



HAL
open science

Starting a Conversation: The Place of Managers in Opening Discussions in Communities of Practice

Azi Lev-On, Nili Steinfeld

► **To cite this version:**

Azi Lev-On, Nili Steinfeld. Starting a Conversation: The Place of Managers in Opening Discussions in Communities of Practice. 6th International Conference on Electronic Participation (ePart), Sep 2014, Dublin, Ireland. pp.38-51, 10.1007/978-3-662-44914-1_4 . hal-01396950

HAL Id: hal-01396950

<https://inria.hal.science/hal-01396950v1>

Submitted on 15 Nov 2016

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons Attribution 4.0 International License

Starting a Conversation: The Place of Managers in Opening Discussions in Communities of Practice

Azi Lev-On¹, Nili Steinfeld¹

¹Ariel University, Ariel, Israel
{azilevon,nilisteinfeld}@gmail.com

Abstract. Online communities of practice are becoming significant discursive arenas in many organizations. Much literature about online communities depicts them as peer-based environments based on user-generated content, where community members take a central role in starting conversations. The current study shifts the focus from community members into managers, and asks who starts conversations in communities of practice, and if there are differences between discussions opened by managers and by community members in terms of scope, topics of discussion, engagement and level of participation. Findings demonstrate the importance of managers in starting conversations and setting the discursive environment of communities of practice.

Keywords: Communities of Practice, Managers, Engagement, Online Discussions, Conversations, Social Media.

1 Theoretical Background

Organizations and systems of governance are characterized by horizontal and vertical dimensions of command and control [16]. Communities, online as well as offline, attract public and scholarly attention due to their focus on the horizontal dimension of governance, which is expressed by peer production, monitoring and sanctioning, collaborative systems of moderation and conflict resolution, and communication between peers [3, 17, 9, 15, 10, 14, 8]. However, communities also have a vertical dimension, which may be even more evident in online than in offline communities. Online communities can have owners, managers, designers, technical professionals and moderators which allow the very existence of the community and perform operations which are essential for creating and maintaining the platform and advance content around which the community evolves and is maintained [2, 14, 8]. But despite the centrality of the vertical dimension in the ongoing activities of online communities, research focuses almost exclusively on their horizontal dimension [5]. This article helps filling the void by studying the vertical dimension of online communities of practice, focusing on the impact of community managers' actions on the dynamics of conversations within the community.

The small literature about management of online communities demonstrates the central role of community managers and their significant impact on attaining the

community's goals and on the community's success, in several domains: member management, i.e. recruiting new members, removing members if necessary, encouraging users' engagement in the community [1, 2, 13]; content management, i.e. overseeing the agenda of discussions, initiating and encouraging discussions, facilitating engagement, moderating and preventing "flaming", ensuring that discussions are "on topic" and preventing information overload [8, 11, 12,13]; handling social and technological issues, i.e. clarifying the norms of conduct in the community to members, sanctioning members if needed, and covering other types of administration, such as handling the financial and material infrastructure of the community [14, 8].

Studies also indicate that community members perceive the functioning of managers as critical to the success of the community, and their activity is perceived to contribute to the development from a platform for information sharing to a space where knowledge is constructed through mutual learning between community members [7].

The limited academic literature about the functioning and impact of the management of online communities of practice is mostly based on interviews or studies carried out in small groups. This is, to the best of our knowledge, the first empirical research that focuses on the management of online communities using large-scale quantitative content analysis of more than 7,000 posts. Thus, it contributes to a comprehensive methodological study of the role and impact of managers in online communities of practice- by analyzing their behavior in the community rather than illustrating a perceived importance given to the role of managers, which was the focus of previous research. Furthermore, this study is aimed specifically at learning about the role of community managers in opening discussions, dictating and advancing the discourse in the community. The quantitative data is complemented by interviews with community members and managers, which shed some light on the way members and managers see the importance and role of the manager in the community.

2 Communities of Practice of the Ministry of Social Affairs – Background

The research arena of the current study is the communities of practice established by the Israeli Ministry of Social Affairs. The communities were established in September 2006, to promote learning amongst social workers who are employed in different organizations [4], and utilize the penetration of ICT technologies into the welfare services to promote cross-organizational learning and conversations. Although established by the ministry, most of the members in the communities are not employees of the ministry. In a survey conducted by the website administrators in 2009, only a quarter of the members were employees of the ministry of social affairs, a percentage which is likely even smaller today. The ministry hosts the website but the communities involve practitioners and professionals in positions related to the communities' field of practice from variant backgrounds and positions in municipalities, NGOs and more. At the time of data collection (early 2012), 31 communities existed with more than 7,700 members.

The communities bring together professionals to address issues related to the social services, and function as an arena for encounters between different stakeholders involved in similar endeavors (i.e. adoption, juvenile delinquency, violence in the family and more). Entering the communities requires login using a password, and all communication is identified by members' name and position. The list of members is visible and available to all members of the community, so members know who may read the content they upload, and comment on it. Every community has a manager who volunteered for the mission, and receives a small payback in the form of vouchers [4]. Each day a digest that summarizes the new content which was uploaded to the community is distributed amongst members, to allow them to easily be updated about what goes on in the community, without entering the website itself [6].

3 Hypotheses

Based on the small academic literature surveyed above, the following hypotheses were formulated:

- H1: Since one of the manager's roles is in initiating and advancing discussions, we expect to find that *managers open more discussions compared to members, while members are more active in responding to first posts (relative to the entire content created by managers and members, respectively)*.
- H2: Managers are especially vital at the beginning of the community's life cycle, in presenting an example of desired conduct and types of discussions, and in strengthening a sense of community among the members. Therefore, we expect to find that *managers open more discussions in the first year of the community, while members are more dominant in starting discussions in later years*.
- H3: Since all members are familiar with the community manager, but usually not with all of the members, and since the managers are perceived as important and central to the community as previous research suggests, we expect to find that *discussions opened by managers attract more engagement (i.e. more comments) than discussions opened by members*.
- H4: In the same manner, *discussions opened by managers would attract more participants than discussions opened by members*

And finally, at the absence of supporting literature, the following research questions were formulated:

- RQ1: *What are the topics of first messages posted by managers and members?*
- RQ2: *What are the topics of the discussions that follow from first messages posted by managers and members?*

4 Methodology

The study focuses on 11 of the 31 communities of practice which were online at the time of data collection. The communities which were selected for analysis are diverse and present different types of communities, on several grounds: The date of establishment (older communities vs. newer ones), the scope of activity within the community (measured by the percentage of active members out of all members of the community), the size of the community (measured by the number of members in the community) and the areas of practice of the community (therapeutic communities, centered around support to clients, compared to communities engaged in formal issues and procedures). This way, different types of communities are represented in the study, which enables us to learn about the project in general, on its various domains.

After considering the variables described above, the following communities were selected for the study: Intellectual Disability (1777 members), Children at Risk (1549 members), Immigrants and Inter-Cultural Issues (234 members), Blind and the Visually Impaired (554 members), Domestic Violence (1672 members), Foster care (550 members), Juvenile Delinquency (637 members), Community Work (1239 members), Policy and Performance (626 members), Welfare Management at Municipalities (335 members) and Organizational Learning (1558 members). In total, the communities selected for research involve between 234 and 1777 members. Each community has usually only one manager, and in some cases may have two managers.

The research was conducted using a mixed-method approach: A quantitative content analysis of posts from the communities selected allows us to learn about the kind of content posted by managers and by members, and how the communities function with relevance to our research questions. In addition, interviews with members and managers were conducted, which added depth to the results of the content analysis and allowed us to ask members and managers about the way the manager's role is perceived by them, understanding the views behind members' and managers' behavior in the communities.

In each community of practice which was included in the sample, all posts were available from the day the community was established until early 2012 when data was delivered to the researchers. In order to get a comprehensive understanding of the way the communities are used by different types of members, throughout the years of their existence, all 7,248 posts which were included in the sample were analyzed using a coding book which was developed for the study and included 25 sections.

The study involves two units of analysis: posts, and threaded discussions (a first post and at least one additional comment related to it). Thus, some of the categories in the coding book relate to posts and others to discussions. The main focus of the coding book was related to the content of the post or discussion. In particular, the following categories were used to code the content of posts:

- Practical advice, which is directly related to daily work with clients, for example, what is the impact of certain kinds of interventions?
- Organizational advice, related to employees' daily work unrelated to working with clients, for example concerning forms, procedures, programs and courses

- Statements about the community's theme, which are statements that relate not to employees' daily work, but to more general issues related to the community's main theme, for example: How to improve service for patients? How to improve the status of blind people in the Israeli society?
- Emotional support- addressing community members' manifestations of charged emotions (anger, frustration, fear, sadness, etc.) that are related to their work.
- Additional categories were: academic advice, informing on an event or conference, greetings and gratitude, publication of a project or organization, submitting contact details, and finally- other topics.

In addition to the content of posts, other relevant categories in the coding book included time of publication (measured by the time from the community's establishment. For example: Within one year of the community's establishment), and on the discussion level- number of participants in the entire discussion, and number of posts posted to the entire discussion. In addition, every post was coded as being either a regular post or a first post (first posts are posts that start a new discussion and do not comment on a previous post).

The dataset includes 308 first posts by managers of the communities, and 1,201 first posts by the other members of the communities. The study focuses on first posts, because if indeed community managers behave differently than other members of the communities, this would be manifested first and foremost in posts that open new discussions. Although some of the roles of community members as the literature suggests are in intervening in ongoing discussions (ensuring that discussions are "on-topic", for example), we believe that focusing on posts that initiate new discussions can tell us something specific about the way managers dictate the discourse of the community and influence the agenda. The contents of first posts dictate to a great extent the nature of the rest of the discussion. This is where managers and members can have the most influence on the discussion that evolves from their post. Furthermore, comparing first posts by managers and members, and the discussions that evolve from them- in terms of number of responses or participants in the discussion, provides an indication about the relative success of managers to initiate discussions and engage members in comparison to other members.

To complete the picture received from the content analysis, 71 in-depth, semi-structured interviews were conducted with members and managers of the communities, when 5 of the interviewees were community managers and 66 were "regular" members. The main goal of the interviews was to examine how community members and managers perceive the discussion in the community and its effects, as well as their views of the managers and their desired functioning. This can shed light on the dynamics in the community and explain the background of the findings from the content analysis. The interviewees were sampled from the database of the Ministry of Social Affairs, which included exactly 7,777 members at the time of data collection (the beginning of 2012). Community members were selected based on their different scope of involvement in the community, measured by number of times users logged in to the communities, and the overall number of posts they published, in order to receive input from active and passive users, on different levels of involvement.

The interviews focused on usage patterns, views of community manager's actual and desirable functioning, influence of interactions in the community on everyday professional practices etc.

5 Findings- Content Analysis: Comparison of Posts by Managers and by Members

The literature review suggests that a great importance is attributed to the role of community managers, and their functioning can greatly affect the performance of the community and its ability to attain its goals. The general findings suggest that managers are indeed dominant in the communities in terms of content creation. Thus, 17.9% of the posts in the sample were written by managers, although each community, having hundreds to more than a thousand members, has just one or two managers, while only 39.7% of the posts are nested in threaded discussions conducted only among community members without the participation of managers. 51.3% of the posts are embedded in discussions which involved both community managers and "regular" members. In the following sections, detailed quantitative findings illustrate the central role of managers in starting conversations.

5.1 Type of messages posted by managers: First posts, first-order comments or higher-order comments?

The distribution of type of messages that are posted to the communities (first posts, first-order comments or higher-order comments, i.e. replies to comment), may be a result of a few processes that occur in the communities. On the one hand, a relatively high percentage of first messages out of all messages posted by managers can indicate that managers deliberately perceive their role as one of generating, stimulating and "steering" discussions among community members that might have occurred even without managers' involvement. On other cases, a high percentage of first posts by managers may actually indicate a fairly "dormant" community, in which no debates emerge spontaneously and managers need to intervene.

Table 1 shows the distribution of first posts, first-order comments and higher-order comments (comments to comments) posted by managers and members. A chi-square test was performed to examine the relation between the identity of the author of a post (the manager or a member of the community) and the type of posts (a first post, first-order comment or higher-order comment). The relation between these variables was significant ($\chi^2= 38.98$, $p<0.01$). The effect size was calculated using Cramer's v and was found to be weak ($r=0.07$). The table shows that managers post first posts and higher-order posts in higher percentages out of all of their posts, compared to the distribution of posts by members, where first-order responses are more common among them.

Table 1. Distribution of posts by managers and members

Author of post	Percentage of first posts	Percentage of first-order comments	Percentage of higher-order comments
Managers	23.8%	26.6%	49.6%
Members	20.2%	35.7%	44.2%

5.2 Timing of posting first messages by managers and members

A chi-square test was performed to examine the relation between the identity of the author (manager vs. member) of a first message initiating a new discussion, and the publication date of the message- relative to the establishment of the community. The purpose of the test is to analyze whether managers tend to open new conversations more at the beginning of the community's activity than later on.

The relation between these variables was significant ($\chi^2= 23.67$, $p<0.01$). The effect size was calculated using Cramer's v and was found to be weak ($r=0.13$). Table 2 summarizes the distribution of first messages by authors and date of publication. We see from the table that managers are more active in opening discussions in the first two years, then in the third year the level of their activity decreases. The fourth year seems to be a more active year- but in the fifth year, again, we see a significant decrease in initiating discussions. As for members, they are most active in opening discussions in the second year, while less active at the first year of the community's establishment. The level of activity in initiating discussions decreases from the third year on.

Table 2. Distribution of first posts by managers and members according to date of publication (after the community's establishment)

Author of first post	Published during the first year	Published during the second year	Published during the third year	Published during the fourth year	Published more than 4 years from the community's establishment
Managers	24.6%	24.7%	14.9%	24.4%	11.4%
members	17.1%	28.2%	19.7%	17.7%	17.3%

5.3 Engagement in discussions opened by managers and members

In order to learn whether first posts by managers have had more responses in the entire discussion that followed than first posts by other community members, a T-test for independent samples was used. The test found significant differences ($t_{(358.30)}=3.25$, $p<0.01$) between the amount of comments in discussions opened by managers (mean=5.31 responses, $SD=9.78$), and the amount of comments in discussions opened by members (mean=3.43, $SD=5.5$).

5.4 Number of participants in discussions opened by managers and members

In order to learn whether discussions initiated by managers result in more participants than discussions initiated by members, a T-test for independent samples was used. The test found no significant differences ($t_{(1507)}= 0.73$, $p= n.s$). Discussions opened by managers attracted on average 3.42 participants ($SD=3.67$), while discussions opened by members attracted on average 3.28 participants ($SD=2.88$).¹

5.5 Topics of first messages posted by managers and members

Next, we analyzed the content of first posts (posts that opened discussion) by managers and members. Chi-square tests were performed to examine the relation between the initiator of a discussion and the topics of the first posts. In the following cases, significant correlations were found:

- Practical advice ($\chi^2= 38.18$, $p<0.01$). The effect size was calculated using Cramer's v and was found to be weak ($r=0.16$).
- Informing on an event or conference ($\chi^2= 9.42$, $p<0.01$). The effect size was calculated using Cramer's v and was found to be weak ($r=0.08$).
- Publication of a project or organization ($\chi^2= 12.12$, $p<0.01$). The effect size was calculated using Cramer's v and was found to be weak ($r=0.09$).
- Giving contact details ($\chi^2= 4.44$, $p<0.05$). The effect size was calculated using Cramer's v and was found to be weak ($r=0.05$).
- Expressing personal opinions on an issue ($\chi^2= 26$, $p<0.01$). The effect size was calculated using Cramer's v and was found to be weak ($r=0.13$).

Table 3 summarizes the distribution of message topics in first messages (messages that opened discussions) posted by managers and members. It seems that messages by members include a higher rate of practical advice, while messages by managers have a higher percentage of personal opinions or publicize events or projects. No signifi-

¹ It should be noted, however, that the number of participants in discussions where managers were involved (but not necessarily where they opened the discussion) was 4.87 ($SD=3.82$), and was significantly higher ($t_{(765.86)}=-4.61$, $p<0.01$) than the number of participants in discussions where managers were not involved (3.93, $SD=2.46$).

cant differences between the groups were found in terms of organizational advice, academic advice or emotional support.

Table 3. Topics of first messages by managers and members (*=significant difference between managers and members)

Topic of post	% in first messages by managers	% in first messages by members
Practical advice*	20.1%	39%
Organizational advice	26.6%	25.9%
Academic advice	9.7%	10.6%
Emotional support	4.5%	3.2%
Informing on an event or conference*	17.5%	11.1%
Greetings and gratitude	3.9%	3.7%
Publication of a project or organization*	23.4%	15.1%
Submitting contact details*	6.2%	10.1%
Expressing personal opinions on an issue*	21.1%	10.3%
Other topics*	10.4%	6.2%

5.6 Topics of messages included in discussions opened by managers and members

Next, we analyzed the content of posts in discussions that followed from first posts by managers (n=1805), compared to the content of posts in discussions that followed from first posts by members (n=4961). Chi-square tests were performed to examine the relation between the identity of the initiator of a discussion (the manager or a member of the community) and the topics discussed in messages posted within the discussion. In the following cases, significant correlations were found:

- Practical advice ($\chi^2 = 65.55$, $p < 0.01$). The effect size was calculated using Cramer's v and was found to be weak ($r = 0.1$).

- Organizational advice ($\chi^2= 4.91$, $p<0.05$). The effect size was calculated using Cramer's v and was found to be weak ($r=0.03$).
- Academic advice ($\chi^2= 10.51$, $p<0.01$). The effect size was calculated using Cramer's v and was found to be weak ($r=0.04$).
- Informing on an event or conference ($\chi^2= 23.21$, $p<0.01$). The effect size was calculated using Cramer's v and was found to be weak ($r=0.06$).
- Publication of a project or organization ($\chi^2= 4.76$, $p<0.05$). The effect size was calculated using Cramer's v and was found to be weak ($r=0.03$).
- Giving contact details ($\chi^2= 110.03$, $p<0.01$). The effect size was calculated using Cramer's v and was found to be weak ($r=0.13$).
- Expressing personal opinions on an issue ($\chi^2= 14.95$, $p<0.01$). The effect size was calculated using Cramer's v and was found to be weak ($r=0.05$).

Table 4. Topics of messages in discussions that were initiated by managers and members (*=significant difference between managers and members)

Topic of message	% within messages posted in discussions initiated by the manager	% within messages posted in discussions initiated by members of the community
Practical advice*	32.7%	43.6%
Organizational advice*	27.9%	25.2%
Academic advice*	4.5%	6.6%
Emotional support	3.5%	3.6%
Informing on an event or conference*	9.9%	6.4%
Greeting and gratitude	11%	11.6%
Publication of a project or organization*	8.5%	6.9%
Giving contact details*	1.5%	8.8%
Expressing personal opinions on an issue*	27.4%	22.9%
Other topics*	13.9%	6.9%

Table 4 above summarizes the distribution of message topics in discussions which were initiated by managers and members. Messages in discussions initiated by mem-

bers include a higher rate of practical and academic advice, while messages by managers have a higher percentage of organizational advice, personal opinions and events or projects publicity. No significant differences between managers and members were found in terms of emotional support.

6 Findings- Interviews: Perceived Importance of Managers and their Behind-the-Scenes Activity

The analysis so far demonstrates the dominance of community managers in terms of contributing content, initiating discussions and engaging in conversations. In closing this paper, we decided to investigate whether the content analysis findings are compatible with the perceptions of members and managers, and if they perceive a central place in the community for managers, especially with regard to initiating discussions.

The interviews indicate that the members unanimously, recognize that managers are the basis for the community and an anchor for content and conversations. For the interviewees, the managers should develop community discussions even if artificially, maintain the discussion so that it is dynamic and engaging, and act in a way that would encourage members to participate. One of the manager's roles, for members, is to make sure that a shared knowledge relevant to the community's field of practice develops within the community. Some members specified that managers sometimes even work "behind the scenes" and privately encourage members to contribute content and respond (which of course cannot be analyzed using content analysis above).

Z: "if it wasn't for her [the manager]- I, for example, wouldn't even be slightly involved[...] She is doing all she can, trying to reach each and every one of us [...] She is with a hand on the pulse at all times, asking to upload materials to the site."

G: "[the manager] stimulates the responses. I mean that when she writes the first reaction it makes you want to respond more and more ..."

D: "First of all, [the manager] personally encourages the use of the community. [...] She keeps trying to attract people to this medium."

The vitality of the manager for the success and preservation of the community is demonstrated in the words of S: *"I'm afraid if she wasn't there- the community wouldn't exist."*

A sees the importance of the managers in being seen and heard in the community: *"You need visibility. A community manager needs to be seen all the time".* N agrees: *"You feel like there's someone floating above it all... She puts everything to order".*

When the manager isn't dominant, members feel the community is dysfunctional: *"Managers of [some] communities are like freelance managers", says A., which is a member of several communities. "They live in a dream world. For me it seems insufficient, their involvement. It's a very technical involvement of a sort".*

M: "You needed someone to be more... to be the manager. To operate it for others to be more... it's a fact that it didn't work once the manager was not active".

The managers interviewed also reported that they not only post in the community but also act “behind the scenes” to generate content and initiate conversations. One manager describes some of this activity: mapping of relevant and less relevant discussion topics, and attempted to convince members to participate:

"A lot of times I'm asking what [members] read and what interests them, such as what were the things that caught their eyes and they spent more time reading them ... And many times I ask Ok, really I sort of see you less often in discussion groups, is there a special reason for that?"

S adds: *"I emphasize that everything that's being published in the community is important. Input from everyone is important [...] and we take everyone very seriously".*

The role of the manager as keeping the order in the community was also brought up by managers. A says: *"It sometimes happens that someone crosses the lines. [...] it once got to a point where I removed someone from the community. [...] In some cases, people tried to post comments anonymously. I said: 'In here we all write under our real names. If you're willing to participate with your real name- we'll invite you. If not- then not'".*

7 Discussion and Conclusions

This study is aimed at demonstrating the importance and role of community management and managers in online communities. Despite the widespread perception that social media platforms are driven and controlled by users, which leads researchers to focus mainly on the horizontal dimension of governance in these spheres, the findings of this study suggest that the picture is more complex.

The interviews indicate that community members overwhelmingly recognize the critical role of community managers in initiating discussions and engagement. Even in places where communities were perceived as less successful and fewer discussions occurred, members of the community attributed this to the managers who were less successful in initiating discussions, in members' view. Community managers, for their part, may run into a dilemma: on the one hand they want to encourage conversations and to route them to directions they consider to be vital to the community, and on the other hand, they fear that if they do so on their own, members would not react to the content they uploaded.

However, according to the content analysis it seems that these concerns are unsupported. Content analysis demonstrates the importance of managers in generating content and initiating discussions, and shed light on several important functions of managers:

Managers as content producers: managers are very productive in initiating discussions and uploading content. 17.9% of posts in the sample were posted by managers of the communities, while less than 40% of the posts were part of discussions conducted without the involvement of managers. The percentage of first posts by managers is significantly higher than first posts by members. Managers also tend to open more discussions in the first and formative year of the community, compared to members of the communities.

Managers as catalysts of engagement: First messages posted by managers received more responses than first messages post by members. Still, the number of participants in discussions opened by the manager does not differ significantly from the number of participants in discussions opened by members of the community.

Managers as organizational mentors: It should also be noted that the discussions that develop from the first posts by managers and members, evolve in different directions. Messages posted in discussions initiated by managers of the communities tended to include more organizational advice and more personal opinions of the discussants. In discussions initiated by the members, messages tended to address topics like practical and academic advice more than within managers-initiated discussions.

Future studies can continue to examine the functioning of managers in comparable online communities of practice. An interesting comparison can be made with less organized communities, open projects not led or organized by a government ministry. These projects may have less structure, and the managers in these communities may be less central and distinguished from other members. It would also be interesting to compare the communities studied here to communities where management is purely voluntary. Based on the accumulated body of knowledge, it should be possible to construct a collection of best practices and recommendations for managers to generate more engagement, trust and sense of community in social media platforms, given the control and influence held by the community managers over the content and dynamics of conversations in these communities.

Acknowledgements. The study was supported by the Center for the Study of New Media, Society and Politics at Ariel University. The authors thank Keren Sereno and Odelia Adler for their assistance in analyzing the data and finalizing the manuscript.

8 References

1. Bateman, P.J. (2008). Online Community Referrals and Commitment: How Two Aspects of Community Life Impact Member Participation. Doctoral Dissertation, University of Pittsburgh.
2. Butler, B., Sproull, L., Kiesler, S. and Kraut, R. (2007). Community effort in online groups: Who does the work and why? In *Leadership at a Distance* (Weisband, S. Ed.), pp. 171-194. Lawrence Erlbaum Associates, New York.
3. Connolly, R. (2001). The rise and persistence of the technological community ideal. In *Online Communities: Commerce, Community Action and the Virtual University* (Werry, C. and Mowbray, M. Eds.), pp. 317- 364. Prentice Hall, Upper Saddle River, NJ.
4. Cook-Craig, P.G., and Sabah, Y. (2009). The role of virtual communities of practice in supporting collaborative learning among social workers. *British Journal of Social Work*, 39 (4), 725-739.
5. Fallah, N. (2011). Distributed form of leadership in communities of practice. *International Journal of Emerging Science*, 1 (3), 357-370.
6. Fein, T. (2011). Online Communities of Practice in the Social Services: A Tool for Sharing and Knowledge Circulation between Employees. MA Thesis, Hebrew University of Jerusalem.

7. Gray, B. (2004). Informal learning in an online community of practice. *Journal of Distance Education*, 19(1), 20-35.
8. Kim, A.J. (2000). *Community Building on the Web: Secret Strategies for Successful Online Communities*. Peachpit Press, Berkeley.
9. Kollock, P. (1999). The economies of online cooperation: Gifts and public goods in cyberspace. In *Communities in cyberspace* (Smith, M. A. and Kollock, P. Eds.), pp. 220-239. Routledge, New York.
10. Komito, L. (1998). The net as a foraging society: Flexible communities. *The Information Society*, 14, 97-106.
11. Meier, A. (1997). Inventing new models of social support groups: A feasibility study of an online stress management support group for social workers. *Social Work with Groups*, 20(4), 35-53.
12. Meier, A. (2000). Offering social support via the internet: A case study of an online support group for social workers, *Journal of Technology in Human Services*, 17(2-3), 237-266.
13. Osimo, D. (2008). *Web 2.0 in government: Why and how*. Institute for Prospective Technological Studies (IPTS), JRC, European Commission, EUR, 23358.
14. Preece, J. (2000). *Online Communities: Designing Usability and Supporting Sociability*. Wiley, New York.
15. Resnick, P. (2002). Beyond bowling together: SocioTechnical capital. In *HCI in the New Millennium* (Carroll, J. M. Ed.), pp. 647-672. Addison-Wesley, New York.
16. Sartori, G. (1987). *The Theory of Democracy Revisited*, v. 1. Chatham House Publishers, NJ.
17. Wellman, B. and Gulia, M. (1999). Virtual communities as communities. In *Communities in cyberspace* (Smith, M. A. and Kollock, P. Eds.), pp. 167-194. Routledge, New York.