative
☐ helpful ☐ strict
☐ producer ☐ consumer
☐ conservative ☐ social
☐ obliging ☐ active
☐ educator ☐ interested in technology
☐ passive ☐ Internet competent
☐ creative ☐ curious
☐ guide ☐ withdrawn
☐ flexible ☐ follow rules

Comments

23. Do you have any other comments concerning library service, Library 2.0 or this study?

Send

`Send`

Appendix B: Questionnaire to users

Social media in libraries

This is a questionnaire survey of people's attitudes towards social media in libraries. It is a part of a forthcoming doctoral dissertation at the Unit of Information Studies at Åbo Akademi University. If you have any questions concerning the questionnaire, please contact Maria Kronqvist-Berg, makronqv@abo.fi.

Maria Kronqvist-Berg   Gunilla Widén

MSc, research assistant   PhD, professor

1. Your gender?   ○ man   ○ woman

2. Your year of birth? _____

3. Your education?   ○ elementary school   ○ vocational school

                                 ○ intermediate school   ○ institute

                                 ○ comprehensive school   ○ polytechnic

                                 ○ upper secondary school   ○ university / college

4. Your hometown? _____

5. How often do you visit a library (a library building)?

                                 ○ every day

                                 ○ 1-3 times a week

                                 ○ 1-3 times a month

                                 ○ more seldom

                                 ○ never

6. How often do you use the Web (Internet) in general?

                                 ○ every day

                                 ○ 1-3 times a week

                                 ○ 1-3 times a month

                                 ○ more seldom

                                 ○ never (go to question 17)

Social web services

7. Which of the following social web services do you use regularly?

☐ social networks (e. g. Facebook, IRC-galleria, MySpace, LinkedIn, Ning)

☐ blogs

☐ microblogs (e.g. Twitter, Jaiku)

☐ video-sharing services (e.g. Youtube, Vimeo)

☐ music services (e.g. Last.fm, Spotify)

☐ podcasts (audio files you can download and listen to)

☐ photo-sharing services (e.g. Flickr, Picasa, Photobucket)

☐ bookmark-sharing services (e.g. Delicious, Digg, Stumble-Upon)

☐ wikis (e.g. Wikipedia, Wiktionary)

Continues onto next page...

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☐ instant messaging services (e.g. MSN, Skype, Google Talk)

☐ RSS-readers (e.g. Google Reader, Netvibes)

☐ none of the above

☐ other, what?
_____
_____
_____

8. How often do you...

	very often	quite often	sometimes	seldom	never
write your own blog posts	○	○	○	○	○
comment on other blogs	○	○	○	○	○
read blogs	○	○	○	○	○
comment on newspaper articles	○	○	○	○	○
grade books / articles / pictures	○	○	○	○	○
tag (describe e.g. a picture with keywords)	○	○	○	○	○
upload pictures / videos	○	○	○	○	○
look at pictures / videos	○	○	○	○	○
use discussion forums	○	○	○	○	○
use instant messaging (e.g. MSN, Skype)	○	○	○	○	○
read e-books	○	○	○	○	○
seek information	○	○	○	○	○
visit a 3D world (e.g. SecondLife, Habbo Hotel)	○	○	○	○	○
play online games	○	○	○	○	○

9. How do you like the following activities on the Web? Rate on a scale from 1 to 5 where 1 is do not like it at all and 5 is like it a lot.

	1	2	3	4	5
watch / read what others have done / written	○	○	○	○	○
create (write) something yourself	○	○	○	○	○
seek information	○	○	○	○	○
communicate with others	○	○	○	○	○

Library services

10. Which of the library´s web services have you used during the last twelve months?

☐ the library's web site

☐ the library catalog (e.g. Vaski)

☐ the library's blogs (e.g. Musta naakka, Sivullinen Stooreja, Musasto, Sähköinen kirjasto, Verkko haltuun)

☐ the library's databases (e.g. Naxos Music Library, Press-Display, ePRESS, Nelli)

☐ none of them

☐ other, what?
_____
_____
_____

11. Which of the following attributes are important in a library catalog on the Web?

☐ fast

☐ reliable

☐ secure

☐ possibility to influence the content

☐ fun to use

☐ multilingual

☐ up-to-date

☐ easy to use

☐ graphically appealing

☐ many users

☐ can be accessed with several devices (mobile phones, e-readers etc.)

12. Which of the following activities would you want to be able to do in the library catalog / on the library web site?

☐ rate books / films / music

☐ comment on books / films / music

☐ write reviews

☐ read reviews written by other customers

☐ read reviews written by library staff

☐ participate in book discussions

☐ create your own reading lists

☐ share your reading lists with other customers

☐ tag the content (assign keywords)

☐ subscribe to RSS-feeds about news etc.

☐ participate in discussions about the library

☐ get to know others with similar interests

☐ ask the librarian questions by chat / IM

☐ none of the above

☐ other, what?

_____

_____

_____

13. What do you think of the following statements?

	strongly agree	partly agree	partly disagree	totally disagree	do not know
I wish to remain anonymous commenting on a book in the library catalog on the Web	○	○	○	○	○
I could imagine using my time to comment on books in the catalog	○	○	○	○	○
I would only comment on a book if someone else did it first	○	○	○	○	○
Customer participation (e.g. by commenting / grading / tagging) would make the catalog better	○	○	○	○	○
It would be fun to participate in the catalog	○	○	○	○	○
It would be laborious to participate in the catalog	○	○	○	○	○
I do not need any form of reward for participating in the catalog	○	○	○	○	○
It is important that the library have rules for what customers write in the catalog	○	○	○	○	○
The library should offer services through various social web services (Facebook, Twitter, Flickr, Skype etc.)	○	○	○	○	○

	strongly agree	partly agree	partly disagree	totally disagree	do not know
The library should build their own social web services for library customers	○	○	○	○	○
In my opinion the library does not need to offer social web services at all	○	○	○	○	○

14. Are you or would you consider becoming fans of / friends with the library on Facebook?

○ yes, why?
_____
_____
_____

○ no, why not?
_____
_____
_____

15. In what way would you prefer to contact the library staff?

○ face to face in the library

○ call the library by phone

○ write email

○ write comments on the library blog / Facebook page

○ by instant messaging (e.g. MSN, Skype)

○ by SMS

○other, how?
_____
_____

16. How do you think the library staff should present themselves on the library web services?

○ name and contact information

○ picture, name and contact information

○ under a pseudonym, e.g. using nicknames like "Libby Librarian"

○ they can remain anonymous

17. Do you have any other comments concerning the library, web services or this study?
_____
_____
_____
_____

Thank you for your valuable participation!

Maria Kronqvist-Berg

Social Media and Public Libraries

Exploring Information Activities of
Library Professionals amd Users

Social media has gone from being a buzzword to
being a part of people's everyday lives, as well as,
a part of the daily work of different organizations.
This study explores the interface between public
libraries, users, social media, and the inherent infor-
mation activities.

The theoretical framework builds on research con-
cerning information behavior, information practice,
and information activities. The empirical investi-
gations included questionnaires among library
professionals and users, and a content analysis of
public library Facebook pages.

One of the main contributions is the mapping of
seven information activities found among library
professionals and users. These information activities
help to draw a realistic picture of the social media
and public library context. The study also contribu-
tes to an increased understanding of the relation-
ship between library professionals and users, and
their different perceptions of the interface between
social media and public libraries.