Association for Information Systems
AIS Electronic Library (AISeL)

December 2006

Success Factors of Communities for User Driven Content: the Case of Ciao.com

Ralph Stöckl
University of Munich

Alexander Kosyak
University of Munich

Benedikt Walter
University of Munich

Thomas Hess
University of Munich

Follow this and additional works at: http://aisel.aisnet.org/amcis2006

Success Factors of Communities
for User Driven Content: the Case of Ciao.com

Ralph Stöckl
University of Munich
Institute of Information Systems and New Media
Ludwigstr. 28, 80539 Munich, Germany
stoeckl@bwl.uni-muenchen.de

Alexander Kosyak
University of Munich
Institute of Information Systems and New Media
Ludwigstr. 28, 80539 Munich, Germany
kosyak@bwl.uni-muenchen.de

Benedikt von Walter
University of Munich
Institute of Information Systems and New Media
Ludwigstr. 28, 80539 Munich, Germany
walter@bwl.uni-muenchen.de

Thomas Hess
University of Munich
Institute of Information Systems and New Media
Ludwigstr. 28, 80539 Munich, Germany
hess@bwl.uni-muenchen.de

ABSTRACT

Virtual communities that produce "user driven content" are a relatively new phenomenon. In this study we present the findings of an exploratory empirical study that focus on the success factors that stimulate content production from the perspective of community members. One main finding is that methods or tools that advance the transparency of what is going on in the community platform results in more content production. This accents the importance of new tools like RSS for example. Furthermore an ambiguous role of sociological motives was found. On the one hand there is statistical evidence that sociological motives and content production activities are closely linked. But on the other hand our descriptive data indicates only very weak sociological forces at work. We discuss some causes that may explain this result.

KEYWORDS:

Virtual communities, user driven content, exploratory empirical study

INTRODUCTION AND AIM

Numerous researchers have contributed to our understanding of virtual communities. This article wants to add some new insights about a specific kind of virtual communities: user driven content communities.

User driven content is a relatively new phenomenon that has been growing fast during recent years. Business models are now based on the contribution of users in varying extents. Amazon is profiting from review reports of their customers. Ebay started a "Review and Guides Program" where Ebay members can rate and share their opinions about products.[1] Wired news cited BlogBurst – a new service that delivers content from bloggers to "established" media like the Washington Post or the San Francisco Chronicle for publication in the news or feature sections of their online services, as well as print editions.[2] Wikipedia exists exclusively because users create the content. Thereby wikipedia is "only" the most successful and best known platform for user driven content. Many more wiki-based communities exist that produce much content. Buzzwords like "participative journalism"or "grassroots journalism" are circulating in communication research circles. Blogs, RSS[3] and podcasts are further labels for this development. These technologies allow a wide range of people the easy publishing and sharing of their own created content.

---

[1] More detailed information about the eBay program at http://pages.ebay.com/learn_more.html (06/01/20)

[2] http://www.wired.com/news/culture/0,70631-0.html?tw=rss.index; 06/04/13

[3] RSS (Rich Site Summary or Really Simple Syndication) is a family of XML dialects for Web syndication. RSS allows Internet users to subscribe to websites that have provided RSS feeds; with RSS a subscribing user can keep track of changes automatically (see http://web.resource.org/rss/1.0/spec; 06/01/30)

The objective of this research is to shed some light on the success factors that are responsible for content production from the perspective of community members. The results can provide empirically validated insights on how to enlarge the content base of an existing user driven content platform.

The paper is structured as follows: Section 2 provides the background of the study. Section 3 describes the method used. In the fourth section we present some descriptive results. In section 5 we publish the results of our analysis. The paper concludes with a discussion of the study results and an outlook on possible future research topics.

BACKGROUND

There are many directions in which research on user driven content communities can aim. Among them are questions about implications for media politics or communications research orientated questions (Schweiger and Quiring 2005). The focus of our study is more economically affected and is partly motivated by two observations: first, user driven content seems to become more and more widespread. The newly introduced "Review and Guides" program from Ebay or the mentioned BlogBurst service (see the introduction section) are indicators for that. Second, the communities which are responsible for the production of user driven content do not seem to have that tight social coherence (see below) which is often seen as a constitutional element of virtual communities (Dannecker and Lechner 2005). Whereas "classical" communities generate content and information for the use within the community the user driven content communities produce content for every one who is interested in that content. The concept of user driven content is mainly regarded as a mass phenomenon (Schweiger and Quiring 2005).

There are perhaps as many definitions about virtual communities as there are authors on the subject. But as (Schobert and Schrott 2001) have stated a minimal consensus can be identified. Constitutional elements of virtual communities are common interest, common norms and a common interaction platform. Qualifying elements are emotional binding forces, continuity and reciprocity. Especially these more sociologically orientated factors are seen as important success factors for virtual communities (Dannecker and Lechner 2005).

It is then the scrutiny of these qualifying principles that is especially interesting when dealing with user driven content communities. The observation of review reports at amazon.com for example nourishes the suspicion that the value of emotional binding forces, continuity and reciprocity is rather weak.

This is the starting point of your research question. With our survey we wanted to find the success factors that are responsible for the core piece of user driven content communities – the production of content. It was our goal to find evidences about the underlying principles of content production.

APPROACH

Object of our study was Ciao. Ciao is an online community in Europe that reviews and rates millions of products and services. More than 10 million consumers visit the site every month. The operator of Ciao is a company based in Germany. The business model consists of selling advertising space on Ciao.com and to provide market research data to companies. To do so, it is the aim of Ciao to accumulate as much content (that is the reviews of products and services which are made from users of these products/services) as possible. Much content attracts many page visitors. That implies good prices for ads on Ciao. Much content also means much marketing data which can be sold. Ciao is similar to the "reviews & guides" program eBay launched some months ago.

The Ciao platform is an example of a mass user driven community: there are so many reviewers and much more readers (table 1) that it should be hard to discover significant emotional forces, continuity or reciprocity. This is of course an assumption that should be verified. A first hint in this direction may be the fact that Ciao users hardly communicate directly with each other (this fact is being presented in the descriptive section of this article; see Figure 1). The absence of strong binding forces that exist within traditional communities like newsgroups or discussion boards lead to the question why users should add content to this more anonymous form of appearance.

As user driven content communities are a relatively new research subject, we chose an exploratory approach to identify the factors which explain the volume of content in a community. The design of the survey is based on the considerations of (Haenecke 2002). That means among other things that an exploratory approach has to encompass many perspectives. Thus, our online questionnaire was composed of four sections: general variables, variables associated with sociologically, technologically and content-orientated issues. The questionnaire consisted of 27 questions.

The participants indicated their agreement with a set of statements using a 5-step Likert-type scale of bipolar adjectives that we vary slightly to align the wording to the differing contexts of the questions. We transformed the verbal scale into a

numerical scale for our analysis. To ensure the comprehensibility of our questionnaire we conducted a pretest with 20 students. We chose 1279 users randomly and contacted them via E-Mail. Table 1 gives an overview about the survey's key data. Sample demographics of our study are shown in Table 2.

Department conducting the survey	Institute for Information Systems and New Media at University of Munich
Time period	2005/03/01- 2005/03/04
Method of data collection	Online-questionnaire
Universe	18,637 (active[4] German Ciao members)
	591,496 (German Ciao members overall)
Number of persons contacted	1279
Number of persons surveyed	520 (40,6% response rate)
Number of questionnaires that enters the analysis	421 (33% of persons contacted)

Table 1: Overview of the sample's key data

Variable	Sample demo-graphics
Age	
0-17	1.9%
18-24	23.28%
25-34	23.52%
35-44	37.05%
45 and older	14.25%
Total	100%
Education	
Secondary school	4.28%
Junior high school	18.76%
University-entrance diploma	28.27%
German vocational education	16.3%
University	29.92%
Doctor's degree	0.66%
No answer	1.9%
Total	100%
Gender	
Male	69.12%
Female	30.88%
Total	100%
n-complete	421

Table 2: Sample demographics

There are some problems associated with that kind of survey: as we had no influence on the contacted persons to conduct the questionnaire our sample is self selective and therefore cannot be regarded as being representative (Bortz and Döring 2002). Statements about non-participants cannot be made.

---

[4] "Active member" means members that have published minimum one review report between March 2004 and March 2005

The response rate of 40.6% can be seen as adequate (Bortz 1999). The sample size is adequate for conduction a factor analysis (Haenecke 2002).


DESCRIPTIVE RESULTS

In addition to the more analytical section 5 we would like to present some descriptive results[5] about the Ciao community that will help us to make the conclusions about the coherence within the Ciao community more comprehensible. It would be interesting to contrast these results with comparable studies about the community that produces the book reviews on amazon.com for example.
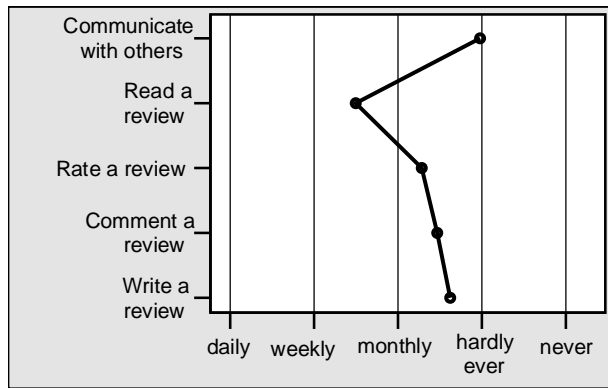
Figure 1: content orientated activities

As already stated, it is interesting so see that there is almost no direct communication between the Ciao-members. Our sample members declared by means that they hardly ever "communicate with each other". We see this as an indicator for our suspected weak coherence of mass user driven communities.
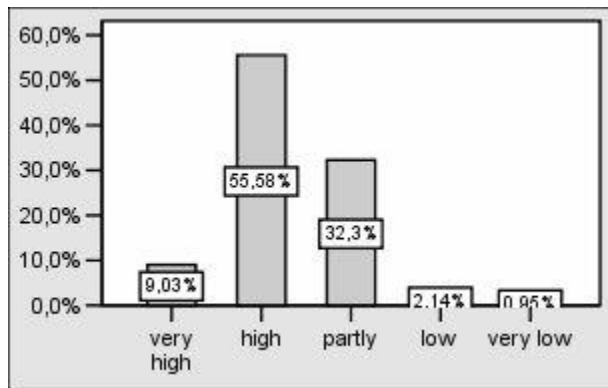
Figure 2: Trust in review reports

As the majority of Ciao community members do not know each other it is interesting to see how our sample participants trust and assess the presented content.

Most of our surveyed persons rated the reports as being reliable on a high/very high level (see Figure 2). Obviously they do not suspect product or service providers to systematically manipulate reports or ratings in order to portray the products/services in a positive manner.

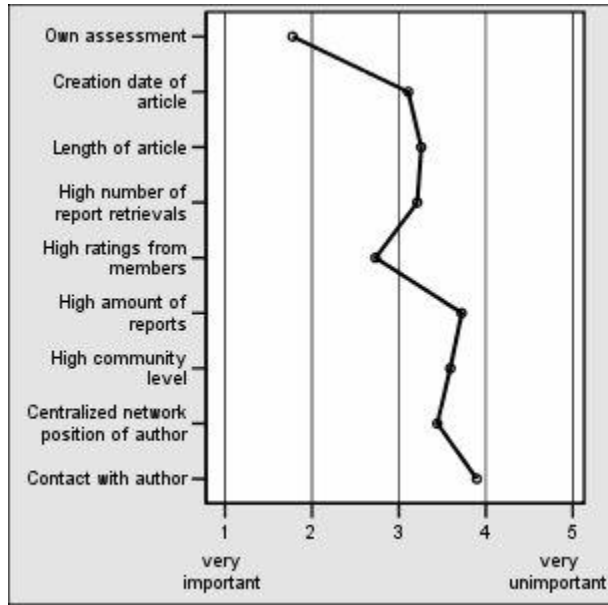
[5] All figures are stated by means

Figure 3: Quality assessment indicators of review reports

In addition to that the by far most important indicator for quality assessment purposes is one's own view. We presume that it is the simplicity of assessing a review report that is responsible for that result. Only second best (with some distance) are the ratings of others. There are some more interesting facts. The community level[6], the acquaintanceship with the author of a report and the network position[7] an author held is unimportant for quality assessment purposes. These findings can be interpreted as a hint that the usage of the community is focused more inwardly towards a user's own perspective. It is not the others that count but one's own assessment or more "technical indicators" like the creation date of an article or the length of a report.

ANALYTICAL RESULTS

The first task of your exploration was a correlation analysis: we tested the connections between our independent variables and our dependent variable (amount of user driven content production). Table 3 shows the results.

General variables	Correlation (Spearman) with variable "amount of user driven content production"
Weekly length of stay at Ciao.com	.033 (n. s.)
Duration of membership at Ciao.com	.065 (n. s.)
Change of length of stay at Ciao.com	.290**
Comment a review	.504**
Rate a review without commenting	.510**
Read a review	.439**
Sociologically orientated variables	
Want to be helpful	.209**
Want to be noticed	.360**
Altruism	.275**

---

[6] The higher the activity (writing, commenting, rating) of a Ciao member the higher his community level is.

[7] Every member can declare another member as trustworthy. A member with the highest community level is the one that most other members have declared as trustworthy.

Building up identity	.395**
Monetary compensation	.130**
Communication with other members	.520**
Mutuality	.317**
Technologically orientated variables	
RSS-Support	.198**
Support of wiki-functions	.163**
Short reaction time of the website	.110*
Use of mobile phones	.132**
Use of pda's	.111*
Content orientated variables	
Amount of review reports	.042 (n. s.)
Trustworthiness of review	.128**
Creation date of a review report	.036 (n. s.)
Length of a review report	.107*
High rating of a review report	-.130**
Number of retrievals per report	.011 (n. s.)
Use of professional online media	.009 (n. s.)
Use of professional offline media	.045 (n. s.)

Table 3: Correlation matrix; level of significance 0.05*; 0.01 or not significant (n. s.)**

In a second step and with the help of a factor analysis (Kim, Mueller 1978a and 1978b) we reduced the variables which do not correlate with each other to success factors. We assigned the following labels to the identified variable-clusters:

Factors/ Items	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
Use of Ciao platform										
Comment a review report	0.83	0.1969	0.1118	0.0831	0.1036	0.0521	-0.0308	0.064	0.1042	0.0404
Rate a review report	0.81	0.1324	0.1646	0.0397	-0.006	0.1398	0.1299	-0.0458	0.0704	0.0431
Read a review report	0.73	-0.0202	0.1544	0.1255	0.096	0.0156	0.368	-0.0404	0.0936	0.1128
Communicate with other community members	0.67	0.2663	0.1215	0.03	0.1294	-0.1225	-0.1394	0.1871	0.225	-0.0042
Sociological motives										
Building up an identity	0.2134	0.7745	0.0997	0.0722	0.1322	0.0397	0.0458	0.1241	0.1358	0.0026
Want to be noticed	0.1928	0.7039	0.1034	0.0969	0.2135	0.0191	-0.0871	0.096	0.1577	-0.0307
Mutuality	0.0894	0.647	0.1673	0.0265	0.0389	0.1647	0.2004	0.129	0.1322	-0.1128
Egoism	0.0643	0.6299	0.1122	0.0047	0.0839	0.1538	0.0859	-0.203	-0.1777	0.2688
Ease of access										
Support of wiki functions	0.1198	0.0609	0.8215	0.0214	0.1544	0.0576	0.0122	0.0505	0.0676	-0.0147
Weblog support	0.1721	0.215	0.7989	0.1133	0.1521	0.0407	-0.0192	0.0808	-0.0254	0.1623
RSS support	0.1115	0.1013	0.7967	0.0534	0.1822	-0.0228	0.0252	0.1083	0.0013	0.022
Usability										
Transmission speed	0.104	0.0668	0.0268	0.8204	0.0396	0.0358	0.0863	0.0265	0.0121	0.1264
Intuitive user interface	0.054	-0.0213	0.0611	0.7829	0.0807	0.0434	-0.047	-0.067	0.0939	-0.0239
Fast reaction time of the website	0.0922	-0.0364	0.1081	0.7734	0.0278	0.1032	0.031	-0.0682	0.1097	0.1219
Minor costs of hardware. software. internet connection	-0.0347	0.2425	-0.0358	0.583	0.0531	-0.0441	0.21	0.0881	-0.095	-0.1385
Multimedia										
Content as video	0.0642	0.1185	0.2331	0.0184	0.8547	-0.0122	0.0175	0.1554	-0.0329	0.0296
Content as audio	0.0228	0.1262	0.2764	0.0405	0.8163	0.0466	0.0961	0.2023	-0.0463	0.0163
Content as picture	0.2053	0.1462	0.1007	0.1547	0.4946	0.1716	0.0415	-0.0162	0.1799	-0.0239
Quality										
Monetary compensation	-0.004	0.3227	-0.0193	0.0902	-0.0067	0.6679	0.0528	-0.0735	-0.2381	0.1577
High rating of a review report	-0.2181	-0.0734	0.1543	0.0026	0.0222	0.6545	0.132	0.0625	0.1003	-0.219
Length of a review report	0.0033	0.076	0.0611	0.0705	0.1455	0.5785	0.0258	-0.0392	0.2013	-0.0488
Appreciation										
Trustworthiness of review reports	-0.0287	0.1881	-0.0906	0.1449	0.1577	0.1242	0.6293	0.0242	0.2124	-0.0386
Change in length of stay at Ciao	0.2584	0.0311	0.0874	0.0471	0.0086	-0.0427	0.5773	0.278	-0.0301	-0.0841
Consume of Ciao content	0.2802	0.0371	0.0584	0.1942	0.2511	0.0969	0.5345	-0.05	0.3626	0.0033
Mobility										
Mobile phone use	-0.0258	0.124	0.0976	-0.0531	0.1676	0.0445	0.0712	0.8072	-0.0023	0.0797
PDA use	0.0864	0.024	0.1229	-0.0028	0.0911	0.0294	0.0757	0.7976	-0.0016	0.062
Transmission										
Want to be useful	0.1264	0.1903	-0.03	0.0258	-0.0338	-0.0031	0.0555	-0.0615	0.7036	0.0181
Recommendation of Ciao content	0.2083	-0.0329	0.1052	0.0956	0.1106	0.1201	0.1122	0.0587	0.5888	0.1913
Network factor										
Possessing a weblog	0.0749	-0.0187	0.1471	0.0595	-0.0401	-0.0915	-0.1305	0.1754	0.0976	0.7474
Using product-/service information form provider	0.0533	0.107	-0.0908	0.1215	0.4372	0.0683	0.1723	-0.0423	0.1422	0.4668
Variance explained	0.19	0.07	0.06	0.056	0.049	0.042	0.041	0.036	0.032	0.03
Cronbach's alpha	0.852	0.695	0.841	0.773	0.747	0.535	0.093	0.71	0.295	0.0571

Table 4: Factor matrix

DISCUSSION

It is not surprising that there are high correlations between variables that deal directly with the use of the platform (comment, rate, read) and the amount of content production on Ciao (Table 3). This tendency is also confirmed by the result of the factor analysis that show that the factor which we labelled "use of Ciao platform" has the biggest value in terms of variance explained (Table 4).

More interesting is the variable "Duration of membership at Ciao.com" and the interrelated correlation value – which is not significant (Table 3). In section 2 we stated that Ciao is a mass user driven content platform with expectedly small emotional forces, continuity or reciprocity at work. The noticed lack of significance enforces this argument of a weakly linked community. In case of a more closely linked community we should have measured a relationship between "duration of membership at Ciao.com" and content production. It takes time to build an identity or to get noticed. As the amount of direct communication between Ciao members is very tiny (see the descriptive section) the only chance to build an identity at Ciao is to produce content. But we could not find this effect.

On the other side the high correlation coefficients at the sociologically orientated variables can be interpreted as a sign that the social coherence forces are nevertheless at work. The concepts of emotional forces, continuity and reciprocity should correspond with the variables identity building, want to be noticed etc. One argument could be that our subjects overestimate the image building effects of contributing to the content base. Another explanation could be that it is not the other community members at Ciao that are the important others but "real life" peer groups like friends that matter. This argument can be linked to the concept of "subjective norm" that developed. Subjective norm is a person's perception "that most people who are important to him think he should or should not perform the behaviour in question." (Ajzen, Fishbein 1980)

As our results are ambiguous we should call for more detailed research on this specific topic and should ask: what are the fundamentals for the measured relevance of sociological factors – overestimation effects on the side of community members, a mistakenly observation that mass user driven content communities are more anonymous forms of communities or the existence of sociological factors that do not take effect in direction of other platform community members but in direction of "real life" peer groups?

The (descriptive) fact that Ciao members hardly ever communicate with each other is accompanied with the result of our correlation analysis that the variable "communication with other members" is significantly linked with content production activities. This observation is of course not surprising because discussions increase the likelihood of subsequent writing of new or amending articles for example. However, the result makes clear that in order to foster communication among community members it may not be enough to place functions to members disposal like commenting or contacting the author with the help of the Ciao inherent contact function.[8]

In a technological sense the relatively high values between RSS-/ wiki-support and the amount of content is very interesting because of the implications that one could derive. RSS is a tool that finally helps you to keep track of digital information that is changing consistently. With the help of RSS-Feeds (which the platform operator has to provide) and RSS-software tools (like the Firefox-Browser) a user can track changes at subscribed RSS-Feeds nearly without any effort. But why should RSS stimulate content production? The idea is that RSS makes processes that take place on the content platform more visibly to a user and therefore increase the likelihood of content production. Further assistance comes from the results of the factor analysis that shows that these variables which we labelled with "ease of access" (among them are the RSS-support and wiki- and weblog-functions) are on third place regarding the explanation of the observed variance of the success variable. This said we could formulate following hypothesis: amazon.com or wikipedia for example can stimulate content production (review reports and encyclopedic articles respectively) if they introduce RSS-support on their platforms.

The factor analysis shows that the variables that can be labeled as "ease of use" are important for content production. This insight is not new and confirms the finding of other studies. See for example (Leimeister, Krcmar and Sidiras 2004).

Taking a look at the content orientated variables we can make some interesting observations: Obviously there is a negative correlation between high rated review reports and the willingness to add content to Ciao.com. A possible explanation can be the findings of (Preece, Nonnecke, Andrews 2004). In their study they identified community members that do not contribute to the community because they regard this as being favourable to the community. These members stated that they have "nothing to offer" or that "others have said it" already. This argument fits perfectly to our finding.

---

[8] In order to contact the author of a review report members have to leave a message on the Ciao platform. The author can only recognize the existence of this message if he is logged in.

CONCLUSION

There is statistical evidence that content production activities are closely linked with sociological motives, factors that increase the simplicity of tracking the activity on the Ciao platform and the ease of use of using the community.

It is not the fact that sociological motives matter which is interesting. It is the ambiguous result that at the same time that there is no convincing descriptive data that reflects the necessary basic principles on which sociological factors should rely on, like mutuality, reciprocity or continuity.

Once more this study attests that ease of use is an important factor.

RSS and wiki functions have been identified as being promising technologies for stimulating content production.

In summary this study stimulates two main proposals: first, as it is not clear what status user driven communities like Ciao take in the continuum of all virtual communities in terms of sociological forces, more detailed studies should be conducted. Directions of research could be: overestimation effects on the side of community members, a misinterpreted observation of our descriptive data that there are no forces that would promote sociological effects or the existence of sociological forces that take effects in the direction of "real life" peer groups.

Second, as there are strong indicators that RSS has effects on content production, larger studies with more detailed and sophisticated instruments should be adopted.

REFERENCES

1. Schweiger, W., Quiring O. (2005): User-Generated-Content on Mass Media Websites. Just a Variety of Interactivity or Something Completely Different? *Paper presented at the 55th Annual Conference of the International Communications Association*, New York, May 26-30, 2005.

2. Dannecker, A., Lechner, U. (2005): Erfolgsfaktoren Virtueller Gemeinschaften im Gesundheitswesen. In Meissner, K., Engelien, M. (Ed.): *Virtuelle Organisation und Neue Medien*, TU Dresden, p. 319-332.

3. Schobert, T., Schrott, G. (2001): Virtual Communities. In *Wirtschaftsinformatik*, 2001, 43(5), p. 517-519.

4. Haenecke, H. (2002): Methodenorientierte Systematisierung der Kritik an der Erfolgsfaktorenforschung. In *ZfB*, 2002, 72(5), p. 165-183.

5. Bortz, J., Döring, N. (2002): Forschungsmethoden und Evaluation für Human- und Sozialwissenschaftler, 3. überarbeitete Auflage, Berlin.

6. Bortz, J. (1999): Statistik für Sozialwissenschaftler, 5. vollständig überarbeitete und aktualisierte Auflage, Berlin.

7. Kim, J.-O., Mueller, C. W. (1978a): Introduction to Factor Analysis. What It Is and How To Do it, Sage Publications, Beverly Hills.

8. Kim, J.-O., Mueller, C. W. (1978b): Factor Analysis. Statistical Methods and Practical Issues, Sage Publications, Beverly Hills.

9. Ajzen, I., Fishbein, M. (1980): Understanding Attitudes and Predicting Social Behaviour, London

10. Leimeister, J. M., Krcmar, H., Sidiras, P. (2004): Success factors of virtual communities from the perspective of member and operators: An empirical study, *Proceedings of the 37th Hawaii International Conference on System Sciences*.

11. Preece, J., Nonnecke, B., Andrews, D. (2004): The top five reasons for lurking: improving community experience for everyone, *Computers in Human Behaviour*, 2004, 20, p. 201-223.