User Experience in Online Social Networks: A Qualitative Analysis of Key Activities and Associated Features

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Abstract
Social networks have recently been identified as the most popular form of communication online. Research across a set of academic disciplines examining the nature and implications of this popular medium has begun to emerge. The importance of the network structure as well as the behaviors and motivations of member individuals and organizations are gradually becoming better understood. However, there is relatively little work to tie the behaviors of individuals with specific features in social networks, particularly given the complexity of considering multiple devices and contexts for use. We describe an analysis of the rich data obtained through 86 qualitative interviews on social network features and how they are valued by users. Key user activities are identified and related to specific social network features. The results could help to inform the ongoing discussion about "monetization" of social networks.

1. Introduction
Social networking websites have become an essential part of the daily communication patterns for many individuals. Recently, social networking has been reported to surpass Email in use [1]. Facebook, MySpace, YouTube and others draw large audiences that actively participate in social interactions supported by these web applications. Surprisingly, there is still widespread debate about the value of these websites. Many users pay nothing to access the wide range of content and community available on social networks. Instead, revenue generation in this new medium has been attempted with advertising, virtual goods and other creative methods. Anecdotal evidence suggests that the results of these diverse revenue models have been mixed, including significant numbers of failures alongside the successes [2].

2. Social Networking Research
Academic and industry researchers have begun to investigate social networks using a wide variety of quantitative and qualitative methodological approaches and building on numerous academic disciplines [3]. Among business disciplines, Marketing and Information Systems (IS) researchers have been especially active in the study of Human-
Computer Interaction (HCI), online communities and the experiences of consumers.

In considering future research directions, the HCI research community is looking to social networks as a “rich area” for additional research because of the multiplicity of tools and the variety of interactions, objectives, functionalities and communications available[4,5]. Similarly, in their analysis of social network research in IS, Oinas-Kukkonen, Lyytinen and Yoo [6] describe three streams of IS research using social network approaches: organizational and individual network awareness, organizational uses of information technology involving network analysis, and platforms for managing social networks.

Much of the experienced value of these websites stems from the social interactions for which they were created [3]. While considerable IS research has been already dedicated to the acceptance and adoption of IT tools [7], more recent studies have an interaction-centric view of the related artifacts [8].

Whether beginning from the social network perspective, or from the HCI perspective there is a common prediction that “new research challenges” are emerging in this area due to the rapid evolution and spread of digital technologies across the physical world [4,5,6]. The use of social networks is no longer in a single location or on a single device, but is in fact spread over time and space and across multiple devices.

3. Experiential Computing

Yoo [9] calls for new streams of research centered on the new experiences created by this complex and evolving environment along with the advancement of technology artifacts. The experiential computing framework supports the advancement of research on computing in everyday life experiences. In this framework, the digitally mediated experiences of people are understood through the four dimensions of space, time, actors and artifacts.

The notion of experiential computing in the IS literature can be aligned with recent research on experiences in the marketing domain that seeks to identify the actions, interests and the resultant perceptions of value of end users [10]. Online customer experience has been defined as “cognitive and affective impressions formed as a result of online customer-organization interactions,” [11]. In other words, the interactions that take place between consumers and online social networks form experiences as expressed as thoughts and feelings. Studying the nature of the features of an online social networking platform, their associated activities, and perceived value of these interactions therefore encapsulates an overall user experience. While the majority of research conducted in this area has involved consumer or customer interaction with e-retail websites [12, 13, 14, 15] little has been done to explore user experience in online social networks [16,17].

As Yoo [9] observes: “in the context of experiential computing, it will be more meaningful to examine the mobilization and remobilization of entanglement of artifacts and activities than to study a discrete adoption decision for a single IT tool”. An experiential computing view of social networks should consider the interplay of the four dimensions described by Yoo. More and more, social networks are accessed across a range of time and spaces, since artifacts like handheld devices can now keep users connected constantly and everywhere. The actors themselves can also be considered as different, since they may represent themselves in unique ways using this technology. The relationship between individual actors is especially transformed by the adoption of a social networking mode of interaction.

The experiential computing viewpoint may help to unify the HCI work in the MIS and Marketing disciplines, since it suggests a single structure that includes elements of user experiences from both disciplines.

4. Methodology

Online social networks lend themselves naturally to qualitative modes of enquiry. Such networks are inherently social which benefits research in a number of ways. It promotes user engagement, especially where personal networks are used as the sample and are therefore opt-in. The same feature can ensure that the research becomes viral.

In this study we sent initial requests to 43 individuals in the authors’ social networks. We found members of our network were quick to promote the work to their associated networks. This method expedited the collection of data over a short time frame yielding a 200% response rate in less than 48 hours. As the sample is part of an existing social network of college
students we also found that it promoted the collection of richer and more detailed responses. Users appeared to take ownership of the research and the novel way in which it was being conducted which perpetuated the collection of additional data from other members of other networks. We also found that the social nature of the research approach engendered user engagement with the findings which continued after the initial data collection process. This led to further sources of information based on the reflections of participants.

To facilitate dependability and credibility of the research findings [18] results were coded independently by the two researchers and key findings negotiated until we had a list of agreed upon master codes or themes. To facilitate this process NVIVO9, a qualitative analysis package, was used to help classify and categorize themes and generate a set of illustrative master codes for each theme. Frequency counts were also employed throughout the process to demonstrate credibility of the findings. Recognizing the natural limitations of such a qualitative approach the results were then returned to participants for scrutiny and further comment.

8. Results

Although the principal questions were about the features that were used, the respondents described a rich context for the use of these features that points to a complicated set of motivations and reasons for engaging in social networking. The co-coding process suggested a who, where, what and why of social network use. This baseline data will be presented first, followed by a discussion of how these factors work together to provide a more complete understanding of the value of the social network.

8.1. Where? The networks

Table 1 lists the 19 social network websites mentioned by respondents. These sites are divided into general, blogging and pictures by the authors.

<table>
<thead>
<tr>
<th>general social networking</th>
<th>blogging</th>
<th>pictures/video/music</th>
</tr>
</thead>
<tbody>
<tr>
<td>facebook</td>
<td>blogger</td>
<td>flickr</td>
</tr>
<tr>
<td>myspace</td>
<td>live journal</td>
<td>last.fm</td>
</tr>
<tr>
<td>friendster</td>
<td>xanga</td>
<td>model mayhem</td>
</tr>
<tr>
<td>hi5</td>
<td>honeeyee</td>
<td>youtube</td>
</tr>
<tr>
<td>linked in</td>
<td></td>
<td>webshots</td>
</tr>
</tbody>
</table>

Table 1: Online Social Networks Mentioned

8.2. Who? Friends of all kinds

Social networks deliver a novel experience in finding, developing and maintaining relationships. Social networking websites often use the word "friends" to represent the contacts that a user configures in their individual network. Table 2 lists the responses mentioned, different categories of people with whom they interact: friends, family, business contacts, classmates and more. Indeed, some individuals indicated that their network connections were not all people that they would like to actively interact with. The ability to manage a diverse group of connections or friends is one of the defining characteristics of these networks.

<table>
<thead>
<tr>
<th>Kinds of friends</th>
<th>Other groupings</th>
</tr>
</thead>
<tbody>
<tr>
<td>friends</td>
<td>family</td>
</tr>
<tr>
<td>just friends</td>
<td>common interests</td>
</tr>
<tr>
<td>friends of friends</td>
<td>classmates</td>
</tr>
<tr>
<td>long lost friends</td>
<td>opposite gender</td>
</tr>
<tr>
<td>sketchy friends</td>
<td>business contacts</td>
</tr>
<tr>
<td>friends that are far away</td>
<td>people not in another network</td>
</tr>
<tr>
<td>international nature</td>
<td></td>
</tr>
<tr>
<td>old acquaintances</td>
<td></td>
</tr>
<tr>
<td>new acquaintances</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Who respondents interact with

8.3 How? The Features

Features on social networking websites have evolved considerably from their early beginnings as dating websites [3]. They define the user interface that enables users to accomplish all of their explicit and implicit activities. When asked about the features that are most valuable to them, respondents listed 42 different features as essential parts of their experience. Table 3 summarizes these features in three categories: content, notification, privacy. Because data collection began before the widespread use of "applications", they were not included in the results.

<table>
<thead>
<tr>
<th>Content Features</th>
<th>Notification Features</th>
<th>Privacy Features</th>
</tr>
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<tbody>
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<td></td>
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8.4 Why? The Activities

In many ways, the activities mentioned in the responses represent the true value of social networking sites. Users do not approach a website with a specific feature in mind, but rather with a specific goal, even if that goal is simply to waste some time. Figure 1 depicts the set of 7 core value activities revealed by the coding process with several subcategories activities within each one.

### 8.4.1. Keeping in Touch (59 Respondents, 117 Mentions)

The ability to maintain contact with members of a social network was also cited as a key driver of value by participants. Resuming contact with old acquaintances was frequently cited by participants. Of similar importance is the ability for an online social network to maintain contact with current members of a social network. The ability to stay connected, the frequency of connections, and the reach across different social spheres was also mentioned. Other drivers of value include the feeling of permanence of contacts made, the ability to use the technology to relive shared experience and the visual nature of being able to see the scope of a personal network. Finally participants made reference to the importance of the scalability of connections, being able to maintain contact with a greater quantity of people.

### 8.4.2. Organization (58 Respondents, 134 Mentions)

One of the main activities mentioned by participants concerns the use of social networks for...
organizational aspects. Common to this activity is seeing a social network as a portal for categorizing and managing relationships. The ability to search existing personal networks, and providing convenience and efficient ways of communicating with members of ones network were key features of the value of this activity. Participants also made reference to the archive nature of the network which enabled users to more effectively organize their lives online. Enabling users to remember and recall aspects of their relationships online was also a frequently cited value. Effective coordination between online worlds and their off line lives was further identified as a key benefit of using online social networks.

8.4.3. Sharing (49 Respondents, 78 Mentions) Sharing by members of the social network was another key feature of value reported by participants. The ability to be selective, control privacy and converse securely were determinants of value in this category. The infinite nature of capacity to be able to share experience was also cited in the study, as was the viral nature of word of mouth which enables users to extend their reach with shared experience. Shared experience also speaks to a sense of shared culture by participants, a seen and be seen. Common content shared by members of the network include pictures, humor, personal interests, media and shared experience.

8.4.4. Finding People (44 Respondents, 65 Mentions) Another key source of value mentioned by participants involves the ability to find new members of a network. Common denominators include similar interests in the areas of career ambitions, love, work or general interest. Responses spoke to the social acceptance of using online social networks for introductions to new friends or contacts, enhancing what is known about an existing connection, and for completing 'partial pictures' of acquaintances. Another key feature of this category is visualizing interconnections between members of the social network. Many spoke of using this to find new friends or contacts. Enabling a sense of community, and being able to participate in a wider community of interest was also identified as of value to a number of users.

8.4.5. Self-Image (43 Respondents, 82 Mentions) The portrayal of self image in online social networks was another key feature of value mentioned by participants of this study. The ability to customize, control and express aspects of ones self image through multiple features of the technology were highlighted. Participants demonstrated acute self awareness in how messages, status updates and postings contribute towards others perceptions of self. Being able to control self image was seen as important. Being able to garner feedback another. The dynamic nature of controlling self image that enabled sensitivity to mood and the ability to share experience was also identified in the study. Finally participants spoke of the all inclusive nature of presenting self online as being of value to their use of an online social network.

8.4.6. Entertainment (31 Respondents, 51 Mentions) Entertainment was identified as a sixth category of value in using an online social network. Some likened their use of the network as a form of escapism. Others identified the voyeuristic or 'stalking' nature of the system in following people or exploring experience privately. A number also commented on the addictive nature of the experience, features of this include random and often unexpected entertainment value.

8.4.7. Getting to Know (31 Respondents, 40 Mentions) Finally, participants in the study identified the relevance of getting to know someone using an online social network. Speed of enquiry, depth of understanding and the process being deemed socially acceptable featured in participants responses. The process was also deemed to be safe in a number of responses.

9. Discussion

Coding of responses yielded four core activity clusters comprising; managing cyber relationships, organization/communication/contact management, self image/sharing, and entertainment. Each of these are explored together with representative quotes from participants. Finally, the association between these activity clusters and a set of corresponding features is addressed.

9.1. Managing Cyber Relationships

The data indicate that the most important element in social networking is the management of relationships. Interestingly, the relationships and the technology features have co-evolved to be quite different than those from only a few years ago. Social computing features eliminate the traditional barriers of time and space to create and maintain connections among people. Thus, individuals are able to manage much
larger, more diverse networks of contacts than ever before. The coded data revealed that our respondents consider the process of electronic relationships as having three stages: Finding People, Getting to Know and Keeping in Touch.

The process of finding old acquaintances or discovering new ones has been transformed by the searching, categorization of networks, recommendations technology and viral aspects of these networks. boyd [19] identifies searchability as one of the defining characteristics of social networks. When an individual is "friended" by one person in a group, the notification that goes to other group members will often result in many more connections being made. Similarly, the ability to discover individuals with similar friends, music interests or group memberships enables new relationships to be readily established. Our results indicate that users consider this one of the primary value propositions for these web applications. More than half of the respondents (44) indicated that Finding People was a key value for them. Individual responses indicate both that this finding functionality is considered a simple necessity, but also that it serves more complex social needs for interacting and identifying with a specific group of people:

"Ability to search/sort users by sex, age, location….etc. - makes it easy when you are trying to find someone."

"Networking sites such as facebook and myspace allow you to easily find people near you and it is an easy way to make friends before you meet in person. Being able to search location is a definite, because I don't want to just network with people from anywhere [sic], I like to know where they are from, which can be a good subject for conversation... and you also can see pictures of the person which can actually give a person a lot of information about that person based on their appearance and who their friends are. Also with these sites you can see information about the person and see if you have anything in common...."

Once connected, the relationships between two people are nurtured through a large set of available communication tools ranging from wall posts to direct messages. Our respondents valued Getting to Know (mentioned 40 times by 31 individuals), and Keeping in Touch (mentioned 117 times by 59 individuals). The responses demonstrate clearly that these new, large networks are more diverse than their predecessors. Users are actively employing the same websites to communicate with their significant others, their families, their classmates (old and new), their work peers and even their future employers. In fact, several respondents indicated that they are connected to "friends" with whom they do not want to actively communicate or share information (this may be due to the social implications of denying a friend request).

Active users of these technologies have developed an implicit understanding of the ways to utilize them to maintain different levels of openness with different kinds of contacts. For example, adding a wall post might be appropriate method for initial contact (say to thank the person for making a connection), while commenting on a picture could be considered creepy. These social norms are learned relatively quickly and they are widely understood.

"Socially Accepted: Facebook is a very socially acceptable way to contact somebody you might not know, but would be interested in meeting. Contacting somebody out of the blue on AIM or email is not socially accepted right now. It is a very interesting phenomenon."

"...these are just nice, a lot of times safe ways to meet people. The only downfall is there are some sketchy people out there that you do have to watch out for. After networking one can exchange aol screen name information and actually talk to other which is a definite plus. I find the ability to see what others interests are to be of high value along with the pictures. It helps to give the users a more comfortable setting when they go to network. Another thing that holds value to me is seeing what hobbies people have and their choices in movies and books, which often helps me to see if I can get along with the person."

"messages: This feature is a lot less invasive than IMing or emailing someone that you don't know all that well. I've used it to ask a classmate a question about class who would recognize me from my facebook picture and not get the heebie jeebies like he or she would if I had sent an IM out of the blue. In addition, sending messages helps to keep in touch with friends. Some people now use facebook more regularly than AIM. As a
result, some prefer a Facebook message over an IM message (especially with the heavy use of away messages, AIM disconnections, and the like, which can prevent someone from receiving your message)."

Another means to deal with the diverse audience online are privacy tools. These provide an ability to make available only specific information to certain groups or individuals. These tools continue to evolve as social networking providers better understand these requirements. Our respondents show that online relationships are more nuanced and complicated than those elsewhere. Privacy is not a simple requirement, but a more complex one given these new forms of groups.

### 9.2 Organization/Communication/Contact Manager

Due to their popularity, as well as their comprehensive set of features, social networks have supplanted some existing organizational/calendaring systems like Microsoft Outlook for some situations. Respondents indicate they visit Facebook, for example, before other sources to find the cellphone number or instant messaging information of a friend:

"Contact info. The primary interaction I have with the vast majority of my 'friends' on SNs is trying to get in contact with them as quickly as possible even if I don't know much about them or haven't talked to them in a while. Built-in message-systems that do not alert the person are often too slow, so I prefer to email people directly, but use SNs as a sort of live directory where people will most often keep their entries updated."

The network effects of social networks is particularly relevant when they are simply considered as communication tools. Because they are so popular, and because they integrate with handheld technology, there is a growing expectation that users will have almost constant access to their social network.

"The reason why I am actively involved with social networking is it allows me to connect with other individuals 24 hours a day."

### 9.3 Self Image and Sharing

The ability to represent self image inside an online social network is increasingly seen as key to the provision of value for many users [20,21]:

"Sharing personal information such as favorite movies, books, or quotes allows me to describe myself better as I know that some of the movies, books, and/or quotes that I provide are a representation of myself."

Users often spend time crafting their personal brand on social network sites. The see and be seen aspect of the network is key towards feelings of personal engagement and is a key factor in maintaining online relationships. Customization is of critical importance:

"Customizable profiles- Whether its the 'bling bling' additions that Myspace offers, or the simple change your profile picture capabilities that the Facebook provides you, customizable profiles are great. It can represent your face, feelings, personality, ego...whatever it may be!"

Updating and maintaining ones personal brand in an online social network is also seen as a value adding activity of its wider use:

"Profile maintenance: I update my profile as my interests change, if I move, if I find a new quote I like, or my contact information changes. Updating this information helps people stay in touch with me by making it easier to contact me through various methods, such as phone and email. Also, if people have a better idea of my current interests they can see if they have anything in common with me, such as a favorite movie or book."

Conversely, users of online social networks are increasingly aware of privacy issues linked to sharing their personal information – value is seen in the ability to alter, or remove content which expresses aspects of self image:

"You may notice that I recently scraped my Facebook profile clean of most information. I also de-tagged any photos that had my name. This was in case employers somehow have access to Facebook, I've heard stories-drinking pictures being used against people in the interview process. None of their bloody business if you ask me!"
9.4 Entertainment

Entertainment features largely in consumers perceptions of value in social network participation beyond having an expressed purpose of communicating with a network. For many, a social network is a place to spend time browsing others profiles and interacting with people in an online setting, which derives for most a sense of entertainment value. Pictures are a key component to entertainment in the value that they provide.

“I may randomly need some entertainment one day, so hey, might as well aimlessly browse through some of my friends' photos and see what random acts of stupidity they're involving themselves in. Other times, it's just nice to be able to have that accessibility of photos, sharing them from person to person, and everything else.”

Another key feature of the use of photos is what many participants referred to as 'stalking.'

"Stalking"-A lot of people, and don't let them tell you otherwise, will use Facebook as an outlet to find all sorts of characters that are roaming the campus at RIT. It's quite entertaining actually and can pass quite a bit of time. That creepy kid who sits behind you? Yeah, now I know where he's from and why he is the way he is. I guess it's just America's tendency to want to know everything about everyone because our own lives aren't interesting enough. I'm probably the same way.

"like to use other people's profiles to find pictures from events that I attended or just to look at the stupidity of drunk people and wonder why they would post such pictures on a website where they could potentially lose their color or dignity. Or for merely a laugh at random people."

Being able to personalize aspects of a personal representation on an online social network platform is also a form of entertainment for many.

"I got addicted! – It's easy to use and you can change the color, font, design, frame, tags, add pictures, songs and so on."

9.5 Associating Activities and Features

The activity clusters developed above represent key value propositions associated with online social networks. One reason for the remarkable growth in the use of online social networks is that these all of these activities are supported in a single interface. That is, large-scale social networks like Facebook have become a single online destination where users can pursue all of these tasks. The responses in this study are highly correlated across the four activity clusters, indicating that respondents report using more than one of these activity clusters.

Most recently, social networking features have found their way into a wide variety of websites and software systems. In addition, online social networks like Twitter emphasizing only a small feature set have gained a large audience. Determining the value proposition for these applications will benefit from an understanding of the users, their main activities and how those activities are supported by the implemented features.

Figure 2 depicts the association between the four activity clusters and the 10 most-frequently mentioned features. Each bar indicates the frequency with which a response coded with a particular activity cluster also includes a mention of the associated feature.
These associations support several important findings: For one, the dominant feature identified by respondents was pictures. This is particularly interesting given the decision by Twitter to have only a single profile picture for each user. It is perhaps not surprising that a set of related websites for associating pictures with a twitter account have emerged (e.g. see twitpic.com, tweetphoto.com, pingwire.com, crowdreel.com).

Respondents participating in the management of relationships most often used the search, pictures, (public) wall posting, and (private) message features. This particular feature sequence suggests viewing relationship activities as a process from searching for more information, reviewing pictures, communicating publically and finally ending with private communication. Organizational activities were most associated with the events, (private) message, (public) wall posting and groups features. Self-image activities were associated with pictures, profiles, (public) wall posting, and (private) messaging. Finally, users pursuing Entertainment most commonly mentioned pictures, (public) wall posts, events and (private) messages.

10. Conclusions

This paper explores the activities and features and the context for user experiences in online social networks. We adopt the experiential computing viewpoint in considering the complex interplay of actors, artifacts, time and space. The results demonstrate for the first time the set of users key activities and the technology elements that support them. The rich dataset includes consideration of new groups and categories of actors, novel uses for social networking technologies and new insights into the reasons for use.

A number of implications are noted; first, that by better understanding these activities, managers are more able to engage, provide value, and learn from end users. Second, that an understanding of user experience provides opportunities to enhance or innovate additional features or services that may in turn lead to monetary reward. A number of research opportunities arise from this initial qualitative approach. Of interest to practitioners and the academy alike would be an empirical study that examines the relative importance of various features and activities, and the performance of their experience. This would provide potential insights into linkages between antecedents, experience of features and activities, and their consequences. Finally, further research might explore user experience across different forms of online social network.

11. References


