

TALLINN UNIVERSITY  
Institute of Informatics  
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Ivo Kiviorg  
FUNCTIONS OF ONLINE COMMUNITIES  
Master's thesis

Supervisor: Mauri Kaipainen

Author: ..... “ ..... ” ..... 2009

Supervisor: ..... “ ..... ” ..... 2009

Head of Institute:..... “ ..... ” ..... 2009

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## **AUTHOR'S DECLARATION**

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The thesis was completed under the supervision of Mauri Kaipainen  
on 4<sup>th</sup> of May, 2009.

Author

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## **ABSTRACT**

Internet-based communities and social interaction represent the cusp of a paradox not yet well understood. The author asked, what do online communities offer to their members and what are the functions that tie people together in online communities. Derived from these research questions, the primary objective of this thesis was to find an appropriate approach to study these areas of interest. The author acknowledged that online communities must still function as a group and it was possible to apply methods for group studies for online communities. Based on previous studies, this thesis integrated different concepts for studying functions of groups into a single measure for online communities. Initial concepts were designed and tested. The author also provided descriptions for factors that originated from data analysis, describing answers to initial research questions. However, these functions can only be used to describe the online community that was used in testing. Despite that, findings clearly show that this approach is appropriate to study online communities. Suggestions for future research are discussed.

Keywords: online, offline, communities, group functions, computer-mediated communication

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# 1. INTRODUCTION

Although ARPANET was initially envisioned as a network of computers, the development of e-mail soon after the implementation also allowed connections between people (Licklider & Taylor 1968). In the beginning of 1980s, dial-up systems like the Whole Earth 'Lectronic Link (the WELL) were already providing a community experience for its members (Rheingold 2000). The phenomenon of online communities started to spread and scholarly attention to it grew.

Today there is abundant choice of new media literature with many theoretical analyses and empirical studies of online groups. At first there were insider and outsider looks at online groups using various online tools, for example IRC (Reid 1991), MUDs (Dibbell 1993; Bartle 1996), and bulletin boards and forums (Van Gelder 1996). Diversity and variety of online groups allowed ethnographic research, study of cultures and interaction differences (Baym 2000; Cherny 1999; Slater 2003). A parallel stream of studies set out to examine the ways in which existing local communities employed the new medium in discussing pressing issues and building stronger bonds among citizens and neighbors (Mele 1999; Schuler 1996; Uncapher 1999). A third area of active research served business organizations that wanted to use the online community to stimulate team work and productivity (Mynatt et al. 1998). A fourth area of discussion of the online community has developed to consider the use of the Internet in social support (e.g., Constant, Sproull, & Kiesler 1997; Preece 1999), and also the social-psychological impact of online interaction on the individual's psychological well-being (Kraut, Patterson, Lundmark, Kiesler, Mukopadhyay, & Scherlis 1998). And

subsequently e-businesses took this same point of departure and evolved it into a marketing strategy (Kim 2000; Preece 2000). Additionally, the phenomenon of online communities led to the idea of social software (Webb 2004) and even attempts at designing audiences and communities by mechanisms of social software (Kiviorg 2006).

Contrary to all these empirical research orientations were philosophical debates about the good and the evil that this new form of social life might bring. Much of the earlier work on online communities focused on the supposed “killer implication” of the new medium, the one great impact that would define its significance for the future (Feenberg & Bakardjieva 2004). McLuhan’s postulate, “the medium is the message”, has haunted these efforts. Feenberg & Bakardjieva (2004) ask if, as it is believed, the print medium had made its culture individualistic and linearly thinking (Ong 1982), and television had brought about a fragmented sensibility and the impulse to “amuse ourselves to death” (Postman 1985), what would be the profound transformative “message” of the online community?

At the outset, online communities grew out of existing professional networks and groups, but they eventually surpassed these origins to offer a new social space for people: people with diverse backgrounds and interests to come together as equals, as generators of ideas, to debate and act collectively, and, in some cases, to remain together in long-term association. It is especially significant that those who regularly participate at present are regular people, not exclusively computer professionals or the educated and selected élite of earlier times (Feenberg & Bakardjieva 2004). More and more recent Internet users tend to be female, young, less educated and lower in income. The Pew researchers concluded in their 2001 online group participation studies that “not only are cyber groups a magnet for Internet users, they are especially attractive to novice Internet users” (Pew 2001). Online groups represent one of the great democratic achievements of recent technological development. They illustrate compellingly the possibility of “democratic rationalization” of technology by users themselves (Feenberg 1999). Furthermore, online groups represent an alternative path of development for computer networking that is different from the nearly-complete commercialization that has befallen earlier communication technologies, such as radio and television (Feenberg

& Bakardjieva 2004).

Feenberg & Bakardjieva (2004) agree that there is a precedent for this development. Communication technologies stand at a peculiar interface between the technical culture of those who create them, the commercial interests of those who produce and market them, and the everyday life-world of ordinary users. Studies of the early history of the telephone, radio and television testify to the desire of these users for additional channels of reciprocal communication, new ways of interacting and new forms of community. In the case of the telephone, initial resistance gave way to support for unanticipated usage. However, radio and television broadcasting crowded out other applications and centralized control over the form and content of these media. The Internet is now a battlefield on which similar impulses contend. The online community arose from the margins of the medium, intruding on its original information-centered design from various sources such as bulletin boards, newsgroups and early computer conferencing systems. With the addition of this unanticipated communication layer, the technology addresses a wider range of human needs and potentials (*Ibid* 2004). The author will leave to the future the questions whether this will lead to the aforementioned “killer implication” and fulfill the world-transforming promise, or realize the dystopian fears of early speculation. The fact is that what the Internet offers is a flexible communicative space that can be construed and bent in an infinite number of ways by sufficiently motivated groups of people. The implications and significance of what these groups build depends on the shape they give to the space they create, and the relationships produced within it (*Ibid*, 2004).

Stone has argued that online communities are “incontrovertibly social spaces in which people still meet face-to-face, but under new definitions of both “meet” and “face-to-face”” (1991). However, the idea that groups of people exchanging messages in cyberspace can form “real” (this means –“psychologically rewarding”) relationships and communities has not been universally accepted. An early complaint was that online communities, although looking to all extents and purposes like a real community, were actually pseudo-communities. The essence of a pseudo-community is lack of sincerity or genuineness (Jones 1995) — a pattern of relating that, although looking like highly interpersonal interaction, is essentially impersonal (Beniger 1987).

Indeed, Internet-based communities and social interaction represent the cusp of a paradox not yet well understood. The author prefers to approach from the standpoint, that forty years after Licklider and Taylor (1968) first envisioned virtual communities, and 15 years after Rheingold (2000) popularized the concept, online sociability is a fact of everyday life. As Rheingold noted, “It’s hard to sympathize with the charge that all online relationships are unreal when you’ve stood in front of a person’s friends and family at their funeral” (2000). In a similar vein, Haythornthwaite, Wellman, and Garton argued that “the question of whether or not one can find “community” online is asked largely by those who do not experience it” (1998).

Online communities have become so common that it is hard to question that they can be used for several collaborative, knowledge management, supportive or even advertising purposes. There are countless online communities for the purposes of teaching and learning, different subcultures and lifestyles, music, business, technology, and just wasting your time. Additionally, commercial interests have increased and there are many futuristic ideas — for example, ideas of future media, where the “article” or “story” would be the result of collaborative work.

Participation and communities are the fundamental components of many new ideas. This has led to “community design” theories for building, designing and managing online communities. Many of them are built upon the design aspect, following the footsteps of Jennifer Preece (2000). The main problem with most of these ideas is that they all fall upon the assumption that people just want to participate. This is mostly true. After all, one can see that people really do participate in a great variety of different online groups and activities. People react to praise and blame, they want to be in groups, to share and be social — even if they are in one group with a computer (Reeves, Nass, 1998). But the fact is that we actually have no clear idea of why people would want to participate in online groups.

Of course, researchers have noticed that. Already there are studies which mainly try to approach from the "results side" — trying to find out what people benefit from

participation. Most interesting works in that area are the studies considering the different types of knowledge or social capital (Williams 2007). These all still constitute a work in progress with many interesting findings, but nothing conclusive or ultimate yet.

The current work tries to approach from the "initiative side". Therefore the author will leave out all design, usability and commercial aspects, e-learning studies, network theory related works, and will concentrate on studies concerning the working principles of the communities.

The author will focus on the following research questions:

1. What do online communities offer to their members?
2. What are the functions that tie people together in online communities?

Therefore, **the principal research object for this thesis is to find an appropriate approach to study these areas of interest.**

## 2. OFFLINE AND ONLINE COMMUNITIES

Firstly, what are online communities and how do they differ from traditional communities? The answer depends, of course, on the definition of online community.

The term ‘community’ originates from the Latin root word *communis*, which can be formed by pairing the following words (Fernback & Thompson 1995): (1) *cum*: meaning ‘together’, and *munus*: meaning ‘obligation’, or (2) *cum*: meaning ‘together’, and *unus*: meaning ‘one’. Thus, a community can be seen as a group in which individuals come together based on an obligation to one another, or as a group in which individuals come together to be one in purpose (Rothaermel & Sugiyama 2001).

The community phenomenon is central to anthropology research, which has advanced almost a hundred definitions of the term (Hillery 1955). Despite these efforts, no definite theory of community has emerged (Bell & Newby 1974). In their attempt to synthesize the wide variety of definitions, Karp, Stone and Yoels (1977) identified three elements defining communities: (1) sustained social interaction, (2) shared attributes and values, and (3) a delineated geographical space. For management scholars, however, the study of communities is a relatively new research avenue. Lawrence (1995), in his study of the Canadian forensic accounting community, built on Karp et al. (1977) and proposed three elements that must be in place to define an organizational community: (1) sustained social interaction, (2) community standards, and (3) membership rules. It is important to note that Lawrence (1995) deviated from the

assumption that communities are defined by geographical boundaries. In contrast, he argues that a focus on geography as a defining criterion of communities runs counter to the observation of the multifarious ways in which individuals form communities with the help of modern technology (Rothaermel & Sugiyama 2001). It is obvious that if face-to-face contact is required by definition, then no community can form online.

One of the first to study communities was Tönnies (2001). He proposed two different classifications drawing a distinction between society and community as he defined *Gemeinschaft* (community) as intimate, private, and exclusive living together, whereas the larger *Gesellschaft* (society) was seen as the public life, that is, the world itself. Tönnies distinguished three different kinds of communities: (1) community by kinship, (2) community of locality, and (3) community of mind. The last type of community is most relevant here. The community of mind implies only co-operation and coordinated action for a common goal. He says that community of mind expresses the community of mental life and represents the truly human supreme form of community (2001). He further argued that all three types of communities are closely interrelated in space as well as in time (2001). Tönnies' "community of mind" also fits with Benedict Anderson's notion of imagined community: "All communities larger than primordial villages of face-to-face contact (and perhaps even these) are imagined" (1983). Thus, some sort of virtuality is a normal aspect of community life, regardless of the nature of the medium on which it relies (Feenberg & Bakardjieva 2004).

Anderson (1983) argues that communities are to be distinguished, not by their falsity/genuineness, but by the style in which they are imagined. Communication media play a central role in determining the different styles in which communities have been imagined throughout history. The great sacred communities of the past (Christendom, the Islamic Ummah, the Middle Kingdom) were imagined through the medium of a sacred language and script. The birth of the imagined community of the nation involved two 'new media', the novel and the newspaper, that flowered in Europe in the 18th century (*Ibid* 1983). Broadcast media added a new dynamic to the imagined community of the nation by fixating its joint attention and making it dance to the beat of the new 'tribal drum' (McLuhan 1964). Later developments towards demassification and customization of content and delivery formats supported the emergence of a variety of

subcultures, or ‘neo-tribes’ (Maffesoli 1996). And now, the Internet has exploded with imagined communities that are based on the swift interactive exchange of electronic text (Feenberg & Bakardjieva 2004). Hagel and Armstrong even argue that “the notion of community has been at the heart of the Internet since its inception” (1997).

In sum, an online community is similar to a community of mind described by Tönnies (2001), except that it forms through an electronic communication medium and is not bound by space and time. Furthermore, an online community is similar to an organizational community defined by Lawrence (1995) as it allows for social interaction among its members using various Internet tools while also exhibiting certain community standards and rules. Brown and Duguid argue that online Internet communities are social worlds (Strauss 1978), as they view them as an extension of “a long tradition of communities forming around documents” (2000). Furthermore, online communities are based upon ongoing, many-sided exchanges that take place via computer-mediated communication. These are online forums that are shaped by the contributions and discourse of like-minded netizens (Murphy 1997). Rheingold posits that “people in online communities do just about everything people do in real life, but we leave our bodies behind” and “online communities are social aggregations that emerge from the Internet when people carry on public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace” (1993). Hagel and Armstrong (1997) emphasize the relationship-building aspect of online communities as they provide, for people with similar interests, an opportunity to come together, unrestrained by time and space. Combining content and communication, an online community allows people to engage in the exchange of information, and learn from each other and about each other. In the end, communities are not solely about aggregating information or resources, but about bringing people together to meet some of their social and commercial needs (Rothaermel & Sugiyama 2001).

This, however, does not mean that there is absolutely no ‘geography’ involved. The connections between spatial images and imaginations, between visible geography and sensed spatial dimensions, are important to community life and social interaction, online as well as offline. Social life gains meaning from space and spatial relations, and our way of thinking is deeply influenced by spatial images and positions within imagined

spatial structures, for example hierarchies (Gotved 2002). Years after the first connected computers and the fast expansion of the network, Gibson (1994) made cyberspace real by baptizing it in spatial terms, thus relating it to well-known concepts of geography, distance, travel, and so forth. As Shields (1991) pointed out, the spatial concepts and categories from everyday life are important for our way of thinking about the world: “the spatial has an epistemic and ontological importance — it’s part and parcel of our notions of reality, truth and causality”. Thus, the creation and consolidation of an online community requires spatial interpretations and imaginations on many levels — the participants do not interact in a borderless vastness. Space matters, even when it fails to materialize. (Gotved 2002).

**Considering the above, the author defines the online community as a group of people interacting in a virtual environment, mostly not collocated, and working interdependently with a shared purpose across space, time, and organizational boundaries using technology. This definition acknowledges that online communities must still function as a group, and it also highlights two important distinctions between online and offline communities – the lack of collocation and the need to use sophisticated information technology.**

### **3. GROUP FUNCTIONS**

Massarik (1972) listed 39 types of groups and indicated that this proliferation of approaches makes it difficult to clearly define a simple monolithic set of standards. However, as Lieberman (1976) and Yalom (1975) pointed out, the goals, processes, and client populations of a wide variety of groups are closely related and often identical. The differences may reflect professional territorial boundaries more than substance. Yalom (1975) states that “therapy groups which appear totally different in form may rely on identical mechanisms of change.” This would indicate that it should be possible to develop a single set of standards for group facilitation that would have applicability across a variety of group approaches (Anderson & Robertson 1985). However, to avoid ambiguity and add clarity to the definition of online communities, the author uses “group” as Aronson et al. (2005) defined it — two or more people who interact and are interdependent in the sense that their needs and goals cause them to influence each other.

Recent years have seen the growth of different group studies, while bibliographic analysis reveals a rising trend of the proportion of published articles dealing with group and inter-group processes (Abrams & Hogg, 1998; Moreland, Hogg & Hains, 1994). This research has been underpinned by, or has stimulated the development of, various theoretical models of group processes (Aharpour & Brown 2002). One model in particular has played a pivotal role, and that is Social Identity Theory (SIT; Tajfel & Turner, 1986). Similarly to other theories, SIT is based on the assumption that certain

generic psychological processes underlie the group phenomena it seeks to explain, and that those processes operate similarly in all human groups. In the case of SIT, the central process is that of identification, the main motivational role of which is presumed to be to allow the achievement or maintenance of a positive group and, hence, self image, primarily through inter-group comparisons (Aharpour & Brown 2002). To be sure, group contexts, and hence the relative comparative dimensions, are infinitely variable, but the principles governing the underlying search for “positive distinctiveness” are implicitly assumed to apply equally to all groups (Tajfel & Turner, 1986, p.19-21). In brief, according to the Social Identity Theory (SIT), identification with a social group is mainly motivated by the need for positive self-esteem (Aharpour & Brown 2002).

The decades following SIT’s publication have witnessed a steady growth in empirical research devoted to its testing and development; much of this work has substantiated its core propositions (Brown, 2000; Brown & Capozza, 2000). Despite this support, emerging from research conducted with a wide range of laboratory and realistic groups, there are grounds for supposing that the processes underlying group identification may not be as general as SIT has conventionally assumed (Aharpour & Brown 2002).

Forsyth was one of the first to use the functions of groups. Forsyth et al. (1991) began with a set of over 100 items in a convention paper. Most of these items were replaced, and rewritten, originally for the 16-function model, later for the Big Six version. The 16-function model included social bonding, social comparison-downward, social comparison-upward, social control, social esteem, social exchange, social expression, social identification, social identity, social influence, social learning – information, social learning – self insight, social relations, social skills development, social support, socialization. The acronym for the scale is “BIGSIX”: Belonging, Intimacy, Generativity, Support, Influence, and eXploration. This is a work still in development.

Deaux et al. (1999) were the first to investigate identity motives empirically by designing a scale for the measurement of functions of identification that drew on previous contributions (Forsyth, Elliott & Welsh, 1991; Luthanen & Crocker, 1992; Abrams & Hogg, 1988). The finding derived by administering this scale to a variety of social groups revealed the existence of six main motives to group identification: self-

insight/understanding; inter-group comparison/competition; in-group cooperation/cohesion; affective self-esteem; intra-group downward comparison; social interaction and romantic involvement. The relative importance attributed to these motives varied between the different groups sampled (Deaux et al., 1999).

A related investigation was conducted by Brown and Torres (1996). These authors asked respondents to sort a large number of stimuli (containing both common in-group labels as well as various identity functions). Multidimensional scaling and cluster analysis revealed the presence of three major clusters corresponding closely to some of those identified by Deaux et al. (1999). The cluster “Affective relationships” was associated with the functions of intimacy, socialization, standards to live by and self-understanding; the cluster of “Entertainment relationships” was associated with functions of collective achievement, competition and evaluation of the out-group; the third factor “Civic relationships” was associated with functions of distinctiveness, social identity and downward social comparison (Aharpour & Brown 2002).

Aharpour & Brown (2002) also questioned SIT's pervasive role of self-esteem by looking at alternative psychological functions of group identification, and integrating the set of functions of identification proposed by Deaux et al. (1999) and by Brown and Torres (1996). Results showed that the groups typically emphasized different functions of social identification, some of which were quite distinct from the self-esteem motive postulated by SIT. Moreover, group identification was a significant predictor of in-group favoring attitudes only in those groups where identification mainly had an interdependence or utilitarian function. In previous work Deaux et al. (1999) suggested that there were six principal motives underlying identification with groups. Using similar instruments administered to four very different kinds of groups, Aharpour & Brown (2002) concluded that a five-factor structure provided a better fit with their data.

However, the correspondence between the findings of Aharpour & Brown (2002) and those of Deaux et al. (1999) was otherwise quite close. Like Deaux et al. (1999), they found evidence for identity functions that reflect concern with self-insight, in-group ability comparison, intra-group interdependence and inter-group comparison. There were some differences too, mainly reflecting the different kinds of groups they sampled,

but also their differing research objectives. If there is a diversity of identity functions that groups can serve for their members, it is also clear that these are not all equally endorsed in different groups (Aharpour & Brown 2002).

As the author acknowledges that online communities must still function as a group, different methods for group studies can be applied to studies for online communities as well.

## 4. INITIAL CONCEPTS

Based on previous studies (Forsyth, Elliott & Welsh, 1991; Aharpour & Brown 2002), this thesis integrates different concepts for studying functions of groups into a single measure for online communities. Considering the definition of online communities and previous studies, the author proposes a total of **13 concepts**, representing various functions. As this is the first study for functions of online communities, the list of concepts may be potentially not exhaustive, but represents comprehensive attempt to measure functions of online communities.

First concept is **social identity**. This concept tries to find out how membership and identity of community affects the identity of community members. The items that intend to measure this concept are:

- My sense of identity comes, in part, from my membership in this online community.
- I'm proud to be a member of this online community.
- I can identify with the people in this online community.

**Self and social learning** is the next concept. The idea behind this concept is about members discovering information, including information about themselves, during interactions, and through direct or indirect instruction by others members. The items that intend to measure this concept are:

- My understanding of people has improved by being a member of this online community.

- This online community makes me realize how other people see me.
- This online community is a source of much useful information.
- I get good suggestions from this online community.
- I learn by listening to others people's experiences with their problems
- Because of this online community, I understand things better.

Third concept is **intergroup comparison**. This is a comparison between different communities, members of certain community comparing it to other online communities and comparing themselves with members of other online communities. The items that intend to measure this concept are:

- If I want to evaluate this online community, I compare it with how it was doing in the past.
- I often compare this online community with other online communities.
- I am not really interested to see if this online community does well or badly in comparison to others.

**Ingroup comparison** - members can compare themselves to others in the online community who, in some cases, may be experiencing problems and outcomes that are even more negative than theirs, as well as others who are coping well with their problems and situations and so are a source of hope and inspiration. The items that intend to measure this concept are:

- I am able to submerge myself in this online community.
- I am better than some others in this online community.
- Some people in this online community are a source of inspiration to me.

Fifth concept, **categorization**, is about resemblance and members identifying themselves with other group members. The items that intend to measure this concept are:

- Being in this online community means there are specific expectations as to how one should behave.
- I am often aware of how similar I am to most other people in this online

community

- I am often aware of how different we are from other online communities.
- I do not have a clear idea of what the typical attributes of a member of this online community are.

**Independence** comes from the need to express individual autonomy, members want to express themselves independently from the norms and expectations of others. The items that intend to measure this concept are:

- The ideas of other members of this online community don't influence me much.
- I don't think it is necessary to do as others in this online community prefer.

**Hedonism** is search for pleasure, simply enjoying being member of certain community. The items that intend to measure this concept are:

- When I am interacting with others of this online community I always have fun.
- I do not enjoy myself much with people in this online community.

Eight concept, **relations**, is asking if online communities create intimate, emotionally meaningful, and reliable connections between people. The items that intend to measure this concept are:

- This online community allows me to establish useful relationships with other people.
- This online community helps me meet people I can get romantically involved with..
- I like the people in this online community.
- This online community includes people I have been romantically involved with.

The concept of **unity** tries to find out if members feel part of this certain community.

The items that intend to measure this concept are:

- I enjoy being part of this online community.
- I feel a part of something when I'm in this community.

Next concept is **support and altruism**: online communities provide their members with tangible, emotional, and cognitive support when they encounter problems or difficulties, and vice versa, members like to help others in community. The items that intend to measure this concept are:

- This online community supports me in many ways.
- I appreciate the encouragement I get in this online community.
- I can help others by staying in this online community..
- Members do favors for each other.

**Material benefits** is about the benefits that community may provide and about using common resources to minimize costs and maximize gains. The items that intend to measure this concept are:

- What I achieve is not only the result of my efforts but also depends on the contribution of others in this online community.
- Working with others in this online community is more trouble than it is worth.
- Some of the benefits I have come from the fact that I am a member of this online community.
- The only way to achieve something is by being a member of this online community.

**Expression** - online communities provide members with a forum for sharing emotions and ideas with others. The concept also asks if other members listen and provide feedback. The items that intend to measure this concept are:

- I can express my feelings in this online community.
- I can talk about my ideas in this online community.

The last concept is **self-esteem**. This is about acceptance in the online community that confirms the individual's sense of self-worth. The items that intend to measure this concept are:

- As a result of belonging to this online community I feel more self confident.
- This online community seems to accept me.
- I am respected in this online community.
- This online community helps me feel good about myself.

## 5. TESTING THE ITEMS

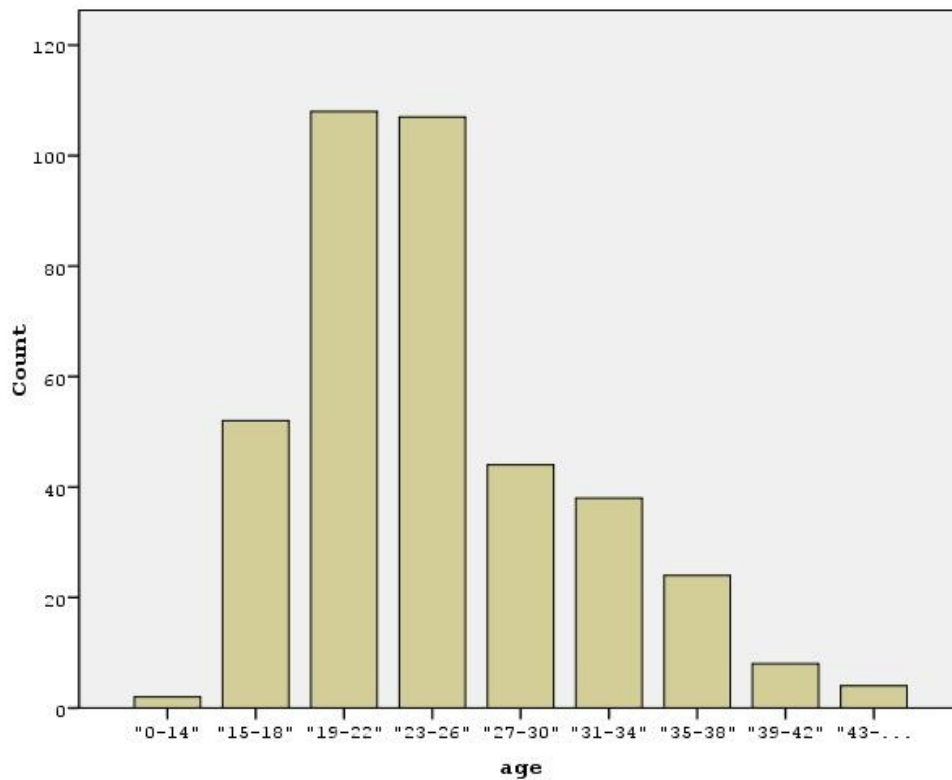
These 13 concepts, representing various functions, social identity, self and social learning, intergroup comparison, ingroup comparison, categorization, independence, hedonism, unity, relations, support and altruism, material benefits, expression, and self-esteem, were measured using items previously described - a total 43 item scale. All the items in the questionnaire were measured on a 5-point rating scale (from strongly agree to strongly disagree).

For testing purposes the author used Rada7.ee online community. Reasons for this included good access to its user statistics and large active community with diverse age groups. Rada7.ee, established in 1999, is a rapidly developing interactive e-zine. It is one of the leading sources for Estonian youth in regards to music, particularly alternative music. Due to its comprehensive coverage of concerts and festivals, including both international and local acts, it is often referred to as the central hub for Estonian music life. Its online community consists of event organisers, artists, reporters, and of course, the fans. In April 2009, Rada7.ee had roughly 5400 registered users and daily unique visitors in about same scale.

The questionnaire was published as an article and link to it was sent to all user with private message. For later comparison with general statistics, the author added questions about age and gender. The items were translated to Estonian and the author used "Rada7" instead of "this online community". 409 persons tried to answer the

questionnaire and 393 sent a fully filled questionnaire. The author also excluded few answers with patterns. Answers from total 387 persons were used in analysis. Everyone answered by their own free will.

The author also compared demographical data against general user database. Gender and age were roughly similar to general. This confirms that answers represent a valid selection from overall user database.



Graph 1. Age.

Item “I am respected in this online community” had to be removed from analysis, because more than 70% answered that that it's “hard to tell”.

The author also reverse coded answers for item with negative wording (i.e. “I do not enjoy myself much with people in this online community.”) for data analysis.

## 6. FINDINGS AND DISCUSSION

The author decided to use exploratory factor analysis to analyze data. In order to explore the number and kind of motivations underlying social identification, the author a factor analysis on the 43 items comprising the identification functions scale. Although the theoretical reasoning suggested the existence of the 13 motivations included in the scale, it is possible that participants perceived some of these motivations as similar, or connected. Using a principal component analysis method and a varimax rotation, the author first extracted 12 factors with eigenvalue greater than one. Of these, only seven had factor loadings of at least moderate size. The next step was to scale the factors and to examine if items in factors were meaningfully interpretable. The solution included five factors that explained more than 35% of the total variance. The principal factor loadings and the meaning of the items loading on each factor are shown in Table 1.

Item	F1	F2	F3	F4	F5
I'm proud to be a member of this online community	,734				
I enjoy being part of this online community	,706				
I am not really interested to see if this online community does well or badly	,603				
I feel a part of something when I'm in this community	,580				
I am often aware of how different we are from other online communities	,568				
This online community helps me feel good about myself	,489				
I appreciate the encouragement I get in this online community	,420				

Item	F1	F2	F3	F4	F5
My understanding of people has improved by being a member of this online community		,686			
Because of this online community I understand things better		,634			
This online community is a source of much useful information		,565			
Some people in this online community are a source of inspiration to me		,543			
What I achieve is not only the result of my efforts but also depends on the contribution of others...		,473			
As a result of belonging to this online community I feel more self confident	,401	,453			
I am able to submerge myself in this online community			,759		
I do not enjoy myself much with people in this online community			,707		
This online community seems to accept me			,650		
I like the people in this online community			,486		
I am often aware of how similar I am to most other people in this online community			,436		
I get good suggestions from this online community				,699	
This online community allows me to establish meaningful relationships with other people				,627	
I learn by listening to others people's experiences with their problems		,425		,613	
I can help others by staying in this online community				,541	
I can express my feelings in this online community					,751
When I am interacting with others of this online community I always have fun					,569
I can talk about my ideas in this online community				,407	,484
I can identify with the people in this online community			,416		
Cronbach's Alpha	0,835	0,785	0,768	0,679	0,559

Table 1. Results of the factor analysis showing the item loadings and the reliability of each factor.

It is worth noticing that, similarly to Aharpour & Brown (2002), despite the clear-cut structure emerged from analyses, the reliability coefficients of the factors extracted

never reach extremely high values. The difficult nature of the constructs explored (psychological needs and motivations) and the partial overlap between some of the motivation expressed in the different factors might explain these relatively modest alpha levels (Aharpour & Brown 2002).

After a careful examination of the content of the items loading high in each factor, it was possible to obtain a meaningful interpretation of the functions expressed by each of the factors extracted.

**First factor** represents a function of **social identity and unity**. The function clearly shows that belonging to this online community is important for members and they even worry about it. They feel part of this online community and are aware that other communities are different. This makes members feel good and even more self confident.

**Second factor** clearly represents a function of **self and social learning**. This covers both self-insight and information. Members appreciate the opportunity to learn more about oneself and the others, also members discover information during interactions, and through direct or indirect instruction by others members.

**Third factor** includes items from many different concepts, but all items share similar content. Items refer to members identifying with other members, they believe that they can submerge to this community and others accept them, they feel similar to others and enjoy being in this community. Therefore the author names factor 3 as **categorization and ingroup comparison**.

The content of items in **fourth factor** refers to **support and altruism**. This means that online communities provide their members with tangible, emotional, and cognitive support when they encounter problems or difficulties, and vice versa, members like to help others in community.

**Fifth factor** clearly shows the need of **expression**. This means shows that online communities provide members with a forum for sharing emotions and ideas with others.

Aharpour & Brown (2002) studied different groups and found that identity functions are not all equally endorsed in different groups. This means that the functions above does not have to harmonise with all online communities. To achieve more general results, the future studies should consider sampling data from different online communities.

Additionally, several other factors may influence the results. One is definitely community size. As the author described topology of online communities in previous works (Kiviorg 2006) – if group grows over individuals ability to handle contacts with all members of the group, then density is decreased. For example, if group is already more than 10 000, then the number of actual connections is less than 1% of potential connections. This means that increasing or decreasing of group size may be enough to change the pattern, what makes online communities work.

Distribution of items in factors also shows that initial concepts should be reviewed for future studies. Some items can be part of several concepts and therefore may be difficult to understand. One must also not forget, that this type of statistical data analysis only allows to propose correlation of variables. Longitude studies are needed to confirm the results.

However, the results clearly show that there is a diversity of identity functions that online groups serve for their members. This refers to the fact that this approach to online communities is appropriate.

## **8. CONCLUSIONS**

Forty years after Licklider and Taylor (1968) first envisioned virtual communities, and 15 years after Rheingold (2000) popularized the concept, online sociability is a fact of everyday life. Online communities have become so common that it is hard to question that they can be used for several collaborative, knowledge management, supportive or even advertising purposes. There are countless online communities for the purposes of teaching and learning, different subcultures and lifestyles, music, business, technology, and just wasting your time. Additionally, commercial interests have increased and there are many futuristic ideas where participation and communities are the fundamental components.

However, most of these ideas fall upon the assumption that people just want to participate. But the fact is that we actually have no clear idea of why people would want to participate in online groups. Internet-based communities and social interaction represent the cusp of a paradox not yet well understood.

The author asked, what do online communities offer to their members and what are the functions that tie people together in online communities. Derived from these research questions, the primary objective of this thesis was to find an appropriate approach to study these areas of interest.

The author defined the online community as a group of people interacting in a virtual environment, mostly not collocated, and working interdependently with a shared

purpose across space, time, and organizational boundaries using technology. As the author acknowledged that online communities must still function as a group, it was possible to apply methods for group studies for online communities.

Based on previous studies (Forsyth, Elliott & Welsh, 1991; Aharpour & Brown 2002), this thesis integrated different concepts for studying functions of groups into a single measure for online communities. Initial concepts were designed and tested. The author also provided descriptions for factors that derived from data analysis, describing answers to initial research questions. However, these functions can only be used to describe the online community that was used in testing. To achieve more general results, the future studies should consider sampling data from different online communities.

In conclusion, findings clearly show that this approach is appropriate to study online communities.

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## 10. KOKKUVÕTE / SUMMARY IN ESTONIAN

“Veebikogukondade funktsioonid” on magistritöö, mis püüab seletada, kuidas veebikogukonnad toimivad. Hoolimata järjest kasvavast teemaga seonduvast teaduskirjandusest, on *online* suhtlus ja kogukondade toimetehhanismid endiselt huvipakkuv valdkond, mitmete vastamata küsimustega.

Käesoleva magistritöö uurimisküsimused on:

1. Mida pakuvad grupid oma liikmetele?
2. Millised funktsioonid seovad veebikogukondade liikmeid?

Nendest uurimisküsimustest tulenevalt on töö peamiseks eesmärgiks leida kohane lähenemine nende uurimiseks.

Autor kinnitas, et veebikogukonnad peavad toimima gruppidega ning seetõttu on nende uurimiseks võimalik kasutada erinevaid gruppide uurimise meetodeid. Toetudes varasematele grupiuuringutele, koostas autor esialgsed mõisted ja meetme uurimaks veebikogukondi. Testimise ja andmeanalüüsi tulemusena ilmnisid uued faktorid, mis kirjeldasid täpsemalt funktsioone. Ehkki saadud funktsioonidesse ja nende kirjeldustesse tuleb laiemas plaanis suhtuda ettevaatlikult, näitasid tulemused siiski selgelt erinevaid faktoreid ning seetõttu võib lugeda lähenemise õigustatuks. Arutelu käigus ilmnisid ka soovitusel edasiseks uurimiseks.

Töö on kirjutatud inglise keeles.