

Encouraging Participation in Virtual Communities: The "IT-summit-blog" Case

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ABSTRACT

The first national IT-summit in Germany had the goal to communicate the common conviction and objective target of the German government as well as economic and scientific organizations, that Germany is on its way to become the ICT-market number one worldwide. Critiques however soon started to complain about the inaccurate representation of SME's and the German public in general in the planning phase, the event itself, and the follow up process of the IT-summit. Migrating the existing offline community of the summit into a virtual online counterpart – the "IT-summit-blog" weblog – is an approach to improve the efficiency and ability to support the sharing of information and knowledge in a very timely fashion about summit topics even among all those that could not participate in the discussion yet. The collective and extended knowledge generated out of this "think tank" will be used by reintegrating and using it in the follow-up-process as regards content of the summit. The case at hand identifies the success factors needed to develop such a virtual communication platform.

The discussion is underplayed with a theoretical debate about the conceptual foundations concerning virtual communities in general, and weblogs specifically. This discussion shows that no virtual community is like another. Modern communication platforms need to be tailored towards the specific need they were built for. This counts especially for weblogs as the sort of platform chosen for the project at hand, as well as for the specific reason the platform was developed for – namely the discussion of IT-summit-topics. The need for control and moderation of user generated contributions conflicts with the grass roots democracy concept of weblogs in general. Thus, the goal of this paper is to find the appropriate standards, key issues, and requirements of a platform as envisioned by the summit participants in order to form a coherent basis for development of the "IT-summit-blog".

KEYWORDS

E-Government, web 2.0, social media, E-Citizenship, web-based services, virtual community participation, knowledge management, digital democracy

1. INTRODUCTION

The first national IT-summit in Germany was held on the 18th December 2006 at the Hasso Plattner Institute (HPI) in Potsdam. To reach the ambitious goal set beforehand of becoming the leading business, academic and research location in the ICT-sector worldwide, high-level representatives of the German government and the economy were called upon to clear the path for economic growth and employment, to develop seminal areas of growth and address areas of key interest in the course of the summit. In doing so eight task groups were formed, with each of them addressing different critical issues within the ICT-topic such as "IT and SMEs", "Service- and user-friendly IT", or "E-Government".

Every group had to contribute a working draft by the end of the summit, including a profound analysis of the initial situation, addressing the areas of key interest as well as the recommended course of action concerning the main topic each of the groups was working on. The summit was concluded with the so-called "Potsdam Theses", a commonly formulated declaration by all of the eight task groups, highlighting a first

bundle of necessary measures that address the critical areas of key interest being identified in the respective working groups. The completion of these measures was understood by all participating parties as a common responsibility.¹

Early into the processing and the realization of the summit-results, critical voices increasingly caught public interest. The main point of criticism was the fact that the preparation of the summit, the event itself, and even more important the representation within the task groups was mainly restricted to the German government and the representatives of German big business companies. On top of medium-sized-businesses being highly underrepresented in the working-groups concerning their actual economic contribution and relevance in the Germany ICT-sector, representatives of the general public interest and their opinion were simply non-existent. Since the summit, and even in its planning phase before the start, critiques could rely on a growing number of important sympathisers like representatives of the parliamentary party of the Greens, the data protection commissioner of the German government, as well as numerous representatives of German SMEs. Surprisingly it should be noted that the German government agreed on the formulation of the Tunis Agenda as part of the World Summit on the Information Society, which says in article 97 that “[...] multi-stakeholder participation is essential to the successful building of a people-centred, inclusive and development-oriented Information Society and that governments could play an important role in this process. We underline that the participation of all stakeholders in implementing WSIS outcomes [...] is key to that success.”² [16]

Therefore, recognizing the fact that the German public without any doubt represents an important fraction of these stakeholders with respect to issues related to ICT, measures need to be taken, how they can be meaningfully and appropriately be incorporated in the follow-up process of the summit.

The social change in handling and using the internet as an information- and communication platform, a trend often referred to by the notion of Web 2.0, provides plenty of opportunities for this issue: It enables not only a substantially easier collaborative refurbishment of information, but also direct interaction and communication between users. The therefore triggered belief among numerous summit-participants that a public virtual communication platform might be a meaningful and necessary supplement to the efforts undertaken by the actual participants of the IT-summit, resulted in initial efforts by the HPI to develop the “IT-summit-blog”. Success stories of communication platforms that were developed with a similar ultimate goal encouraged these efforts [19].

This paper analyses the potential of a tailored virtual communication platform generating substantial surplus values in form of visions, innovative ideas, and proposals to the existing efforts of the summit-working groups and ultimately to the political decision-makers, by filtering those meaningful contributions out of a public discussion enabled in that virtual platform. An online public-opinion survey³, set up specifically for this paper by the HPI about user-requirements and preferences concerning weblogs in general and moderation, control-issues and content specifically will also be discussed here [4]. The results of the survey’s analysis are supposed to give important insights for the developers of the IT-summit-blog.

The paper is structured as follows: Section two focuses on the question how participation in virtual communities can be elevated. In doing so success factors of virtual communities in general as well as the specific stimulating incentives for participation in these communities will be elaborated on. The unique situation of weblogs, as one sort of platform that can form a virtual community, is analysed in section three. The importance of community size as a special variable concerning weblogs is elaborated on in the first section of that section, followed by a short discussion about why weblogs are the platform of choice for that project. Section four builds upon the preceding sections by drawing the conclusions on how the weblog should be constructed and operationally managed to adhere to the goals set for it. The paper is rounded off by the Conclusion in section five.

¹ http://www.hpi.uni-potsdam.de/fileadmin/hpi/source/press-articles/Download/Potsdamer_Initiative_19.12.06.pdf (in German)

² www.itu.int/wsis/docs2/tunis/off/6rev1.html

³ <http://blog-umfrage.hpi-web.de> (The analysis’ results will be communicated on the same URL)

2. ELEVATING PARTICIPATION IN VIRTUAL COMMUNITIES

2.1 General success factors of virtual communities

What makes a web-enabled communication platform ultimately successful can be most meaningfully manifested through the level of participation by the users in that platform or its induced virtual community. Participation can be understood as the number of participants and the number of messages posted in the community [23]. There has been little study however, on what ultimately motivates people to use virtual communities. Extant studies have so far largely focused on factors such as trust, anonymity and sense of community as those factors determining the success and therefore the level of participation in a virtual community. When community members place trust on one another, they are more likely to open up and participate in the respective community [25]. The ability to remain anonymously in such platforms was likewise identified by the academic literature as one of the key characteristics of many virtual communities. Andrews for instance suggested that the possibility of hiding one's true identity through the use of pseudonyms would encourage participation in virtual communities [1,15].

Recognition, either in the form of financial rewards or simply elevated social status was equally identified as a substantial success factor within virtual communities [1,6,13]. Butler [5a,5b] noted that the visibility gained through participation in virtual communities provides recognition for a person's expertise and knowledge on a subject and gives rise to psychic payoffs such as self-efficacy and self-esteem [6]. Thus, the ambition for recognition stands in contrast to the already identified urge of users to participate anonymously. As will be discussed later on in this paper, different setups and visions of virtual communities and their web-enabled communication platforms might awake different needs among the users. This counts especially for members of weblog communities.

Scholars also found that the sheer sense of community, as well as the ability to identify with the virtual community enhance the likelihood of members contribution and participation [3,14,20]. Sense of community, obligation, self-efficacy and self-esteem, being effects of recognition, as well as trust and anonymity all have been shown to impact upon participation in a virtual community. However, in agreement with Jarvenpaa and Staples [17] the basic willingness for information sharing and therefore the willingness for participation in a virtual community is mainly context dependent – a notion rooted in the theories of information sharing and social exchange.

The extent of participation was however found to be moderated by the availability of time and the interest level on the topic being discussed, since participation in virtual communities can be quite time consuming [27]. Users not only need time to contribute knowledge about a certain topic in a virtual communication platform [7, 22], but also need time to get used to new technologies that enable the discussions in the platform. Especially for the "IT-summit-blog"-case at hand it is important to note that for those users not acquainted with the technologies incorporated in the communications platform, this time constraint can have a considerable negative impact on their willingness to participate.

2.2 Stimulating drivers for participation in virtual communities

But what exactly defines participation in virtual communities? According to the work of Koh [20] typical computer mediated community interaction includes news and information sharing (as, e.g. "what's new?", event announcements), problem solving (as, e.g. FAQs, Q&A, discussions), as well as routine communications via email and chat. While virtual community members may also interact and participate through telephone conversations and face-to-face meetings, this kind of interaction does not represent the major portion of virtual community activity. Contrariwise, most activity takes place in the form of posting or viewing options, questions and information requests within the community message boards. Therefore, posting or viewing of information is the fundamental element in the daily life of any virtual community. Based on prior studies [11,18,28] Koh proposed four incentives that stimulate the viewing and posting activity, and consequently elevate participation in virtual community [20]: leader involvement, offline interaction, usefulness, and IT-infrastructure quality (refer to Figure 1).

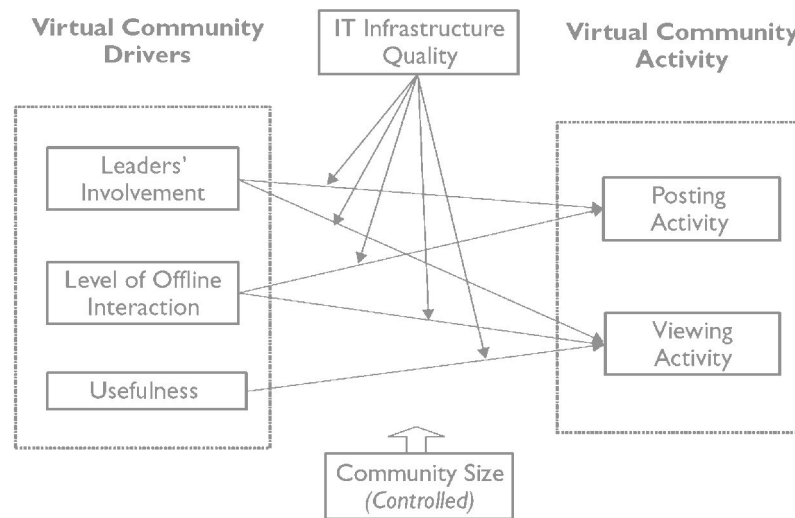


Figure 1. Virtual community drivers on participation (reproduced with permission from the digital library of ACM) [20]

Leader involvement is critical for building relationships and developing user-generated content [9]. Leader involvement is needed for fostering the member's active involvement in posting or viewing community content, because they can promote collaboration and trust among community members with a clear vision for their community.

Offline interaction increases the social presence of community members. According to the social presence theory, awareness of the online presence of fellow members, reinforced through offline interaction, can positively influence online community activity. A face-to-face meeting or telephone call may help virtual community members to understand, trust and identify with one another, thus ultimately providing a stronger base for online activity.

The benefits provided by the membership of a community, or simply its **usefulness**, must surpass the costs of that membership [5a,5b]. An essential element of a viable virtual community is the ongoing provision of content that members perceive to be interesting and therefore valuable and useful [13]

IT-infrastructure quality stems from the fact that social presence, or the degree to which the medium facilitates awareness of other people and interpersonal relationships during an interaction [10] is critical for efficient communication in many social/work contexts. In a communication medium with low social presence like virtual communities, in which the dominant mode of communication is the exchange of textual information, developers and technical staff need to support community members with relevant graphical, textual, and video interfaces. This includes a satisfactory system response time, user-friendly interfaces, and system reliability on top. Thus, IT-infrastructure quality is expected to moderate the relationship between community drivers and the level of community activity.

Important to note at this point are the differential effects of the above-mentioned drivers on the different virtual community activity variables. With respect to this assumption Koh [20] identified offline interaction to be significantly related to posting activity, while community usefulness was significantly linked to the viewing activity. The differential effect of the posting and viewing variables highlight the importance of multifaceted strategies for modelling and managing the development of virtual communities. This fact points out the need that the projected communication platform needs to be tailored to the specific need and the goal it has ultimately been setup to reach.

3. ORIGINALITIES OF WEBLOGS

3.1 The size of virtual communities and their “power laws”

Referring to figure 1, a community's size is another very important factor in ongoing community survival [5a, 5b], since it is related to the amount of the community's postings or viewings. Therefore, it seems to be essential to attract many community members, especially in the early phases of its development. This is also because in systems, where many people are free to choose between many options (as it is the case for weblogs), a small subset of the whole will get a disproportionate amount of traffic – meaning viewings or postings – even if no member of the system (users, moderators or authors) actively works towards such an outcome. This phenomenon is described by a notion called “power laws” and their respective distributions. A prominent example is the “Pareto Distribution” which observed that wealth follows a predictable imbalance, with 20% of the population holding 80% of the wealth. Several researches undertaken about modern communication platform and virtual communities exhibited equal patterns [24]. The basic shape is simple – in any system sorted by rank, the value for the Nth position will be $1/N$. For whatever is being ranked – income, links, web-traffic and of course viewings and postings – the value of the second place will be just half that of the first place, and tenth place will be one-tenth of first place. Until recently, a theory to go with these observed patterns was missing. Thanks to a series of breakthroughs in network theory [2,12,26], we know that power law distributions tend to arise in social systems, where many people express their preferences among many options. It is also known now that as the number of options rise, the curve becomes more extreme. What should be noted here is the counter-intuitive finding that most of us would expect a rising number of choices to flatten the curve. But in fact increasing the size of the system increases the gap between the number one and the median spot.

In the case at hand, the freedom of choice, meaning that users can chose the virtual community they would like to join, power law distributions can similarly be expected [24]. With differences in the quality of writing, the difference in user taste, the choice of genres as well as diverse marketing effects from blog to blog, people's choices for one platform will affect one another. The system assumes that later users come into an environment shaped by earlier users. The thousands and the first user will not be selecting blogs at random giving the differences in basic prerequisite as explained before. They will be affected, even if unconsciously, by the preference premiums built up in the system previously.

Given the ubiquity of the above-explained power law distributions obviously the question arises, whether there is substantial inequality in the weblog world or indeed almost any other social system. The answer to that question would be in all likelihood no. Launching a weblog is free of charge. There is most of the time no vetting process. Thus, the threshold for having a weblog is only marginally larger as for getting online in the first place. Furthermore, blogging is a daily activity. Weblogs are not a good place to rest on your laurels, which means that as beloved as one can be at a point in time as an active member, if one stops writing, one will just disappear. This underlines the fact that it might be helpful to attract as many users as possible to a “system” just from the beginning. But without content that is meaningful to the user, and without constantly renewing that content with the same quality level, one will loose even a dominant position quite fast.

The reason for the HPI to choose a weblog rather than a common forum, or a simple homepage as the communication platform for the IT-summit-topics was based on several reasons. All of them took into account the beforehand discussed drivers of participation in virtual communities and online discussion forums. Nonetheless, not all of the above-mentioned benchmarks apply for weblogs as we will see in the following.

3.2 Weblogs as the platform of choice for the IT-Summit-community

On top of the user requirements for a virtual community a potential communication platform for the public discussion of IT-summit topics needs to satisfy the needs of diverse parties and interest groups, all more or less linked to the IT-summit. The German government and its ministries (most notably the Ministry of Education and Research, the Ministry of Economics as well as the chancellery and the Ministry of the Interior), the interest groups of the German economy (mostly representatives of German big business companies), and the HPI as the host of such a platform all had different demands.

Due to the fact that the HPI started initial efforts on its own account without any support in form of financial or human resources, a potential platform needed to be cost-saving. Compared to complex content management systems (CMS), most weblogs allow substantial cost-savings. The mite that has to be paid to software developers for the adjustment of the weblog to personal needs is a lot smaller than the fees due for the use of CMS. In case of the IT-Summit-Blog, the possible cost-savings by the host of such a platform are essential. Weblogs furthermore stand for topicality and promptness. Due to the strong linking between each other, and the creation of central linking-lists, information in weblogs spreads fundamentally faster than in traditional media. It could also been identified that ICT-related topics are picked up a lot faster by bloggers than by others. Additionally, weblogs still are a new technology for many internet-users – a factor that itself guarantees lots of attention in the public. Therefore, and also due to their interactivity weblogs are strong opinion-leaders and consequently spread news and information faster than the traditional media. The possibility is high that even journalists as being a highly important interest group for the IT-summit-project will be attracted to this platform for that reason. Not to forget that weblogs can be accessed from any location that has access to the internet.

Fundamentally important for the success of the blog-project is the simplicity of the technology, which equals out the negative factor of being a rather new technology for internet-users. Contributing to a weblog is highly intuitive, no expert knowledge is required and therefore, even laities can post their content to the weblog. With respect to the hosting of the blog by the HPI, simplicity of the technology of course equally results in less total investments.

4. THE IT-SUMMIT-BLOG PROJECT DESCRIPTION

Goal of the projected platform is the gainful usage of new, creative, and visionary ideas in form of postings that are supposed to be generated by means of the discussion platform weblogs by the German public about the topics discussed during and after the IT-summit. In this platform all eight summit-topics will be integrated under the umbrella organization of the “IT-summit-blog” and discussed in different forums. “Think about IT” will be the slogan of the platform, shown on the starting page. The blog-discussion about the different topics will split-up in tree-like sub-topics.

The weblog will be supervised by free-lance editors with journalistic educational background. For the operational and contextual realisation of the weblog he has to work fair-minded and objectively. Depending on the workload in the community in the launch phase the editor can fall back on HPI-intern back staff with a similar educational background and expertise. Given that the German government already signalized their patronage of the IT-summit-blog, personnel might be essentially increased in the stages after the launch if the goodwill of the government or potentially attracted economic partners reflects in financial funding or the provision of human resources. Taken the best-case scenario with respect to the user acceptance for granted, one editor for each topic might be necessary.

Postings will not be published in the weblog until the approval of the editor. Since the “blogging community” is known for the low acceptance of any editorial control of postings, this is the only real tightrope walk for the blog. This basic editorial control is however the minimum requirement given that parties like highest representatives of the German government relate to this platform.

The editor has three options: (1) Publication of the postings without changing anything, (2) deletion of postings in case they are completely impertinent and lack basic elements of good conduct (“Netiquette”). Negative or provocative postings that adhere to the basic principles of good conduct and that do not touch any human rights are empathically welcome – again, as long as they are objective and accurate. Finally, (3) postings can be modified by the editor. Changes will be marked by “[...]” in the final published version (the cutback will contingently be made published in the archive and accessible via linking). Discussion-triggers in the respective discussions of the main topics will be provocative and thematically in line with the topic discussed. In the launch phase of the IT-summit-blog project, these statements will address the following main topics of the IT-summit:

1.) Information-Society 2010 – German prospects	5.) High-tech-strategy for the information society
2.) Convergence of the media – Future of networks and services	6.) ICT in SMEs
3.) IT-based public services in Germany	7.) IT and health care
4.) Security and trust in IT and internet	8.) Service- and consumer-friendly IT

In the course of the project topics may well be adapted, highlighted or deleted. New topics can be always be introduced in case they provoke profitable discussions about ICT in Germany in general.

The “discussions-triggers” mentioned earlier will be authored by the editors of the HPI. The task-group leaders (high-level politic or economic representatives) of the eight IT-summit-working groups are furthermore expected to generate so called “expert-opinions” about their area of interest. In the course of the project the HPI will continuously address other persons of interest that can bring valuable add-ons to the discussions in the platform.

Users of the community are supposed to formulate their opinion about the diverse IT-summit-topics in form of postings. Direct communication between the users will be enabled via email or live-chat. On a weekly basis summaries of so far posted contributions will be provided by the editor(s) for each main topic. On top of the written version of this summary (which will be posted as a supplementary discussion trigger in the platform as well), a news show called “IT-Summit-Newsflash” will be produced and integrated in the platform as a podcast. Next to the summaries of the content generated within the platform, usage and traffic-statistics of the platform (“posting of the week”/“user of the week”) as well as the latest news related to ICT in politics, economy, research, and society will be presented periodically. Other meaningful content for the newscast can be added later on in the course of the project. The goal of this news-show is to transport a modern and animated image of the community content, which might otherwise be hard to process due to its sheer amount and variety. The script for the news-show will be contributed by the editors of the blog.

Since the German chancellery bindingly agreed to act as the protégé of the virtual IT-summit community, German federal chancellor Mrs. Dr. Angela Merkel will provide her personal greeting for the starting page of the platform. Due to this enormous publicity effect of the blog, it is expected by the project managers of the blog that numerous celebrities from the political as well as the economical arena will indeed agree on providing the above-mentioned “discussion-triggers”. However, at this very moment the HPI is the only real contributor to the community in terms of human and financial resources. Therefore, promotional activities will be limited in the launch phase to the use of existing mailing lists, current public relations of the HPI, and the proactive dispersion of the HPI to members of the blogging-community, online editorial offices as well as daily newspapers. Enormous potential lies in the linking via the official homepages of all German ministries and the economic companies that took part in the summit already or those that would like to join the platform. Mouth-to-mouth propaganda about the IT-summit and the related weblog will round off the promotional activities in the launch phase.

There will be a marginal user-control in the launch phase of the IT-summit-blog. It will be limited to the input of the personal email address as well as a pseudonym. Even though any user-control stands in contrast to the free-minded character of weblogs, it is an absolute necessity to built up strong relationships within the community. The disclosure of the email address is furthermore not this critical with respect to privacy issues. The warm-up phase of the IT-summit-blog will provide the ultimate experiences concerning the level of control. Should web-vandalism of any kind reach an intolerable dimension, an elevated control-level in form of a request for more detailed personal data can be introduced later on – even though this is not preferable for a weblog. The main attention concerning the preservation of discussion quality lies on the self-monitoring of the users themselves. Through a voting and/or ranking system (valuation-scale from 1 [very good posting] until 6 [very inappropriate posting]) users can penalize others for their incongruent postings and call the editor’s attention accordingly. Every single posting will be analyzed according to the following statistics: (1) number of linking’s to the post from other pages (“back-track”-option), (2) number of positive commentaries about the posting by the users and (3) the amount of the users that read the posting in general. The best postings and most-rated users will be presented as mentioned before, in the newsflash, which gives users extra motivation to participate actively in the blog-discussions.

Even though the general setup of the IT-summit-blog stands in line with already successfully completed similar projects like the “Innovations Jam” of IBM [19] regarding the structure, content generation and moderation as well as the preservation and encouragement of discussion quality among others, the HPI performed an online survey to assure initial acceptance of the potential users upon the launch of the platform⁴ [4]. The achieved sample of more than 250 participants cannot be called statistically representative. But, the feedback received after the appeal for participation in several well-known German weblogs⁵ provided direct insights from an essential target group: bloggers themselves. In general, the survey supported and encouraged the efforts so far undertaken by the HPI on the project as the following survey-extracts clearly document:

Are you aware of the general objectives of the summit?

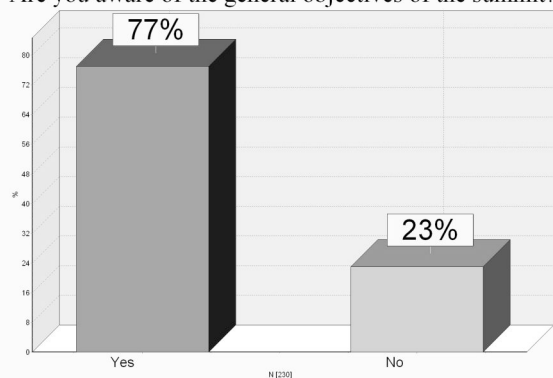


Figure 2: Awareness of summit-objectives

Would you support the development of an IT-summit-blog?

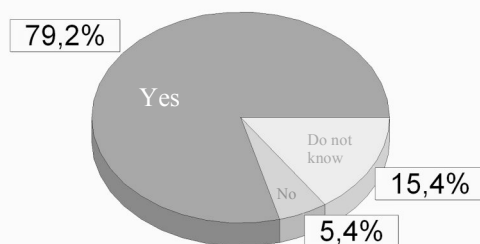


Figure 3: Support for blog-development

The need for a communication platform like the IT-summit-blog could be convincingly supported. 23% did not even know what the summit was all about (Figure 2). Even more alarming, nearly 80 % of all respondents did not know which topics have been discussed in general. Not surprisingly 80% clearly voted for a platform such as the summit-blog to be developed (Figure 3).

Editorial control in blogs?

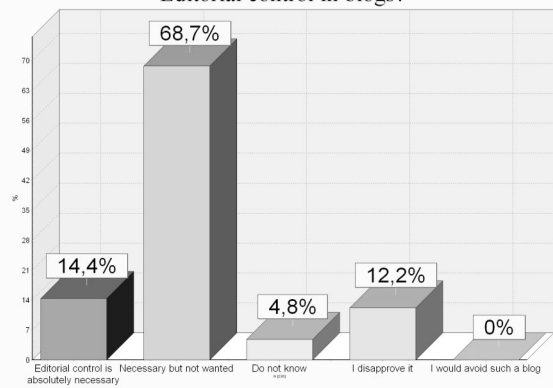


Figure 4: Opinion on editorial control

Is the planned level of user-control appropriate?

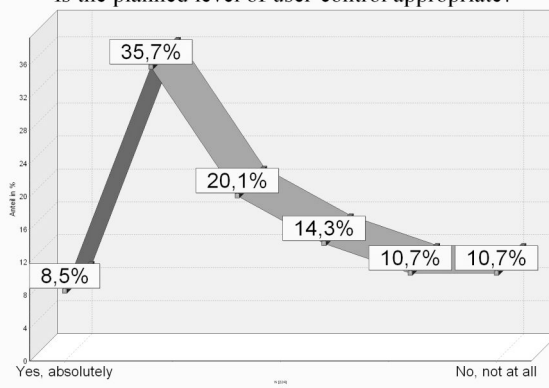


Figure 5: Opinion on appropriate level of user-control

The respondents confirmed the expectations related to the critical issues of editorial and/or user control in weblogs. Figures 4 and 5 clearly show that users indeed do not like control hurdles in weblogs in general, they however understand that virtual communities with special stakeholders (government, companies, etc.) sometimes do only work under special circumstances. That is why more than 80% in total either say that editorial control is a necessity for the IT-summit-blog. Furthermore, roughly 50% would even accept to give away their email-address. The results presented above only represent a very small fraction of the whole survey. Interested readers are welcome to contact the authors for the complete summary of the survey.

⁴ <http://blog-umfrage.hpi-web.de/> (in German)

⁵ www.media-ocean.de, www.bamblog.de, <http://mm.smile-to-me.de/blog/>, <http://moresemantic.blogspot.com/>, <http://textundblog.de/> among others

5. CONCLUSION

The analysis of the academic literature, the theoretical discussion about the characteristics of weblogs as well as the investigation of comparable projects clearly identified the need for the IT-summit-blog to be set-up – the sooner the better. It became apparent, that the missing representation of certain interest groups in the course of the IT-summit and its follow-up process hindered calling the IT-summit a full success without even smaller negative aspects.

It surely was the first step in the right direction to call the politic and economic elite to gather in Potsdam to identify key areas of interest and clear the path for Germany to become the leading ICT-market worldwide. For the IT-summit to be called a full success however, a broader and most importantly public discussion about ICT-related topics needs to be undertaken.

The authors of this paper therefore see plenty of potential in the launch of the IT-summit-blog. Just recently the German chancellor agreed on becoming the official protégée of the platform. It now remains to be seen how all the stakeholders of the platform will react on this important signal of the government that the general willingness for a broader discussion is there. There are plenty of obstacles for the platform on its way to become a well-established, widely-accepted virtual community for all topics related to the German ICT-market. But, the potential is definitely there.

Further research about the necessity for such a platform, its impact on political decision-makers, as well as its ability to provide an arena for communication and collaboration for all the stakeholders of the German ICT-market needs to be undertaken after the weblog has reached its operational level in a day to day business after some month. Only after that period of delay it can objectively be stated if the platform was a success or not.

6. REFERENCES:

- [1] Andrews, D.C., 2002. Audience-Specific Online Community Design, *In Communications of the ACM*, Vol. 54, No. 4, pp. 64-68
- [2] Barabasi, A-L., 2003. Linked: How Everything Is Connected to Everything Else and What It Means. Plume, Pages: 304
- [3] Blanchard, A.L. and Markus, M.L., 2002. Sense of Virtual Community – Maintaining the Experience of Belonging. *In Proceedings of the 35th Hawaii International Conference on System Sciences*.
- [4] Bross, J.F.M., 2007. Online Umfrage zum IT-Gipfelblog. Accessible via <http://blog-umfrage.hpi-web.de>.
- [5a] Butler, B. et al, forthcoming. *Community Effort in Online Groups: Who Does the Work and Why?*. In *Leadership at a Distance*, Lawrence Erlbaum Associates, S. Weisband and L. Atwaters (eds.)
- [5b] Butler, B., 2001. Membership size, communication activity, and sustainability: The internal dynamics of networked social structures. *In Information Systems Research*, Vol. 12, No. 4, pp 346–362.
- [6] Chan, M., et al, 2004. Recognition and Participation in a virtual community. *In Proceedings of the 37th Hawaii International Conference on System Sciences*
- [7] Constant, D., et al, 1996. The Kindness of Strangers: The usefulness of Electronic weak Ties for Technical Advice. *In Organization Science*, Vol. 7, No.2, pp 119-135.
- [8] Faloutsos, M., et al, 1999. On power-law relationships of the Internet topology. *In Proceedings of the Conference on Applications, Technologies, Architectures, and Protocols For Computer Communication* (Cambridge, Massachusetts, United States, August 30 - September 03, 1999). SIGCOMM '99. ACM Press, New York, NY, 251-262. Accessed on the 02.04.07 via <http://doi.acm.org/10.1145/316188.316229>
- [9] Figallo, C. *Internet World: Hosting Web Communities*. John Wiley & Sons, Inc., New York, 1988.

- [10] Fulk, J., et al, 1990. A social influence model of technology use. In *Organizations and Communication Technology*, J. Fulk and C. Steinfield, Eds. Sage Publications, Newbury Park, CT, pp 117–142.
- [11] Godwin, M., 1994. Nine principles for making virtual communities work. In *Wired*, Vol. 2, No. 6, 72–73.
- [12] Huberman, B., 2003. *The Laws of the Web: Patterns in the Ecology of Information*, , Cambridge, MA: Massachusetts Institute of Technology Press, 105 pages.
- [13] Hagel, III, J. and Armstrong, A., 1997. *Net Gain: Expanding Markets through Virtual Communities*. Harvard Business School Press, Boston, MA.
- [14] Hars, A. and Ou, S., 2002. Working for Free? – Motivations of Participating in Open Source Projects. In *International Journal of Electronic Commerce*, Vol. 6, No. 3, pp 25-39.
- [15] Hummel, J. and Lechner, U., 2002. Social Profiles of Virtual Communities. In *Proceedings of the 35th Hawaii International Conference on System Sciences*.
- [16] International Telecommunications Union (ITU), 2005. Tunis Agenda for the Information Society. In *Documents of the World Summit on the Information Society*.
- [17] Jarvenpaa, S.L. and Staples, D.D., 2000. The Use of Collaborative Electronic Media for Information Sharing: An Exploratory Study of Determinants. In *Journal of Strategic Information Systems*, Vol. 9, No.2-3, pp 129- 154.
- [18] Kim, A., 2000. *Community Building on the Web*. Peachpit Press, Berkeley, CA.
- [19] Kircher H., 2007. Web 2.0 - Plattform für Innovation. In *IT-Information Technology*, vol. 49, No.1, pp 63-65.
- [20] Koh, J. and Kim, Y., 2001. Sense of Virtual Community: Determinants and the Moderating Role of the Virtual Community Origin. In *Proceedings of the 22nd International Conference on Information Systems*, pp. 407-409.
- [21] Koh, J. et al, 2007. Encouraging participation in virtual communities. In *Communications of the ACM*, Volume 50, Number 2, pp 68-73.
- [22] O’Dell, C. and Grayson, J., 1998. If Only We Knew What WeKnow: Identification and Transfer of Best Practices. In *California Management Review*, Vol. 40, No.3,pp 154- 174.
- [23] Preece, J., 2001. Sociability and Usability in Online Communities: Determining and Measuring Success. In *Behavior and Information Technology*, Vol. 20, No. 5, pp 347-356.
- [24] Shirky, C., 2005. Power Laws, Weblogs, and Inequality. In *Extreme Democracy*. Ed. Jon Lebkowsky en Mitch Ratcliffe, accessed on the 01.04.07 via: http://www.extremedemocracy.com/archives/2004/08/chapter_3_power.html
- [25] Tung, L. et al., 2001. An Empirical Investigation of Virtual Communities and Trust. In *Proceedings of the 22nd International Conference on Information Systems*, pp. 307-320.
- [26] Watts, D., 2003. *Six Degrees - The Science of a Connected Age*. W.W. Norton & Company.
- [27] Wasko, M.M. and Faraj, S., 2000. It is What One Does’: Why People Participate and Help Others in Electronic Communities of Practice. In *Journal of Strategic Information Systems*, Vol. 9, No. 2-3, pp. 155-173.
- [28] William, R. and Cothrel, J., 2000. Four smart ways to run online communities. In *Sloan Management Review* Vol. 41, No. 4, pp 81–91.