2008

Why Participate in an Online Social Network? An Empirical Analysis

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Abstract

Despite their enormous success the motivation behind user participation in Online Social Networks is still little understood. This study explores a variety of possible incentives and provides an empirical evaluation of their subjective relevance. The analysis is based on survey data from 129 test subjects. Using Structural Equation Modeling, we identified that the satisfaction of the needs for belongingness and the esteem needs through self-presentation together with peer pressure are the main drivers of participation. The analysis of a sub-sample of active users pointed out the satisfaction of the cognitive needs as an additional participation determinant. Based on these findings, recommendations for online social network providers are made.

Keywords: Social Network Analyses & Economic Implications, Online Communities, Motivations, Affect & Emotion, Online Social Network Participation, Maslow's Hierarchy of Needs, Structural Equation Modeling, PLS.

1 INTRODUCTION

The interest in Online Social Networks (OSNs) has come with their breath-taking success, expressed in the steep increase in user subscriptions and activity. Facebook.com, a leading OSN, currently has more than 55 million active users, with an average of 250,000 new registrations per day (Facebook 2007). StudiVZ.net, the most popular OSN in Germany, witnessed an impressive increase in user subscriptions since its launch in 2005, currently having more than 3 million members (StudiVZ.net 2007). According to Alexa.com (2007), four OSN sites (MySpace.com, Facebook.com, Orkut.com and Hi5.com) belong in the top ten of the global traffic ranking.

Despite such unprecedented growth, OSN providers are competing for their user bases. Most current statistics show that if not gratified and involved properly, members lose interest and eventually reduce their level of activity (Schmidt 2008). Moreover, investor behaviour signals that current profitability of OSNs is not taken as a primary criterion for their valuation. Measures such as number of users and user involvement appear to be more important for potential buyers (Spiegel.de 2007). In this context, user participation can be considered as a main indicator of community success.

However, despite its seeming triviality and numerous research attempts, the answer to the question of what drives user participation and involvement still remains open. Filling this gap and building on the recognized theories of human behavior and technology adoption, this study seeks to provide an empirical evaluation of user participation determinants.

This paper is structured as follows. In the next section, we review related literature on drivers of user participation and involvement with an OSN community. In section 3, we present a model which connects OSN participation with two sets of factors: the effective fulfillment of users' needs by an OSN and peer pressure. Research methodology and model results are presented in section 4. Finally, we summarize our findings, discuss some limitations, and above all, give recommendations for OSN providers.

2 RELATED WORK

In our study we concentrate on communities of students and young people who interact online looking for entertainment and exchange of information. Boyd and Ellison (2007, p. 2) provide an instrumental definition of OSN sites as "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system". Examples are Facebook.com, MySpace.com or StudiVZ.net.

So far different approaches have been adopted to study the motivation behind participation in Virtual Communities (VCs) of various kinds. Among others, researchers have adopted the theory of reasoned action (e.g. Hsu & Lin 2008), social capital and social cognitive theories (Chiu et al. 2006, Hsu et al. 2007), a "uses and gratifications" approach (e.g. Nambisan & Baron 2007), as well as an instrumental perspective (Leimeister et al. 2004) to understand drivers behind participation in VCs.

In our study we consider user satisfaction to be a prerequisite for active user participation. Community members must find on the platform what they are looking for, in other words their needs and requirements must be satisfied. Supporting this reasoning, Langerak et al. (2003) showed empirically that *satisfaction with member-to-member interactions* is a significant driver of participation in the VC. Connecting the satisfaction of user needs with participation, Hagel and Armstrong (1997) distinguished four needs VCs satisfy: *need for transaction, need of interest, need of fantasy* and *need for relationship*. Kollock (1999) identified *anticipated reciprocity, increased recognition* and *sense of efficacy* as the main determinants of participation in VCs.

Despite a large number of studies on various types of VCs, the research on OSNs in particular remains limited and is mostly of qualitative nature (e.g. Chan et al. 2004, Boyd 2007, Boyd & Ellison 2007).

Our study contributes to the existing literature by providing a systematic approach to the analysis of the incentives for participation in an OSN, which is a subpart of VCs. In our paper we propose and empirically test a model which is based on three recognized theories: the theory of needs developed by Maslow (1943, 1971), the theory of planned behavior developed by Ajzen (1985) and the innovation diffusion theory by Rogers (2003). On the basis of these theories, we argue that the satisfaction of users' needs in OSNs and peer pressure are the main drivers of user participation. We aim to analyze empirically the relative importance of these factors for user activity in OSNs.

3 THE MODEL

Despite existing criticism, Maslow's theory (1943, 1971) has proved viable in explaining human motivation in different settings. Maslow and Lowery (1998) distinguished between eight groups of needs: *physiological needs, safety needs, needs for belongingness and love, esteem needs, cognitive needs, aesthetic needs, self-actualization* and *transcendence needs*, suggesting that these needs should be satisfied from the basic to the highest one (visualized as a pyramid). In this study, we adopt and test the applicability of Maslow's hierarchy of needs in the OSN context. We consider the satisfaction of some individual needs by the platform as an important determinant of user participation. In the discussion below, we identify these relevant needs and integrate our findings in the theoretical model.

Physiological and Safety Needs are located at the bottom of the pyramid indicating their paramount importance for every individual. In the context of OSNs it can be assumed that in households with the Internet access these basic needs are met. More importantly however, OSNs cannot realistically contribute to the satisfaction of such needs. For this reason, they are not considered in the model below.

Need for Belongingness is the first social need an individual seeks to satisfy after elementary needs are fulfilled. The satisfaction of this need gained a new dimension with the arrival of VCs (Koh & Kim 2003, Chan et al. 2004, Blanchard and Markus 2002). For example, Teo et al. (2003) have shown that the sense of belongingness has a significant positive impact on the intention to use VCs.

In general, OSN platforms enable users to get a feeling of support and togetherness through interaction with other community members. Adding and managing friends, participating in groups and events gives members the feeling of being connected. At the same time, constant notifications remind users of their affiliation. By encouraging exterior friends to join, a member automatically defines herself as an insider as opposed to the invited outsider, enforcing the sensation of community identification. We can therefore hypothesize that **(H1): *the satisfaction of the individual needs for belongingness by an Online Social Network is positively related to user participation*.**

Once the need for belongingness is met, an individual moves one step up in the hierarchy of needs: she wants to have an important position in a group and be respected by others. Thus, the satisfaction of *esteem needs*, with self-esteem needs as their most relevant sub-group, gains importance. Franks and Marolla (1976) suggested a distinction between two dimensions of self-esteem by pointing out its outer and inner sources. In their view self-esteem can be conceptualized as a function of two processes: "(1) the reflected appraisals of significant others in one's social environment in the form of social approval and (2) the individual's feelings of efficacy and competence derived from his own perceptions of the effects he has on his environment" (Franks and Marolla 1976, p. 325).

By adopting this conceptualization to the OSN context and building on related studies (Lampe et al. 2007, Boyd 2007, Chan 2003) as well as intensive discussions with active OSN users, we identified two main *esteem-related determinants* of OSN participation: the satisfaction of *the self-esteem needs,* defined as an individual feeling of self-worth one gains through approval by others in an OSN and (2) *of the esteem needs through self-presentation,* defined as one's feeling of attractiveness and efficacy

resulting from the effects one thinks to produce in an OSN. For example questions "*I am respected for who I am in my OSN*" and "*In my OSN I often get a chance to show off*" were used to measure the former and the latter determinants respectively.

OSNs can promote fulfillment of the outer *self-esteem needs* by giving participants the possibility to engage in activities which promote the feeling of being accepted, recognized and popular among one's peers. Thus, the creation of groups and the contribution to group discussions can help members to establish a certain reputation and thereby enable them to feel important. Guestbooks, ratings and testimonials can also promote the feeling of being appreciated. In OSNs a user is given the possibility to foster her position in the community as a central node in the circle of friends. Therefore, it is plausible to hypothesize the following **(H2):** ***the satisfaction of the individual self-esteem needs by an Online Social Network is positively related to user participation.***

In line with the impression management theory, Chan et al. (2004) found that the possibility of defining one's profile encourages user participation. OSN platforms provide new means for users to improve their self-concept (either consciously or unconsciously) by offering more control over self-expression in a new, often anonymous, way. Participants can submit extensive profile information, constantly update it or show others what "cool" friends they have in their contact list. These features reinforce the feeling of the effect one produces, which in turn fosters participation. We therefore hypothesize that **(H3):** ***the satisfaction of the individual esteem needs through self-presentation by an Online Social Network is positively related to user participation.***

Cognitive needs are expressed in the individual desire to know, understand and explore (Maslow 1943). Technically, OSNs can satisfy cognitive needs through messaging, chatting or studying profile information of other users. Through OSN platforms, many participants follow up on new trends in fashion, music, movies or social events. Heated group discussions also hint at participants looking for knowledge through virtual spaces. Therefore, it is plausible to hypothesize the following **(H4):** ***the satisfaction of the individual cognitive needs by an Online Social Network is positively related to user participation.***

Aesthetic needs imply individuals' search for beauty, symmetry and order. Assuming that pleasant look and feel of the OSN site is rather a commodity than a unique selling point at the age of highly sophisticated web design tools, participation in OSNs can hardly be driven by the search to satisfy such needs. For this reason, they are not considered in the model below.

Self-actualization needs stand for the realization of one's potential or, in other words, represent individual self-fulfillment. Self-actualization remains a black box in many ways. Each individual defines it for herself and no single measure applies. Maslow (1956) describes self-actualized individuals by the following characteristics: efficient perception of reality, creativity, spontaneity in ideas and actions, interest in solving others' problems, closeness to other people, and others. OSNs might potentially contribute to the satisfaction of these needs by allowing users to self-express and be creative in their profiles or, for example, group discussions. While it is too daring to assume that OSNs can significantly contribute to individual self-actualization, a weak connection can still be inferred **(H5):** ***the satisfaction of the individual needs for self-actualization by an Online Social Network is weakly positively related to user participation.***

Maslow and Lowery (1998) related the satisfaction of the *transcendence needs* to individual peak experiences as well as individual aspiration to contribute to others' self-fulfillment. Even though OSN platforms can barely contribute to the achievement of peak experiences, they offer users a possibility to help others, thereby enabling that the altruistic dimension of users' transcendence needs can be met. While not all users behave according to altruistic motives, some do. We can, therefore, hypothesize that **(H6):** ***the satisfaction of the individual altruistic needs by an Online Social Network is weakly positively related to user participation.***

Although participation in OSN platforms is to a large extent dictated by the user-related factors described above, external influences should be accounted for as well. Based on the theory of planned

behavior (Ajzen 1985) and the innovation diffusion theory (Rogers 2003) we have singled out *peer pressure* as an important external determinant of OSN participation. Boyd (2007, p. 10) highlights the importance of peer pressure stating that: "teenagers typically learn about MySpace through their friends – they join because a friend invites them to join." OSNs come into existence and expand mainly as a result of a network effect that makes people connect and participate in the community. We therefore hypothesize that **(H7):** ***the degree of peer pressure to participate in an Online Social Network is positively related to user participation.***

Eventually, peer pressure can be one of the most important factors to motivate users to join, whereas consistent satisfaction of the user needs by an OSN platform is important for users' subsequent active participation. The above mentioned hypotheses can be summarized in the model below:

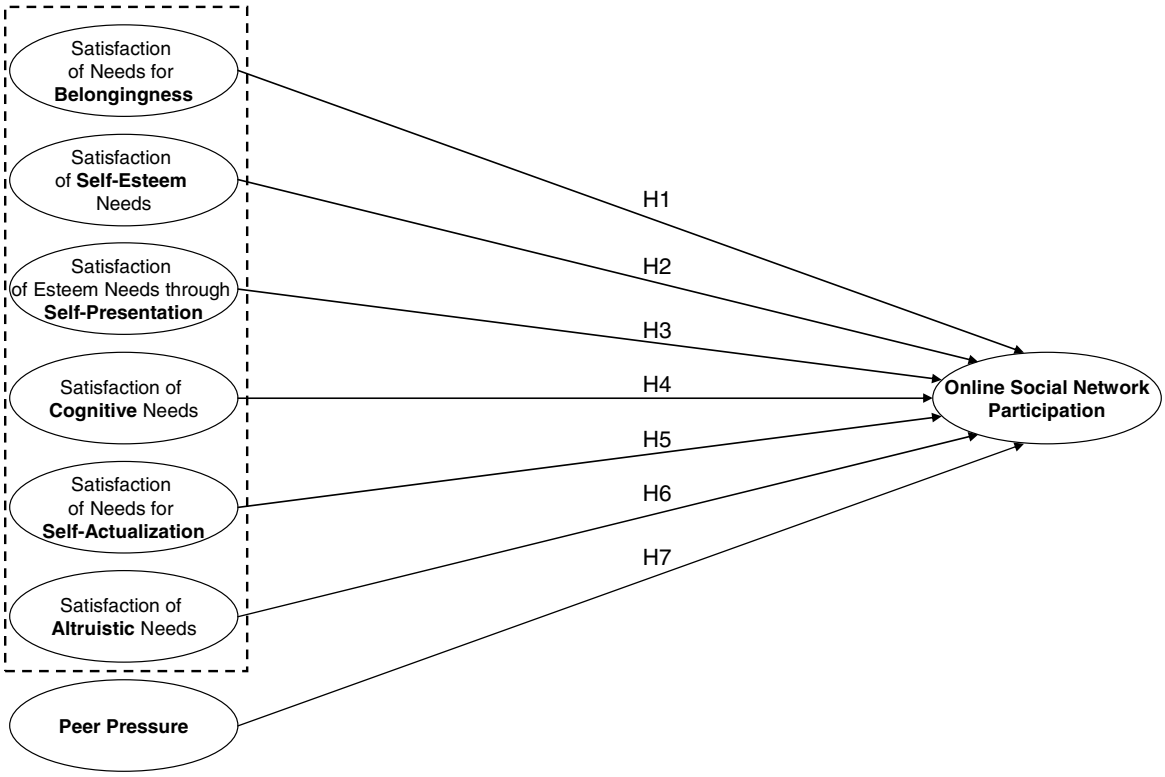

Figure 1. The conceptual model of factors influencing participation in an OSN.

4 EMPIRICAL STUDY

4.1 Survey Design and Sampling

In line with methodological guidelines for survey design, an online pilot survey with 25 OSN users was conducted. Taking into account their responses, minor changes to the survey instrument were made. In the second phase a paper-based version of the questionnaire was offered to all participants of a compulsory lecture at the School of Business and Economics of our university. Simultaneously a survey was offered online, and participants were recruited using a convenience sampling procedure. The responses were collected during October 2007. The overall gross sample consisted of 152 observations. After deleting observations which were unusable, a final net sample of 129 observations (97 paper-based and 32 online) was obtained. The comparison of the answers to the paper-based and online questionnaires showed no significant differences between the two samples. With 54.3 %,

women were slightly overrepresented in the final sample. Due to the chosen sampling procedure, all respondents were students and most of them (90.7 %) were between 20 and 29 years old. 76 % answered the survey for StudiVZ.net (the most popular student OSN in Germany), 14 % for Facebook.com and 2.3 % for MySpace.com as their most used OSN. 58.1 % of the survey participants used their OSN more than 10 minutes a day and are referred to as active users in our study.

4.2 Development of Measurement Scales

All constructs in the study involved multiple items. Content validity of the constructs was ensured by relying on pre-tested scales where possible. In order to maintain content validity of the adopted scales, experts in the field of OSNs were asked to verify the scales. Additionally, during the pilot phase, unclear items with low inter-item correlation coefficients were removed.

Table 1 summarizes sources used to operationalize model constructs. Most of the studies employing Maslow's hierarchy of needs (e.g. Schneider & Alderfer 1973, Oleson 2004) use (Porter 1961) or (Lester, 1990) scales to operationalize the satisfaction of human needs. However, since most of these studies are related to an organizational context, existing scales had to be adopted. All needs-related items were anchored on a seven-point Likert scale. The scales are available from the authors upon request.

Construct Name	Construct Type	Number of Indicators	Sources
OSN Participation	endogenous	7	Ellison et al. 2006, own items
Peer Pressure	exogenous	3	Ajzen 2002, own items
Satisfaction of the Needs for:			
Belongingness	exogenous	3	Chiu et al. 2006, Leary et al. 2005, own items
Self-Esteem	exogenous	5	Lester 1990, Schneider and Alderfer 1973, own items
Esteem through Self-Presentation	exogenous	5	IPIP Scales Inventory, Six Factor Personality Questionnaire (Exhibition), own items
Cognitive Needs	exogenous	4	Ellison et al. 2006, Ridings et al. 2002, own items
Self-Actualization	exogenous	4	Lester 1990, Schneider and Alderfer 1973, own items
Altruism	exogenous	5	Ridings et al. 2002, own items

Table 1. Construct Operationalization.

4.3 Research Methodology

The purpose of the statistical analysis is to explain the links between the exogenous variables (satisfaction of various needs and peer pressure) and the endogenous variable (OSN participation). This is the *Structural model*. Because none of the variables can be directly observed (latent variables), they have to be measured by indicators (the relevant question items). How each latent variable is linked to its indicators is described by the *Measurement model*. The overall model is a *Structural Equation Model (SEM).*

There are two main possibilities to estimate SEMs. The approach by Jöreskog (1977) is based on the analysis of the covariance structure. The other approach, Partial Least Squares (PLS), was originally proposed by Wold (1982) and is based on variance structure analysis. While both approaches aim to empirically evaluate the relations between latent variables, there are conceptual and methodological differences between them.

We have chosen the PLS approach for two specific reasons. First, our model is the first one to empirically evaluate the relationship between people's needs and their participation in an OSN. Therefore, the underlying theory cannot be regarded as strong as required for the covariance-based

approach. While the covariance-based approach (e.g. with LISREL) is better suited for confirmatory analysis, PLS is generally preferred for theory building and prediction and requires fewer statistical assumptions (Fornell & Bookstein, 1982). The second important reason for choosing PLS is the sample size. PLS requires the number of observations to be at least 10 times the number of exogenous constructs influencing the most complex endogenous construct (Barclay et al. 1995), which amounts to a minimum of 70 observations in our case. We can therefore assume that the results of our model are not influenced by sample size issues. All calculations were carried out using VisualPLS 1.04, a statistical package developed for the estimation of SEMs using the PLS approach.

4.4 Model Evaluation

In contrast to the covariance-based approach, no overall measure of goodness of fit is available to judge the overall quality of the SEM when using PLS. However, Chin (1998) argues that in Structural Equation Modeling the importance of goodness of fit measures is generally overestimated. Thus, as suggested by Chin (1998) and Ringle (2004a), we examine in detail the different criteria available for evaluating performance of the *Measurement and Structural Models*. Therefore, data analysis involves two steps: evaluation of the *Measurement Model* and of the *Structural Model*.

4.4.1 Evaluation of the Measurement Model

In order to examine construct validity in the Measurement Model, Convergent Validity and Discriminant Validity were assessed.

According to Bagozzi and Philips (1982, p. 468) ”convergent validity is the degree to which two or more attempts to measure the same concept are in agreement”. Three criteria were evaluated: Indicator Reliability (for each indicator), Composite Reliability and Average Variance Extracted (for each latent variable). To ensure Indicator Reliability, constructs should explain at least 50 % of the variance of their respective indicators. Indicators with factor loadings less than 0.4 should be eliminated from the model (Homburg & Giering 1998). With respect to these criteria, indicator reliability is assured. For Composite Reliability, all values exceed by far the minimum required threshold of 0.6 (Ringle 2004a, Homburg & Baumgartner 1998) as shown in Table 2. Finally, Fornell and Larcker (1981, p. 46) state that if the AVE “is less than 0.5, the variance due to measurement error is larger than the variance captured by the construct, and the validity of the individual indicators, as well as the construct, is questionable”. In our case, as can be seen in Table 2, the AVE-values for all latent variables are bigger than 0.5.

Additionally, Cronbach’s Alpha was computed in order to evaluate Internal Consistency, which measures the reliability of the construct measurement scales. For all latent variables, Cronbach’s Alpha is above 0.7, showing that Internal Consistency is assured (Nunnally 1978).

Putting together the results from the different criteria, Convergent Validity can be assumed.

Bagozzi and Philips (1982, p. 469) describe Discriminant Validity as “the degree to which measures of distinct concepts differ”. To ensure Discriminant Validity, Fornell and Larcker (1981) require that the AVE for any latent variable has to be bigger than the squared correlation between this variable and all other latent variables in the model. As can be inferred from Tables 2 and 3, this requirement is indeed ensured for all latent variables.

In the context of an explorative analysis we remark that the factor loadings of every indicator on its respective latent variable are higher than the cross-loadings (table available from the authors upon request), indicating that the second criterion for Discriminant Validity is also fulfilled.

Construct	Number of indicators	Composite Reliability	Average Variance Extracted (AVE)	Cronbach's Alpha
OSN Participation	7	0.885	0.529	0.835
Belongingness	3	0.847	0.649	0.706
Self-Esteem	5	0.855	0.545	0.792
Esteem through Self-Presentation	5	0.844	0.524	0.748
Cognitive Needs	4	0.901	0.694	0.843
Self-Actualization	4	0.891	0.673	0.825
Altruism	5	0.918	0.693	0.882
Peer Pressure	3	0.834	0.628	0.707

Table 2. Quality criteria of the constructs.

Construct	OSN Participation	Belongingness	Self-esteem	Self-presentation	Cognitive Needs	Self-actualization	Altruism	Peer Pressure
OSN Participation	1.000							
Belongingness	0.498	1.000						
Self-Esteem	0.514	0.662	1.000					
Esteem through Self-Presentation	0.519	0.404	0.627	1.000				
Cognitive Needs	0.424	0.463	0.530	0.513	1.000			
Self-Actualization	0.515	0.501	0.682	0.650	0.553	1.000		
Altruism	0.448	0.475	0.512	0.587	0.555	0.620	1.000	
Peer Pressure	0.495	0.234	0.387	0.459	0.394	0.491	0.476	1.000

Table 3. Correlation between latent variables (i.e. between constructs).

4.4.2 Evaluation of the Structural Model

The R^2 measures the share of the variance of the latent endogenous variable which is explained by the latent exogenous variables. Recommendations for a good R^2 range from 0.40 to 0.60 (Ringle 2004a). Our model explains 44.6 % of the variance in OSN participation. In this early stage of research, such explanatory power of the model is high.

As the next step significance of the path coefficients was evaluated. PLS does not make any assumptions on the distributions of the latent variables, which makes standard parametric testing impossible. Instead, t-tests are performed on the basis of bootstrapping results. Table 4 presents path coefficients and t-tests for our model. As one can see, the satisfaction of the *needs for belongingness* and the *needs for esteem through self-presentation* together with the external determinant *peer pressure* are significant determinants of OSN participation.

Construct	Path Coefficient	t-statistic	Significance Level	Hypothesis
Belongingness	0.289	**2.887**	5%-level	H 1: supported
Self-Esteem	0.031	0.408		H 2: rejected
Esteem through Self-Presentation	0.200	**2.025**	5%-level	H 3: supported
Cognitive Needs	0.029	0.503		H 4: rejected
Self-Actualization	0.076	1.062		H 5: rejected
Altruism	-0.021	-0.364		H 6: rejected
Peer Pressure	0.284	**3.643**	5%-level	H 7: supported

Table 4. Path coefficients, significance levels and hypothesis evaluation.

Additionally, the analysis of a sub-group of active users showed that the satisfaction of the cognitive needs by OSNs is a significant determinant (at 10%-level) of OSN participation for them. For this sub-model all statistical criteria were also met. The R^2 amounted to 44.4%.

5 DISCUSSION AND MANAGERIAL IMPLICATIONS

As the results of the model show, the satisfaction of the *need for belongingness* is an important driver of OSN participation with a significant positive path coefficient of 0.289. Users with high level of identification are predicted to be more likely to integrate their OSN activities into their daily routines. Their active participation in a community can in turn reinforce their feeling of belongingness even more. The feeling of togetherness with the OSN can be fostered in different ways. First, the OSN functionalities which particularly support the sense of belongingness (cf. section 3) should be further developed. Secondly, maintaining a consistent image over time is essential to keep up the sense of belongingness. Regular social events, elements of corporate identity on everyday items, such as t-shirts or bags, give members a group feeling and connect virtual and real worlds. Corporate communication strategy should stress the community dimension by drawing a clear line between members and non-members of a particular OSN. Platform providers may consider referring to the community as a "we"-entity (instead of opposing themselves to OSN members), which can be easily implemented in emails or announcements to OSN members.

The satisfaction of the *esteem needs through self-presentation* is another important driver of OSN participation with a significant path coefficient of 0.200. OSNs grant users new means to construct and control the image they project on others (e.g. when designing their profile, communicating through pinboard or sharing photos). Our results show that the importance of these new possibilities should not be underestimated. While in the real world people are often limited in their ability to self-express in a desired way, OSNs offer users new ways to do so to a self-selected audience. When a user is subscribed under a false name, perceived anonymity can promote self-exposure even more. In line with our results, network providers can increase participation by providing additional functionalities which allow users to self-express, "show off" and control the image they project. For example blogs, online diaries or advanced content-sharing functionalities are desirable. Moreover, handling user data sensitively gains particular importance in this context. Abuse of the privacy of user data can lead to loss of trust and therefore to a lower level of self-presentation. According to our results, this would imply decreasing participation.

The satisfaction of the *self-esteem needs* by an OSN was found to have no impact on OSN participation, as the path coefficient, though positive, was insignificant. Possibly, the satisfaction of the self-esteem needs, as opposed to the satisfaction of the esteem needs through self-presentation, requires more subtle mechanisms in place. In the real world, recognition of an individual's social position is easier for others to communicate than in the virtual world. Moreover, positive feedback from others can also be perceived as more valuable by an individual in the real world, thereby having a stronger impact on individual self-concept. Therefore, the "virtuality" of an OSN can be the reason why the satisfaction of the self-esteem needs by an OSN does not determine participation.

With a significant path coefficient of 0.284, *peer pressure* was found to be an important external determinant of OSN participation. This finding is not surprising, as the adoption of OSNs can to a large extent be described by a snowball effect. Consequently, word of mouth plays an important role in the context of OSNs. Therefore, it can be assumed that viral marketing actions can potentially have a stronger effect on community building than, for example, mass advertising. Viral promotion is based on network effects, which increase the possibility that a message will reach the right people. In this respect, it is important for OSN providers to influence the peer pressure determinant already at the early stages. For example, OSN providers can identify current trend setters (e.g. celebrities) and publicize their connection to the community. Such actions contribute to image setting and give users a feeling of exclusivity.

The link between the satisfaction of the *altruism needs* by an OSN and OSN participation was not supported. This can be partly due to the fact that OSNs are primarily oriented to support links and interaction between real and virtual friends. This distinguishes them from, for example, open source communities or theme-oriented discussion groups, which are often based on altruistic motivation of their users.

The relation between the satisfaction of the *self-actualization needs* and OSN participation is positive, yet insignificant. Self-actualization mechanisms appear to be too complex to be handled by an OSN platform. Partly this result can be also explained by the young age of the respondents, since self-actualization generally occurs during the second half of one's life.

The satisfaction of the *cognitive needs* by an OSN is not related with OSN participation, since the path coefficient, though positive, is insignificant. However, the satisfaction of these needs does indeed play a role for a more active sub-group of users. Our results show that for this sub-group, the possibility to search and find knowledge in an OSN is an important OSN participation driver. Participants regard their OSN as a source of knowledge once they have integrated their network activities into their daily routine.

This study is of course subject to some limitations, which however are acceptable at this early stage of research, especially in an empirical setting. The selection of the respondents might have been subject to a sample selection bias and therefore possible refinements in this direction are advisable for future research. Furthermore, model evaluation with PLS was done on the basis of ordinal indicators, which, however, is acceptable "as long as there is a large enough set to represent the underlying continuous latent variable" (Chin et al. 1996, p. 35). From the theoretical perspective, our model does not account for the order in which needs are supposed to be satisfied according to Maslow's theory. However, an OSN is only an additional means to satisfy individual needs and therefore disregard of the order is not a significant issue.

6 CONCLUSION

Building on recognized theories of human motivation and technology adoption, this paper takes a systematic approach to empirically identify relevant OSN participation drivers in terms of needs and peer pressure. The satisfaction of the needs for belongingness and esteem needs through self-presentation, together with peer pressure, are found to be the main determinants of OSN participation. The analysis of a sub-sample of more active users singled out the satisfaction of the cognitive needs as an additional OSN participation factor for this sub-group.

We contribute to the ongoing research by providing empirical support for diverse qualitative findings in the area of OSNs. From a practical point of view, this study can serve as the guidance for OSN providers who have to decide (1) in which functionalities to invest and (2) which promotion strategies to follow in order to ensure platform self-sustainability. Future research can provide evidence that the satisfaction of the needs varies across specific OSN types and is dependent on the length of membership.

7 ACKNOWLEDGEMENT

We would like to express our gratitude to Bernd Viehweger and Ramzi Rizk as well as to all survey participants for contributing and supporting this study.

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