Collaborative Work, Communication and Knowledge Management in Theory and Practice

SOSOFT 09

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MESSAGE FROM THE CHAIRS

The interdisciplinary workshop "Social Software @ Work" was held on September 28th and 29th, 2009, in Düsseldorf, Germany, to promote discussion and an exchange of knowledge between information scientists and information management practitioners at companies and public institutions. Presentations covered a wide range of topics, such as corporate blogging, the impact of social software on corporate culture, teaching and knowledge management via social software, social information retrieval systems and personalized search. These proceedings present six papers that approach these issues in an exemplary fashion.

- Svenja Wilke's paper "The Daimler-Blog – A Case Study. An Analytical Approach to the Benefits of Corporate Weblogs with Respect to Company Intentions & Expectations" describes key findings of her analysis of a popular German corporate blog. Initially, Wilke presents a quantitative assessment of central topics addressed in the blog, the number of author and commentators and the frequency of posts in relation to these factors. She then proceeds with a qualitative approach to Daimler's expectations associated with the blog and connects her findings to the results of an online survey among blog readers.

- In "How Social Software Shifts Existing Paradigms in Corporate Knowledge Management and Learning" Matthias Görtz and Oliver Bohl present four key dimensions which should guide corporate knowledge and learning management to enhance their success. The dimension "organization" addresses the combination of knowledge management and learning via social software, "user experience" puts the focus on employees' usage patterns before introducing social software, the company's "culture" should be social, rather than merely its technology, and "consistency" should prevent decision-makers from overloading employees with new software when existing tools are working well.

- The use of social software in academic teaching is discussed by Timo van Treeck in "Lehre ins Internet? Hindernisse und Erfolgsfaktoren für Social Software an der Hochschule" [Teaching online? Obstacles and Succes Factors for Social Software in Academia]. He summarizes the pros and cons of social software in academia and explains why skepticism is widely based on so-called "Educational Beliefs" held by educational practitioners. Moreover, he focuses on the concept of a "shift from teaching to learning" for which he advocates social software as a key didactic tool.

- The issue of finding relevant information among masses of user-generated content is the topic of Dirk Lewandowski's paper "Wie Suchmaschinen von Social Software profitieren" [How Search Engines Profit from Social Software]. He distinguishes two principles of user interaction and judgement which affect search engines and search results: 1) implicit user judgements and 2) explicit user judgements. Users always evaluate webpages implicit i.e. when they set a link from one webpage to an other. This principle has been used since the advent of the Internet and finds its popular manifestation in the PageRank algorithm. Now, social software brings explicit user judgments into play, e.g. via SearchWiki, which allows users to comment on search results. Lewandowski shows for which aspects of search engines explicit user judgements can be meaningfully used and where they dilute results.

- Simone Braun and Andreas Schmidt also pick up the search theme in conjuction with social software, but focus on expert search and competency management in "Mit

'People Tagging' zum Kollaborativen Kompetenzmanagement" [Collaborative Competency Management through People Tagging]. The authors present how folksonomies can be used to collaboratively describe and characterize employees and their competencies to enable finding the "right" people. Their approach is complemented with a community-driven ontology editor that employees can use to customize the tagging and competency vocabulary according to their needs.

- In "Social Software, Wikinomics & Co: Fitness-Programm für Organisation, Kultur und Kommunikation von Unternehmen" [Social Software, Wikinomics & Co: Fitness Training for Companies' Organisation, Culture and Communication] Michael Scheuermann takes the bird's eye view of the workshop's main topic "social software at work". He focuses on the challenges and opportunities of using social software in enterprise settings and takes a closer look at the implications for companies' structural organisation, business models, corporate culture and communications. Additionally, he discusses the competencies and strategies pivotal to optimally using social software in corporate settings.

A complete overview of the workshop's presentations and participants can be found on the website www.phil-fak.uni-duesseldorf.de/social-software. Presentation slides are available via www.slideshare.net/event/social-software-work-sosoft09.

We would like to thank our speakers and participants for the active exchange of ideas and the many fruitful discussions as well as Elsevier B.V. and the Institute for International Communication (IIK) for sponsoring this event.

Isabella Peters, Cornelius Puschmann, Violeta Trkulja & Katrin Weller
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The Daimler-Blog – A Case Study

An Analytical Approach to the Benefits of Corporate Weblogs with Respect to Company Intentions & Expectations

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Abstract. Companies are increasingly taking advantage of the high speed and flexibility of the internet to optimize their communication strategies. Most recently they have started to implement weblogs which allow communicating with a variety of stakeholders. Compared to other countries German companies are cautious in applying corporate weblogs to their communication repertoire. The Daimler AG is one of the few companies successfully hosting a lively weblog, which is attentively observed by the public. German and American studies, however, suggest that corporate blogs are not seen as particularly credible. This raises the question whether the Daimler-Blog improves the company's reputation and whether its communication benefits from this platform. Triangulating a systematic content analysis, qualitative interviews and an online survey its success was assessed and conclusions were drawn about its benefits for the company.

Keywords: Corporate Weblogs, Web 2.0, Google World, Social Media, Corporate Communication, Reputation, Human Voice, Dialogue, Authenticity

1. Introduction

Nowadays, the internet with features such as e-mail, instant messenger, online news services and social software has become an important communication tool of everyday life. This online evolution, prominently called *Web 2.0*, provides recipients with new power in communication processes. The flood of available information online allows anyone with Internet access to select information sources independently and individually. This has made many recipients much more critical towards institutions and companies. Consequently, the Internet offering personalized, low-cost communication combining reciprocity, transparency and service has become an important communication vehicle for most organizations. Weblogs hosted by organizations as a means of public communication providing flexibility and dialogue orientation are one of the youngest applications in the repertoire of corporate

communications. However, a predefined strategy is important for a corporate weblog to avoid negative consequences. Unfortunately, individual organizational structure does not allow a one-fits-all solution and measures for benefits of corporate blogs do not exist so far. With regard to this lack, the study summarized and presented here approached and measured the effectiveness of corporate weblogs. Those new insights may add to strategic considerations of companies and increase knowledge in practical communication research. The research was conducted as a case study of the *Daimler-Blog*, the corporate weblog of the German vehicle manufacturer Daimler,[1] applying a three-step multi-methods design. The company is considered a pioneer in its hosting of a lively corporate weblog in the German blogosphere. The main foci of analysis were the organizational intentions and expectations tied to the corporate weblog, the structure of the medium and the benefits evolving from it for the company regarding the expected key benefits identified in advance. This strategy of performance measurement addressed and tested important key principals of corporate weblogs from the academic literature in order to validate or falsify their relevance.

2. Theory

The theoretical foundation of the case study comprised a basic understanding of *Web 2.0*, *weblogs* and the current shift of communication paradigms as well as a definition of *corporate weblogs*. These sections rely on the work of E. Fischer [23], Schmidt [61] and T. E. Fischer [24] which provide detailed overviews about weblogs, their emergence and functions.

2.1. Web 2.0 & Weblogs

Weblogs in general belong to the means of online communication compiled under the umbrella term *social software* which is seen as a key-evolvement of *Web 2.0*, the so called “new web” [24, p. 162]. Introduced by Tim O’Reilly in 2004, the latter term reflects the significant changes on the web which have evolved over the course of the last decade. O’Reilly observed that the initially one-sided communication and passive reception of ‘top-down’ content on the Internet, which was comparable to traditional mass media, slowly began to be replaced – or at least complemented – by applications allowing active participation and interaction [56]. These applications facilitate discussion, communication, building networks and publishing self-created content by means of simple interfaces which are easily understood and provide readily programmed layouts for everyone to use. Since communication via social software channels is flexible in time and space, Web 2.0 stands for multidirectional, social interaction beyond physical borders and independent ‘micropublishing’ activities [18; 23; 47; 67]. Emphasizing the platform character of Web 2.0 communication tools, O’Reilly [56] focuses on user participation and reciprocity as a technological as well as social and societal phenomenon online.

[1] A detailed corporate profile of the company is available on http://www.daimler.com/, retrieved February 14, 2010.

The emergence of weblogs has been part of the proceeding online revolution from the very beginning. In the meantime, they have become one of the most popular means of communication on the interactive web and have expanded from 'geek' logbooks to means of public discourse in political, journalistic and interpersonal communication. This evolvement indicates that the medium combines relevant qualities which led to its rapid and so far enduring success. But since the barriers for participation in public discourse are low in this field content quality strongly depends on the authors' efforts, interests, opinions or intentions. Information is often blended with personal opinions or subjective estimations which make weblog content unreliable at first glance. Nevertheless, subjectivity is not necessarily a disadvantage but can also be an asset. Weblogs are a personal form of writing which features individual positioning combined with informative content. In this regard, the author's personality and human voice is highly authentic and serves as a measure for credibility that invites critical and constructive exchange, attracts an audience and evokes trust. As Sixtus [65] argues: "To infer the content of 'weblogs' from just one single blog is as acceptable as judging all paper media from leafing through a dime novel or a telephone book."[2]

T. E. Fischer [24, p. 171f.] defines the core constituents and additional characteristics of weblogs by the applied *technology*, the *structure* and the *content*. His definition represents the basic understanding of weblogs in the presented study.

> Weblogs are personal or thematic news services which are published as webpages by means of easy content management systems, regularly updated with new entries and hyperlinked in multiple ways with other blogs and websites. Constitutive elements are the reversed chronological order of entries and the opportunity to post comments provided for users. Based on the standardized software additional information (sounds, pictures, videos, text) can be embedded and sent to other users via standardized syndication formats. […] Additional characteristics of weblogs are the automatic storage of older contents in archives and the assignment of a distinct and permanent URL to each entry that can be referred to, the so-called permalink. Furthermore, trackbacks belong to the constitutive elements of weblogs which allow a simple cross-reference to other weblogs at the push of a button. […] By means of ping each blog entry can automatically be announced to other services, such as RSS or other weblogs. Consequently, interactive interconnectedness of content is possible throughout the whole network.[3]

In addition to this definition he mentions a list of strengths in comparison with traditional mass media:[4]

- easiness to contact the author
- demonstration of personal perspective
- multifaceted and intense exchange of opinion
- current commenting on events
- entertainment value
- up-to-dateness

[2] Translation by the author.
[3] Translation by the author.
[4] Translation by the author.

He emphasizes the unfiltered condition of information which is controlled and enhanced in quality retrospectively as the main difference to traditional information services. Based on this definition the impact and developments that have emerged from weblogs as new communication media are discussed subsequently.

2.2. The Blogosphere: Changes in Public Communication

As a highly connective medium weblogs build a continuously evolving, nonlinear network of hyperlinks, cross-references, trackbacks and interactive exchange: the so-called *blogosphere*, which reflects societal trends such as individualization, transition to higher flexibility, multimedia-based communication and entertainment. This results in a fundamental change of traditional communication structures, since 'top-down', 'one-to-one' and 'one-to-many' communication models are losing validity in the global, horizontal and diverse environment of Web 2.0. As visualized in figure 1 they are replaced by network models depicting 'many-to-many' communication that allows multidirectional, reciprocal exchange between individuals and groups at any time [12; 20; 58].

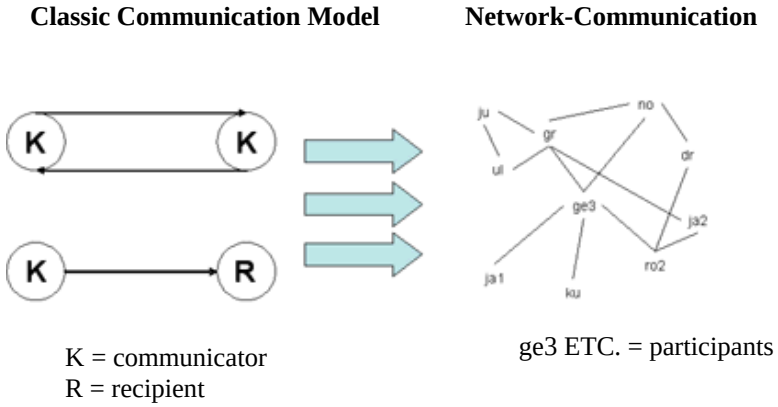

Fig. 1. Classic- and network-communication structures [58, p. 108f.; translation by the author]

According to Stone [68, p. 221] blogs have 'kickstarted' hyperconnectivity in communication and they are "the spark of life that the internet was missing." Through Web 2.0 platforms recipients and consumers are increasingly gaining a voice in public communication and are turning around the 'pyramid of influence' from the bottom up. Peter Hirshberg, Executive Vice-President of *Technorati*, describes this shift of paradigms regarding weblogs as follows:

> Because bloggers blog simply because they want to they are passionate, opinionated, enthusiastic and they appreciate being listened. In many respects, this is a far more genuine, broad-based and conversational form of communications than ever existed in the era of trade publications and mainstream media [20, p. 6].

Surveys confirm this profile of bloggers. As well as former studies,[5] the *Technorati* report 'State of the Blogosphere 2008'[6] revealed that self-expression, giving advice and expertise as well as exchange with others were the most important reasons for bloggers to write online [69]. Furthermore, they attract an interested audience that looks for information containing personal opinion in order to form an own opinion [13; 24; 77].

These results show that traditional mass media, their gatekeepers and traditional public relations messages are losing influence. Trust in all kinds of organizations as well as advertising and press releases is constantly eroding while credibility of online sources, peer-to-peer networks and interpersonal exchange is increasing. The so-called word-of-mouth and cross-influence of individuals and groups play more important roles than ever before for the reputation of products and organizations [20]. Zerfaß and Boelter [75] describe these circumstances in terms of a new paradigm in communication, the *Google world*, explained in the following section.

2.3. A New Paradigm: The 'Google World'

Increasingly trusting subjective content recipients are adapting to information abundance and availability. They turn to 'constant computing' and seamlessly integrate digital devices, software and networks in their everyday lives. They surround themselves with an 'information cloud' that is accessible at any time and overcomes traditional linearity in communication [23; 61]. Indeed, most recipients still use traditional mass media as usual. But especially the young, adult, native 'onliners' called *net-geners*, *generation X* or *netizens* are conversant with the online world [43; 49; 51].They feel comfortable with computer use, have grown up with digitalization and the communication revolution and make effective use of Web 2.0 as a 'pull-medium' actively retrieving information that is only provided by communicators. This, however, also means that in contrast to traditional push media, weblogs and other online content do not have a specific audience. As a consequence of the 'information overload' attention has become a scarce good. This circumstance is the subject of the *attention economy theory*, developed by Franck [25] and Goldhaber [28], who describe the lack of attention and selection capacities in an environment of supply abundance. Accordingly, attention has become a basic target of corporate online communication and exclusiveness becomes more and more important.

In the process of tailoring the abovementioned 'information cloud' to individual needs and distinguishing between high and low quality content search engines play crucial roles. Based on the name of the most frequently used search engine worldwide, Zerfaß and Boelter [75] have developed the *Google world* paradigm.[7] It coexists with earlier paradigms in communication studies describing the evolution of

[5] E.g. the studies conducted by the Pew Internet & American Life Project [57] and Edelman & Technorati [20].

[6] The report is based on an online survey with a random sample of 1,290 adult bloggers (aged 18 years or older) registered on Technorati from 66 different countries [69].

[7] *Google* is worldwide the preferred search engine with more than 80 per cent of all queries (status quo June 2009; [66]).

the media landscape: the *Gutenberg galaxy*, the *McLuhan galaxy* and the *Internet galaxy*.[8] Essentially, the *Google world* exceeds the *Internet galaxy* in connectivity, participation and accessibility, as recipients use search engines to retrieve content from the unstructured supply on the Internet. In many respects the *Google world* is in line with O'Reilly's [56] concept of *Web 2.0*: users publish self-created content using social software, contents are strongly interconnected via hyperlinks, linearity in communication is overcome and networked 'many-to-many' communication is dominant. However, in contrast to *Web 2.0*, the *Google world* explicitly factors in the significant influence of search engine results on recipients' selection processes. The authors argue that only listed content 'exists' for users within the interactive web. This implies that attention scarcity remains but, now, depends on search algorithms. Consequently, attention can hardly be forced online but is aggregated through reputation of content producers. This *digital reputation* must be earned and is the key concept of the *Google world*. It emerges from trust of recipients, who usually express their favor via comments, recommendations and hyperlinks. Consequently, the connectedness of a weblog or website is the 'currency' that proves competence, identity, passion and authenticity and results in digital reputation [75]. These new circumstances online also have the potential to strongly influence the reputation of organizations. Critic and negative buzz spread fast and the *Google world* demands drastic revision of communication strategies.

2.4. Consequences for Organizations: Threats & Opportunities

In times of convergence and changed media use online communication is more relevant for organizations than ever before. They have to cope with more competition in public communication, loss of influence, more critical recipients, a lack of attention, individuals spreading subjective reviews being more credible than corporate messages and new, instable communication arenas emerging spontaneously and disappearing as fast again [24; 47]. Furthermore, they need to learn and keep up with new rules to create public visibility, earn trust and establish online reputation. It becomes apparent that traditional organizations cannot ignore the recent developments in public communication without paying a heavy price. Stakeholders and organizations have become almost equal in communication and organizations that do not monitor the Internet risk losing control over their reputation. On the web, customers find other sources discussing the organization and, unfortunately, critical blog entries – correct or not – often create big buzz that spreads fast in the hyperlinked network and beyond [18; 24; 29]. The interconnectedness of the blogosphere can act as an accelerator for negative reviews, harsh critic and resulting image crises. The serious consequences of prominent cases[9] illustrate that organizations cannot risk to provide low quality products or to lack service online or offline due to this momentum and speed of the blogosphere.

[8] For detailed discussions of these paradigms see Zerfaß & Boelter [75] and McLuhan [53].

[9] The most prominent case of an online-crisis was the case of *Kryptonite*, an American manufacturer of premium bicycle locks in 2004/2005. The organization underwent the most disastrous corporate crisis emerging from the blogosphere so far after a customer complained online about the insufficient quality of a product [42; 59; 71; 75].

Apart from such intimidating threats valuable chances can arise from the interactive web if organizations take the chance to participate. Analyst Josh Bernoff summarized: “The corporate world has slowly gone from un[a]ware to fearful to, now, curious about […] how to participate in the blogosphere, and so on” [67, p. 580]. This curiosity is a first step towards the changed situation and construction of online reputation. Accordingly, communication should be understood as a process to generate meaning similar to a conversation instead of a transfer of meaning [61]. Following this approach, Web 2.0 offers attractive opportunities to use the bloggers’ strategy and establish a means of direct and personal communication with stakeholders. If weblogs are personalized, applied honestly and provide transparency stakeholders recognize this effort and perceive credibility and authenticity. Such communication channels are priceless, since they allow to influence the public opinion and contribute to the organization’s online as well as offline reputation [18; 24; 29; 47]. However, to maintain a *corporate weblog* is not as simple as it may sound from the inviting opportunities. There are numerous functions an organizational weblog may serve but also many strategic mistakes to be made that can transform all chances into backfiring threats.

2.5. Corporate Weblogs

As well as most types of weblogs, corporate blogs describe an Internet platform where personal and/or topic related messages are published. Building on the previously provided definition of weblogs, the definition of corporate weblogs applied in the presented study can be formulated as follows:

> A corporate weblog is an internal and/or external blog which is officially initiated by and maintained in the name of an organization in order to broach its products, services, strategies, processes or related events. It is updated regularly and serves as a continuously available information channel and a means of communication with stakeholders. Authors on the blog are usually employees of the company who are identifiable by a photo, the name and sometimes a description of the position within the company. Corporate blogs, therefore, differ from traditional, rather impersonal means of corporate communication. The emerging relations between authors and readers are their main success factor [11; 29; 47].

Corporate blogs are part of integrated organizational communication which serves to plan, coordinate and manage all communication activities and instruments of an organization. Reduced to a general level, Schmidt [61, p. 172f.] argues that the communication via corporate blogs serves three aspects on the internal and external level:

(1) identity management (presentation & image, personalization, authenticity, credibility),
(2) information management (flexible reach, construction of multiple, topic related publics, satisfy variable stakeholder needs), and
(3) relationship management (hypertextual links, social networks, dialogues, services).

Based on these functions, especially external corporate weblogs can be seen as new organizational communication arenas which potentially reach a diverse audience.

Spreading organizational content through this open and highly connective channel can serve to increase public awareness for and reputation of a company [41]. Blog entries published on corporate weblogs are usually less conditioned and controlled than traditional forms of external communication (e.g. press releases). Furthermore, they are written in a personal, rather informal style in order to create authentic and credible content that evokes trust. Still, a corporate blog is embedded in and ideally contributes to the complete communication repertoire of a company in order to achieve business objectives. Accordingly, corporate weblogs necessarily overlap in formal, professional and personal content and combine all three aspects [23; 44]. Hence, the less formal language can either be a personal expression or serve to cover the strategic character of communication [49]. However, a study conducted at the University of Hohenheim, Germany, revealed that credibility is key to engage in direct, unfiltered and dialogue oriented communication with stakeholders and address them personally [18]. If a corporate blog is applied thoroughly and combined with high quality content, products, and services it constantly increases the connectedness of the blog and its embedment in the blogosphere. Thus, corporate weblogs potentially enhance online as well as offline reputation, which are important success factors and part of the company value [4].

But the use of implementing a blog depends on the company's specific situation, communication strategies and guidelines. Risks as well as necessary efforts and resources to maintain a blog should be considered before implementation. Depending on these aspects a corporate weblog is not a good fit for every company without limitations. With regard to 'top-down' control strategies and strictly consistent one-voice policies, corporate weblogs are often located in a field of tension between censorship and self-expression [49]. Small and mid-sized companies are usually more suitable for corporate blogging than large organizations due to flat hierarchies and a manageable number of employees. However, a blogging guideline can help to ease such problems and contribute to position the new medium within organizational culture [31; 40; 41; 74; 75].

Zerfaß and Boelter [75] have developed a typology for corporate weblogs depicting possible different functions. They locate eight different types of corporate blogs within a grid that covers three different aspects of corporate communications: *internal communication*, *market communication* and *public relations*. As shown in figure 2 those three areas are related to communication purposes intending to *inform*, *persuade* and *argue*.

Each of the eight predefined types of corporate weblogs covers a different position within the grid. Some of them fulfill specific functions (e.g. 'Crisis Blogs') while others combine a set of rather general functions (e.g. 'Topic Blogs'). The authors emphasize that this typology is not exhaustive but was developed as a frame of reference for organizations that can be expanded with additional sub- and hybrid types [75].

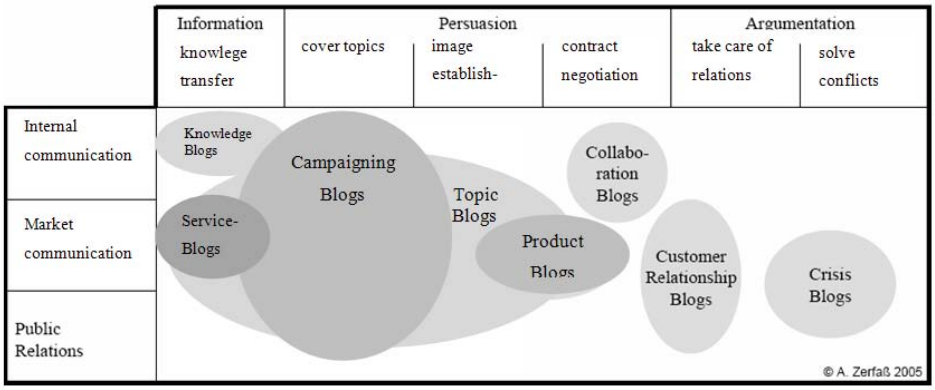

Fig. 2. Typology – functions of corporate weblogs [75, p. 127; translation by author]

3. The Daimler-Blog

The company Daimler[10] employs about 270,000 people and is necessarily hierarchically structured and complex due to its size [1]. It is one of only five of the 30 largest corporations in Germany[11] providing a corporate blog [23]. The Daimler-Blog was started on October 16, 2007 as an experiment of the German company to create an open space for employees to report from their everyday worklife and provide insights in the company's structure and diversity [47].[12] Uwe Knaus, 'Head of the Daimler-Blog', furthermore specifies the idea behind this project as "increasing the company's attractiveness and reputation giving it a personality by means of its employees"[13] [55].

The start of the Daimler-Blog attracted many curious readers and was observed widely in the German blogosphere and in traditional mass media (e.g. *Süddeutsche Zeitung* [7], *Horizont* [38]). After the initial hype, the process of establishing in the blogosphere and attracting regular readers took much longer. König [47] explains this phenomenon by means of the Gartner 'hype cycle for emerging technologies' [27]. Provided a new technology is adopted, this model describes the classic cycle of adoption through the different phases from hype to correction and finally reputation of the medium. As displayed in figure 3, the Daimler-Blog ran through those three phases measured by means of the incoming links. The hype phase lasted 26 weeks before the correction phase began and the incoming links decreased. From the 45th week on the incoming links increased constantly and the reputation phase began.

[10] From 1998 until 2007 Daimler was called DaimlerChrysler but changed its name after separating from the Chrysler corporation.

[11] These corporations are called the 'DAX30-corporations' and are important to measure the German market.

[12] Partly retrieved from the official statement on the blog that is available on http://blog.daimler.de/hier-bloggen-mitarbeiter. Retrieved February 14, 2010.

[13] Translation by the author.

Due to the success and liveliness of the weblog, Daimler as a large company has a unique status in the German blogosphere and is widely observed by bloggers, journalists and competitors [2]. In June 2008 the blog was awarded with the 'Best-of-Corporate-Publishing-Award' in the category 'electronic publishing' because of its exceptional position in the German-speaking blogosphere, its diversity and authenticity.[14] The company is aware of the special position the Daimler-Blog takes in the German blogosphere and conducted an online survey of five questions with 228 users in December 2008 aiming to locate the readership of the weblog [46].[15]

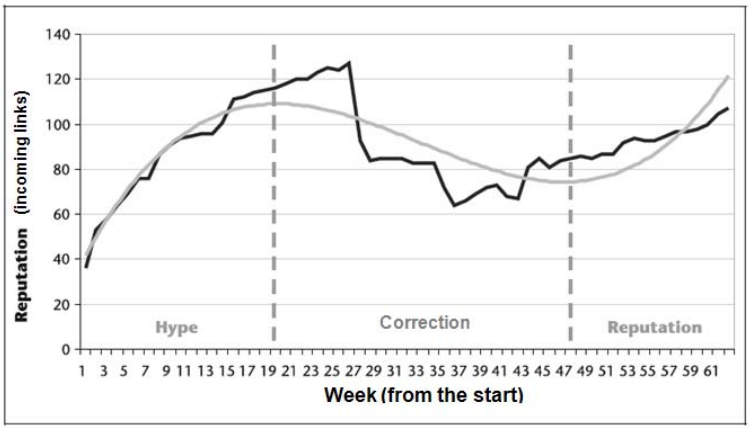

Fig. 3. The Daimler-Blog in the Gartner 'hype cycle for emerging technologies' [47, p. 4; translation by the author]

4. Problem Definition, Relevance & Research Questions

In contrast to other countries and regions where corporate weblogs are already a widespread phenomenon (e.g. USA, UK, France, Asia), German organizations are rather cautious in integrating this online communication tool in their communication repertoire. By estimation, the country is two years behind the development of the USA [18; 23; 40; 41]. However, this restraint might be reasoned, since a study conducted by Zerfaß and Bogosyan in 2006/2007,[16] revealed that only 30 per cent of German blog-users estimate corporate blogs as influential regarding the public opinion. In addition, more than 26 per cent said they do not trust the content of corporate blogs [77]. Surprisingly, the numbers in the USA are even lower [8]. This negative public opinion towards corporate weblogs, the necessary effort and commitment, organizational barriers and possible threats to control and reputation as

[14] See *Best-of-Corporate-Publishing* website http://www.bcp-award.com/preistraeger08/pdf/bcp2008_preistraeger.pdf. Retrieved September 22, 2009.

[15] For the questionnaire and the detailed results see König [46].

[16] The study was conducted in December 2006 and involved a sample of 605 internet-users who were asked for their opinion towards and use of weblogs.

discussed before, are often the reasons for large companies to react reserved towards integrating this new medium. Meanwhile, customers increasingly make purchase decisions online. In Germany more than half of the consumers retrieve information online before buying electric devices, going on a journey or buying a car [39]. In this field of tension and insecurity of organizations Daimler implemented a corporate weblog. One may wonder how substantial the benefits emerging from the blog are for the company. Considering this concern, three research questions were formulated to approach the Daimler-Blog from different angles: its constitution, the expectations and intentions related to it and the benefits/losses evolving from it for the company. Those three aspects served the detailed analysis of the Daimler-Blog as a case study in order to provide communication science with rich data on the particular case and allow comparison with other corporate weblogs. Hence, the results may contribute to answering the numerous questions still connected to corporate weblogs in Germany and elsewhere.

RQ1: *How is the Daimler-Blog constituted with regard to rules and regulations, editorial processes, target audience, authorship, readership, topics discussed, reciprocal exchange with readers, multimediality and hypertextuality?*

RQ 2: *Which reason(s) for implementation, expectation(s) and intended function(s) did and does Daimler tie to the Daimler-Blog?*

RQ 3: *To what extent does Daimler benefit from the Daimler-Blog with respect to the company's expectation(s), reason(s) for implementation, and intended function(s) regarding the blog?*

Following Efimova and Grudin [21], a case study is a suitable approach as it reveals tendencies for successful implementation and integration of corporate weblogs into existing communication-repertoires of companies. However, case studies focusing on the German blogosphere are very limited and mainly analyze weblogs in small or mid-sized companies [40]. The presented study contributed to revealing tendencies regarding the profitableness of corporate weblogs for large companies in this part of the blogosphere. The multi-step approach of analysis facilitated to provide an understanding of the Daimler-Blog as a complex communication tool. Apart from the practical value of a detailed analysis, the academic relevance rested in contribution to a field of communication research which has not been addressed sufficiently, since corporate weblogs have been the least analyzed type of weblog to present [40; 62]. This research gap results in a vast variety of assumptions towards guidelines, key principals and strategies which mostly lack adequate exploration. Consequently, the approach served to test concepts and information provided in recent literature. In this regard the study provides insights, as Zerfaß [74] argues recent models and typologies merit refinement.

In sum, the exploratory approach applied in the presented study is theoretically and socially relevant as it offers latitude to generate scholarly understanding and practical knowledge of organizations regarding corporate weblogs and organizational communication. The interface between practical and theoretical relevance is especially reflected in RQ3, since organizations were not provided with reliable instruments measuring the benefits of corporate weblogs until now.

5. Method

The three different methods applied for analysis were closely intertwined and conducted sequentially to allow building on previous results. This was especially relevant for the online survey which was considerably based on the findings of the interview analyses. All three methods were equally important to elicit detailed understanding of the blog and contributed to answer at least one of the three research questions. The results complemented each other and depicted the different dimensions of the Daimler-Blog leading to a multifaceted understanding of the medium.

5.1. Method I: Systematic Content Analysis

The first step of data collection was a systematic content analysis of the Daimler-Blog. It comprised all 205 blog entries published during the first 561 days of the blog between its release on October 16, 2007 and April 30, 2009. Applying this method the most important structural aspects visible on the Daimler-Blog were categorized. Following definitions by Berelson [5] and Holsti [36], the content analysis was not restricted to textual material but embraced objective, systematic and quantitative description of content including pictures, videos and links. Although the content on a weblog is constantly in motion, the data published on the Daimler-Blog are archived and retrievable to the full extent. Accordingly, the analysis served answering the aspects as addressed by RQ1 conducting a replicable description of the constitution of the Daimler-Blog within the given timeframe. The system of analysis was operationalized in a codebook in advance to the analysis using distinct categories that facilitated drawing interpersonally verifiable conclusions from the data [26; 48; 60; 73].

The codebook to conduct the content analysis ascertained ten different characteristics of the blog's content which served the analysis of *authorship*, *topics addressed*, *reciprocity* and *frequency of commenting* as well as *maintenance*, *hypertextuality* and *multimediality* as addressed in RQ1. In addition, the length of blog entries in words was coded.

5.2. Method II: Qualitative Interviews

The second step of data collection was a qualitative interview with Nils König who is part of the team in charge for the Daimler-Blog. The interview analysis served to identify the company's reason(s) for implementing the corporate weblog, expectation(s) related to it and intended function(s). Consequently, the interview served to answer RQ2 and facilitate construction of the instrument for the subsequent research step measuring the benefits/losses emerging from the Daimler-Blog as addressed by RQ3. In addition, the interview complemented the content analysis regarding structural characteristics of the blog.

The interview with Nils König served to identify the status quo of the blog and was conducted by the researcher in English as a semi-structured e-mail interview [6; 22]. The interviewee was adept at applying e-mail to his professional as well as personal

communication and the interview served to explore a form of native online communication, similar to the studies of Hodgons [34] and Kennedy [45]. Consequently, this method was considered to be most adequate for the purpose of this study. The interview schedule contained 11 questions and was sent to the interviewee in a word document using an organized table structure offering space for each reply. Following the tests and experiences of Meho and Tibbo [54], Curasi [16], Hodgons [34], Kennedy [45] and Lehu [50] all questions were sent in one e-mail as it fitted the factual focus of the interview.

For analysis, the interview was complemented by four additional interviews with persons in charge of the Daimler-Blog (Christian Fachat, 'Head of the Web Communications department'; Uwe Knaus, 'Head of the Daimler-Blog').[17] Those interviews were conducted in German language by journalists in advance to and independent of the study and were retrieved from publicly accessible sources.[18] This analysis of previous interviews allowed retrospective understanding of developments, changes and initial points regarding intention(s), expectation(s) and intended function(s) tied to the Daimler-Blog.

The analysis of interview material was conducted following Boeije [10] who discusses the 'constant comparative method'. Following this approach, all data were compared within and between the interviews in order to examine consistency and inductively derive overall categories and subcategories from similar patterns.

5.3. Method III: Online survey

The third step of data collection was an online survey with readers and non-readers of the Daimler-Blog. It served the analysis of benefits/losses evolving from the blog regarding the company's expectation(s) and intention(s) as well as readers' motivations and patterns of use. Consequently, the method contributed to answering RQ1 measuring the constitution of readership, the respondents' patterns of use and contribution to the blog. RQ3 was addressed measuring the benefits/losses of the Daimler-Blog in relation to the company's expectations and strategic intentions indentified by means of the qualitative analysis of interviews as explained before. The data of non-readers served the comparison with readers of the blog where applicable. Following Van Selm and Jankowski [72], the decision to employ an online survey was primarily based on the subject under study and respectively the population, since an internet connection is the necessary prerequisite to access the Daimler-Blog.

The duration of data collection comprised 4 weeks from May 27 to June 30, 2009. The sample for this survey was necessarily purposive, since the screening characteristic for data of readers was the at least sporadic use of the Daimler-Blog [52]. The survey was unrestricted in participation but data were screened during and after data collection. Recruiting a representative probability sample of Daimler-Blog users is generally impossible, since there is no registration or identification connected to the use. Coverage errors were kept low employing multiple recruitment strategies

[17] Boeije [10] points out that external data can be beneficial for qualitative research due to its heterogeneity and independence from the researcher.

[18] For the references see Ebenführer [17], Eck [19], Hoffmann [35] and Meyer [55].

to reach potential respondents [3; 72]. Cooperation with Daimler facilitated announcement of the survey directly on the Daimler-Blog including the URL of the survey for easy and direct access. Additionally, Nils König published the same information once on his personal weblog *KingNils*[19] and several times on his *twitter* account.[20] Twitter was also used by the researcher to make active use of the broad network and get in touch with opinion leaders and multiplicators. Finally, a list of readers who commented on blog entries and revealed their e-mail addresses was contacted and asked to participate. Some of the Daimler-Blog readers contacted via e-mail spread the URL on twitter subsequently to their participation. Therefore, their personal and/or professional networks contributed to recruiting respondents.

The questionnaire consisted of 19 questions applying different structures (e.g. closed- and open questions, ranking scales), an introduction and a 'thank you' page. It was presented on 19 separate screens to provide a structured and clearly arranged screen for each question [63; 64]. The complete survey was pretested with seven native German speaking subjects of differing age, gender and profession before implementation.

Overall, aspects of the subjects' opinions, behaviors and sociodemographic data were collected. For screening purposes they were asked if they knew the blog and if they ever visited it. Furthermore, their frequency and habits of using the blog as well as the comment function on it were collected. Besides classic demographics and characteristics (connection to Daimler, level of education, gender age, location), the participants' level of activity online was collected. This question was used in correspondence with the survey conducted by Daimler (see [46]) who adopted this typology from the Forrester 'Social Technographics Ladder' [9]. This measure hierarchically distinguishes six user types by their level of participation online and ranges from no participation (*inactives*) to high participation and creation of content (*creators*) (see figure 4).

The two central questions of the survey addressing RQ3 collected respondents' opinions about the *dialogue orientation* and *authentic human voice* of the Daimler-Blog and the company's *reputation.* As discussed in the theoretical framework *dialogue orientation* and *authentic human voice* are seen as crucial for successful implementation and maintenance of corporate weblogs. Further, the analyses of qualitative interviews revealed both aspects to be central strategic intentions and expectations of Daimler implementing a corporate weblog (see section 6.2 Results Method II). The scale applied a 7-point Likert scale with randomization of items to avoid any systematic response error [14; 44]. The items to measure both constructs were adopted from Kelleher and Miller [44] who developed and tested a scale for measurement of several relational maintenance strategies in online public relations focusing on corporate weblogs. Among other relational maintenance strategies, the authors identified the construct *conversational human voice.* To measure this construct, they formulated 11 items and applied a 7-point Likert scale. For the present study, the items were translated into German and directly related to Daimler and the Daimler-Blog. It was considered to divide the 11 items into the two constructs

[19] His blog thematically focuses on corporate communication, social media and corporate weblogs.

[20] The twitter account of Nils König can be retrieved from http://twitter.com/KingNils.

dialogue orientation and *authentic human voice*, since the construct *conversational human voice* was found to be a mixture of both components not selectively differentiating between reciprocal conversation and human authenticity in conversation. Those aspects are usually discussed separately in theoretical literature focusing on corporate weblogs. Consequently, the scale was implemented and analyzed with the intention to present two scales, one consisting of five items (*dialogue orientation*) and the other of six items (*authentic human voice*).

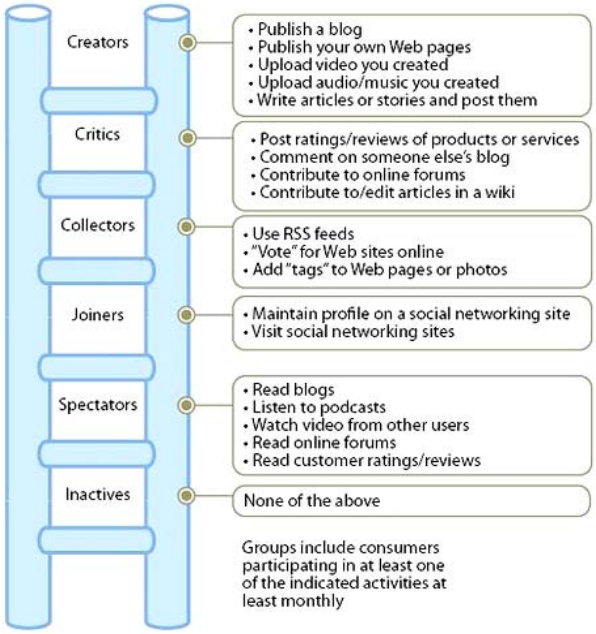

Fig. 4. Forrester 'Social Technographics Ladder' – Typology of Internet user types structured hierarchically by the level of activity & participation online [9]

As regards *reputation* the qualitative analyses of interviews revealed in line with the theoretical framework that reputational benefits are one of the main intentions and expectations Daimler tied to the corporate weblog (see section 6.2 Results Method II). The scale was adopted from Hon and Grunig [37] and served to measure six constructs identified by the authors based on previous research literature. Four of the constructs are indicators for *outcomes of an organization's longer-term relationships* to its stakeholders and, thus, for its *reputation*. Those are *trust*, *control mutuality*, *commitment* and *satisfaction*. The other two constructs represent different perceptions of *quality of relationships to organizations*. They were included to find out whether the participants perceived their relationship to Daimler rather emotional/loyal (*communal relationship*) or practical (*exchange relationship*). The scale developed and tested by Hon and Grunig [37] consists of 24 items and was reduced to 21 items for the online survey. In addition, the items were translated into German and the

formulations of some items were changed slightly based on the pretest, as they were observed as confusing by the participants and were additionally expected to evoke third person effects.[21] The items of the final scale were randomized in the survey to avoid systematic response errors and the Likert scale was reduced from nine to seven points since a 9-point scale was too differentiated for an online survey [14; 44].

6. Results

In this section the results of the three single methods are presented separately.

6.1. Results Method I: Systematic Content Analysis

Authorship & Topics Addressed

For the content analysis 205 blog entries were analyzed published between October 16, 2007 and April 30, 2009. The majority addressed the topic *brands & products* (*n* = 43, 21%) followed by *job & career* and *miscellaneous* (*n* = 35, 17.1% each). In sum 120 authors were identified, most of them being male (*n* = 71, 59.2%), one-third being female (*n* = 37, 30.8%) and 10 per cent (*n* = 12) being groups of authors undefined in terms of gender.

For categorization by authorship three authors were counted double, since they changed their status in the company during the analyzed period of time. This increased the number of authors to 123. The great majority of blog entries was written by *employees* (*n* = 148, 72.2%) followed by *student trainees* (*n* = 17, 8.3%) and *interns* (*n* = 15, 7.3%). In accordance with the high number of blog entries written by *employees* the great majority of authors belonged to this category (*n* = 83, 67.5%). They were followed by *groups of employees* (*n* = 12, 9.8%), *interns* (*n* = 10, 8.1%) and *student trainees* (*n* = 7, 5.7%).

Reciprocity & Frequency of Commenting

Within the period of analysis 1,845 comments were written on the Daimler-Blog. The mean number of comments for each blog entry was 9 (*SD* = 12.49) of which about one was written by the author(s) (*M* = 1.1, *SD* = 2.04). Most entries (*n* = 78, 38.1%) received between one and five, followed by six to ten comments (*n* = 50, 24.4%). 26 entries (12.7%) did not receive any comments. Not all commented entries (*n* = 179, 87.3%) were commented by authors. The more often entries were commented, the higher was the percentage of comments written by the author(s). Consequently, authors usually wrote comments subsequent to one or more readers. This correlation was significant based on the non-parametric Kendall-Tau-b correlation coefficient (*r* = .578, *p (2-tailed)* < .01). This procedure was applied using a Kolmogorov-Smirnov

[21] To avoid this error the formulation ‘people like me’ asking subjects for generalized estimations was removed from seven items.

test with Lilliefors significance correction (KS-test, hereafter) due to not normally distributed data.

Maintenance

On average, circa every third day an entry was published on the Daimler-Blog (0.37 per day) and 10.8 entries were published per month with seven being the lowest amount in April 2009 and 16 being the highest in June 2008 (see Figure 5).

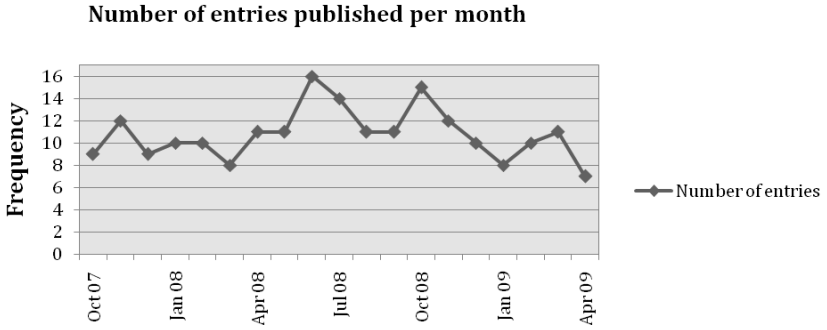

Fig. 5. Frequency of publishing on the Daimler-Blog during the first 561 days

Each of the 120 authors wrote 1.7 blog entries on average during the analyzed period of time (*SD* = 1.99). However, 88 (73.4%) wrote only one blog entry and another 17 (19.3%) wrote two entries. The four most active bloggers wrote together 22.4 per cent (*n* = 46) of all entries and about one-third of all blog entries (*n* = 62, 30.3%) were written by the eight most active authors. Six of the most active authors were *employees.* In general, males were more active than females, since only two out of 37 females wrote more than two blog entries and none of them belonged to the four most active authors.

Structured by categories of authorship, *student trainees* were most active authors with 2.4 blog entries per author, followed by *employees* with 1.7 entries, *interns* with 1.5 and *apprentices* with 1.3 entries average per author.

Structural Characteristics: Multimediality & Hypertextuality of Blog Entries

The length of entries varied on a range from 1,681 to 40 words with a mean length of 489.9 words (*SD* = 258.9). About two-thirds of the blog entries contained one or more picture(s) (*n* = 135, 65.9%), while the embedment of videos was much more unusual (*n* = 44, 21.5%). However, only 25 blog entries (12.2%) contained both, picture and video material. One-quarter of all entries (*n* = 51, 24.9%) contained neither pictures nor videos. Furthermore, the analysis of hypertextuality revealed that more than 80 per cent of blog entries (*n* = 171) contained at least one link. In more than half of those (*n* = 98, 57.3%) different *external & company related* links were embedded and one quarter (*n* = 42, 24.6%) contained exclusively *external links*.

Overall Analysis by Authorship & Topic

Structured by *topic*, the analysis showed that entries written in the category *brands & products* seemed to be more diversified in multimediality than entries written to other topics. However, it is important to note that the number of entries written in each category varied strongly. 'Pictures only' were dominant in entries of most categories with 40 to 100 per cent of entries in each category. One-third of 'Videos & pictures' in blog entries were written in *brands & products* (*n* = 9, 20.9%) as well as more than half of those containing 'videos only' (*n* = 10, 23.3%).

The number of comments posted to entries written by the different categories of *authorship* varied strongly. The group of *interns* received the highest mean of comments with 10.5 per entry (*n* = 15, *SD* = 11.83) followed by *student trainees* (*M* = 10, *n* = 17, *SD* = 8.80) and *employees* (*M* = 9.4, *n* = 148, *SD* = 13.66). The same categories of authors that received most comments also wrote most comments per entry. Here *student trainees* (*M* = 1.6, *n* = 17, *SD* = 1.97) were followed by *interns* (*M* = 1.2, *n* = 15, *SD* = 1.78) and *employees* (*M* = 1.2, *n* = 148, *SD* = 2.18). Further, the average of comments written by each author in a group was analyzed. With a mean of 3.9 comments per author (*n* = 7, *SD* = 1.77) the group of *student trainees* showed much higher activity than the other groups. They were followed by *employees* (*M* = 2.1, *n* = 83, *SD* = 2.57) and *interns* (*M* = 1.8, *n* = 10, *SD* = 1.93). In all other groups the averages of comments per single author were below one. The non-parametric correlation coefficient Kendall-Tau-b indicated significance of those differences (*n* = 123, *r* = -.148, *p (1-tailed)* < .026).

For the different categories of authors the topics addressed by each group varied. *Groups of employees* showed the most distinct focus on a topic[22] with 91.7 per cent (*n* = 11) of their entries written in the category *interviews*. The next higher foci showed *interns* (*n* = 6, 40%) and *apprentices* (*n* = 6, 75%) both on *job & career* t*opics*. *Student trainees* also focused on this category (*n* = 5, 29.4%) closely followed by *brands & products* and *miscellaneous* (*n* = 4, 23.5% each). The entries written by *employees* as the dominant group of authors were distributed over all topics except *surveys*.

6.2. Results Method II: Qualitative Interview

In this section the results as regards reasons and expectations related to the implementation of the Daimler-Blog are presented. The constant comparative analysis revealed six main categories each of them structured and defined by a number of subcategories. Three of the categories directly focused on intentions and expectations tied to the implementation of the Daimler-Blog (*integration in communication repertoire*, *reputation management* and *adoption of new technology*) while the other three categories focused on the practical implementation of the blog and its constitution (*structural characteristics*, *rules & regulations* and *blog management*). The information found in the categories focusing on intentions and related expectations were mainly relevant to answer RQ2 while the information found in the

[22] *CEOs*, *undefined* and *other* with only three entries or less each are excluded from this reflection.

categories focusing on the practical implementation and constitution of the blog mainly contributed to answer RQ1.

Practical Implementation & Constitution of the Daimler-Blog

Structural characteristics
The interviews revealed that the *target audience* of the Daimler-Blog was not defined in advance, but was and is aimed at readers internal as well as external to the company. The company intended to reach young people which are familiar with and affiliated to online media, although this target audience was not aimed exclusively. Consequently, the *readership* of the blog is constituted of internal and external stakeholders of the company. Proportionately, internal and external readers steadily grew more equal since the start of the blog, while in the beginning only about 25 per cent of the readers were employees. Blog entries are *commented* ten times on average and the total *visits* tripled since the beginning of the blog. As regards the *topics* addressed entries published in the category *job & career* are reported to be frequented more often than those published in other categories. The *authorship* on the blog explicitly embraces all employees, but since authorship is voluntary employees can decide themselves if they want to participate.

Rules and regulations
Within the interviews *regulated* as well as *unregulated* aspects of the Daimler-Blog were identified. On the one hand, free and open access to the blog and the comment function is provided for all readers without a registration being required. On the other hand, readers are expected to adhere to an official comment policy which is available on the blog. Although comments are published automatically, editorial staff may erase comments retrospectively which are not focused on the topic or offensive in tone. The interviews consistently revealed that an internal guideline for authors does not exist, since the contracts of employment contain general security and secrecy standards, which embrace the authorship on the blog. In addition, authors may not write about specific, critical topics such as religion or politics and may not use racist or other harmful expressions on the blog. The topics addressed in blog entries should be of common interest but are not set by Daimler in advance. Thus, employees can propose topics and send articles to editorial staff that prioritizes and publishes them.

Blog management
To *practically implement the blog*, editorial staff provides help and assistance for authors who are insecure or unsure how to go about writing on a blog entry. The staff furthermore prioritizes blog entries, develops a publishing plan, administers and publishes the entries to centralize these processes. Finally, the staff monitors the blogosphere and incoming comments.

Intentions & Expectations tied to the Implementation of the Daimler-Blog

Integration in communication repertoire

In the interviews the *reasons for implementing* the Daimler-Blog were clearly related to a growing fragmentation of stakeholder groups and consequently to an improvement of the company's internal and external communication. Daimler intended to provide a flexible platform communicating a variety of small topics in order to attract all types of stakeholders. In addition, the blog was intended to establish a direct, reciprocal communication channel to stakeholders allowing a more personal and dialogue-oriented exchange without gatekeepers being interposed. The *expectations* related to the implementation were, in the first place, to fulfill these intentions. Generally, the company expected the blog to serve as a bridge for exchange between internal and external communication and to establish constructive dialogue with and between stakeholders. Furthermore, the blog was meant to contribute to destruction of steep communication hierarchies in order to familiarize departments with each other and facilitate easier internal exchange. The main *functions* of the blog were to accompany corporate events and allow quick reactions to critics, questions or feedback. In addition, it was employed to set themes on the public agenda, develop and gain experience with corporate blogging culture and be a means to cope with stakeholder fragmentation. However, the interviews revealed that Daimler was aware of a number of *potential risks* related to the blog. Success and longevity could not be predicted in advance and it was not foreseeable if it would be accepted and adopted by employees within the company. Furthermore, private discussions and arguments on the blog as well as blurriness between the company's corporate voice and individual opinions of authors could threaten professionalism and transparency in communication and, thus, the company's reputation.

Reputation management

The interviews revealed that r*easons for implementing the blog* were to improve the company's reputation making it more tangible, personalized and human providing transparency and authenticity. The intention was to employ a human voice and provide insights in the company by means of employees' personal entries. The *expectations* closely tied to these intentions were coexistence of the company's and the authors' individual opinions. Furthermore, the entries were meant to be authentic, honest and open. The blog in general was expected to increase attention and coverage in 'traditional' mass media especially in the beginning of the project. The company hoped for positive internal and external reactions as well as a positive effect on reputation and attractiveness of Daimler. *Potential risks* for the company's reputation stated in the interviews were a lack of authentic human voice on the blog threatening its credibility, an imbalance between the authors' and corporate interests leading to conflicts and a low level of internal adoption threatening the project from the very beginning. Furthermore, it was unforeseeable if the blog would serve as a forum for external critics, competitors or personal disputes.

Adoption of new technology
Finally, the interviews revealed that the company implemented the Daimler-Blog to keep up with technological innovations. *Reasons* for this were the changing media landscape and accordingly new consumption patterns of stakeholders. In addition, employees should be familiarized with new technologies to adapt the company's communication structure to the changing media landscape. The *expectation* mainly was to gain hand-on experiences with blogging and to be an early adopter of this new means of corporate communications. The company hoped the Daimler-Blog to successfully *function* as a flagship project for further corporate blogging activities.

6.3. Results Method III: Online Survey

In this section the results of the online survey based on the findings of the previously outlined methods are presented.

Sample Description
The acquisition strategies generated 136 entries of which 52 subjects dropped out of the questionnaire during the first four questions. Another three were removed from the sample due to an assumed response set (indication of the same values for every question). Of the 81 subjects that built the sample for analysis 71 (87.7%) completely finished the questionnaire and ten finished about half of it. The total dropout was rather high which is typical for online surveys [15; 32]. However, the dropout of those who started answering the questionnaire beyond the first few questions was with 12.4 per cent rather low. Due to the ten dropout cases the sample varied for the different steps of analysis. In addition, 11 subjects were identified as non-readers of the Daimler-Blog by means of filter questions. They skipped all inapplicable questions and served the comparison between readers and non-readers during the analysis where applicable.

The sample was divided in 80.3 per cent male (n = 57) and one-fifth female (n = 14) respondents of which 94.3 per cent (n = 67) were located in Germany.[23] The mean age was 34.8 years (n = 71, SD = 8.55) with a range from 23 to 55 years and almost half of the participants (n = 35, 49.3%) being 26 and 35 years old. 77.5 per cent had a university degree (n = 35, 49.3%) or a degree from a university of applied sciences (n = 28.2%, n = 20). None of the remaining respondents (n = 16) had a degree lower than a secondary school level I certificate (*Realschulabschluss* in Germany).

Principal Component Analysis & Internal Reliability of the Replicated Scales
The items of both scales replicated in the presented study were fundamentally manipulated in language and formulation. Hence, principal component analysis (PCA, hereafter) applying varimax rotation was employed to test the variability of the single items with regard to the intended underlying variables. Adequacy of this procedure

[23] The remaining four subjects were located in Austria, Switzerland, and Egypt.

was proved applying a KS-test which revealed normality in distribution of both scales.[24]

For the scale measuring *conversational human voice* derived from Kelleher and Miller [44] the PCA revealed two factors as intended: the perceived *authentic human voice* and *dialogue orientation* of the Daimler-Blog. However, two items intended to measure *authentic human voice* were removed due to factor loadings higher than .450 on both factors. Only factor loadings above this benchmark with a minimum distance of .100 to the other loading were accepted as distinct. After removal the PCA revealed two distinct factors with Eigenvalues above 1.0 for the reduced 9-item scale. Both constructs were tested for internal reliability applying Cronbach's α[25] which was adequate for *authentic human voice* (.765, n = 70) and excellent for *dialogue orientation* (.917, n = 70).

The new, reduced combinations of items were repeatedly tested for normality using a KS-test. The complete scale was normally distributed again (p = .200). Measured separately, only the construct *authentic human voice* was normally distributed (p = .094).

The scale to measure *reputation* by means of the constructs *trust*, *control mutuality*, *commitment*, *satisfaction*, *communal relationship* and *exchange relationship* derived from Hon and Grunig [37] was filled in by 71 subjects of which 11 were non-readers. The PCA for the scale revealed that one item each intended to measure the constructs *control mutuality*, *communal relationship*, *satisfaction* and *control mutuality* did not load on a single factor. After removal of the items the PCA for the reduced 17 items scale revealed distinct factor loadings following the standards and determining values as explained above with Eigenvalues above 1.0 on five instead of the six intended factors. Only the constructs *communal relationship* and *exchange relationship* loaded as intended. Consequently, the components of reputation were not measured as intended. This problem may have evolved from translation or adaption but may also be a problem of the initial scale, since Hon and Grunig [37] do not provide any information about conduction of a PCA or factor analysis during scale construction. However, the factor loadings were not arbitrarily but revealed logical measurement of constructs based on their definitions formulated by the authors (see [37, p. 3]). Therefore, the item constellations were rearranged resulting in the constructs: *control mutuality*, *commitment* and *trust/satisfaction.* These item combinations resulting from the rotated PCA were tested for internal reliability applying Cronbach's α. The internal reliability of all constructs was adequate and above .700: *control mutuality* (.748), *commitment* (.849), *trust/satisfaction* (.836), *communal relationship* (.776) and *exchange relationship* (.817).

Repeatedly using a KS-test for the new complete scale revealed normality (p = .064). The single constructs, in turn, did not show normality of data with *commitment*

[24] The KS-test proved normality for the reputation scale derived from Hon and Grunig [37] with p = .066 and for the scale measuring *conversational human voice* derived from Kelleher and Miller [44] with p = .200.

[25] This measure allows analyzing the internal consistency of scales and shows how well the items measuring the same characteristic correlate with each other. Generally, a value below .60 is seen as not very reliable while .70 is acceptable, .80 is good and .90 and above are excellent [37].

(p = .076) being the only exception. Therefore, non-parametric tests were applied for further analysis of the constructs.

Comparative Univariate & Bivariate Analysis

In this section the results for readers and non-readers of the Daimler-Blog are presented separately and compared where applicable.

Non-Readers

In total, there were 11 non-readers of the blog which were split about half in male (n = 6) and female (n = 5). The mean age was 33.8 years (n = 11, SD = 11.34) and the respondents were spread equally on all age groups. Two-thirds of them (n = 7, 63.6%) had a university degree or a degree from a university of applied science. The residual third at least had a vocational diploma (*Fachabitur* in Germany). Three of them (27.3%) knew the blog but never visited it while the other respondents did not know the Daimler-Blog at all. More than half of the non-readers categorized their connection to Daimler as *other* (n = 6, 54.5%) and one third specified it as *journalists* (n = 3; 27.3%).

The analysis of *user types* following the Forrester 'Social Technographics Ladder' revealed that many non-readers were highly active on the Internet. No respondents categorized themselves as *inactive* on the Internet while one-third (n = 4, 36.4%) carried out all of the named activities. Generally, most non-readers participated in social networks (*joiners*) and consumed content on the Internet (*spectators*). The least performed activities were reading RSS-Feeds and tagging websites (*collectors*).

All non-readers ran through the scale measuring their estimation of the reputation constructs. The level of *trust*/*satisfaction* with Daimler was rather high with a mean level of 4.6 (SD = 1.09) on a 7-point Likert scale. The perceived *control mutuality* (M = 3.52, SD = 1.24) in the relationship with Daimler was rated rather negative and the company's *commitment* (M = 3.02, SD = 1.39) was estimated even lower. Still, the relationship with Daimler was rather seen as a *communal relationship* (M = 4.23, SD = 1.03) than as an *exchange relationship* (M = 3.94, SD = 1.39). However the distance between the two values was marginal and both results showed a trend towards the neutral center of the scale.

Due to the low number of responding non-readers these results were not generalizable. They were, still, used for comparison with readers' results where applicable in order to locate tendencies regarding differences between the two groups.

Readers

The 70 Daimler-Blog readers were split in 85 per cent males (n = 51) and 15 per cent females (n = 9). In comparison to the non-readers this distribution was significantly more heterogeneous (p *(2-tailed)* = .02) applying a non-parametric Mann-Whitney u-test (u-test, hereafter) due to lack of normality in data distribution revealed applying a KS-test. The mean age of readers was with 35 years slightly higher (n = 60, SD = 8.05) than the age of non-readers. Half of them (n = 30) were between 26 and 35 years and one-third (n = 17) were between 36 and 45 years old. The educational level was equal to the level of non-readers with 80 per cent (n = 48) having a degree from a university or a university of applied sciences and half of the residual 20 per cent (n =

7) having at least a vocational diploma. Similar to the non-readers, almost half of the readers categorized their connection to Daimler as *other* (*n* = 27, 45%). However, due to multiple selection about 20 per cent (*n* = 6) of those who ticked this option also ticked another one. Of those who had direct connection, the great majority were *employees* (*n* = 17, 28.3%) followed by *customers* (*n* = 10, 16.7%) and *shareholders* (*n* = 7, 11.7%).

As regards the analysis of user types, none of the readers categorized themselves as *inactives* but 50 per cent (*n* = 30) carried out all mentioned activities and belonged to all user types. Generally, almost all readers consumed content online (*spectators*) and more than three-quarters each were active in social networks (*joiners*), commented on content online (*critics*) and published content on the Internet (*creators*). The least performed activities with still more than 70 per cent of the readers were reading RSS-Feeds and tagging websites (*collectors*). Consequently, readers were even more active Internet users than non-readers, especially in publishing content, commenting on content, subscribing to RSS-Feeds and tagging websites.

Frequency of Visiting the Daimler-Blog and RSS-Feed

26 Daimler-Blog readers (37.1%) were subscribers to the RSS-Feed. About half of the male readers (*n* = 23, 45.1%) but only one of the nine female readers (11.1%) were subscribers. This negative correlation was significant (Kendall-Tau-b correlation coefficient, *n* = 60, *r* = -.248, *p (1-tailed)* = .029).

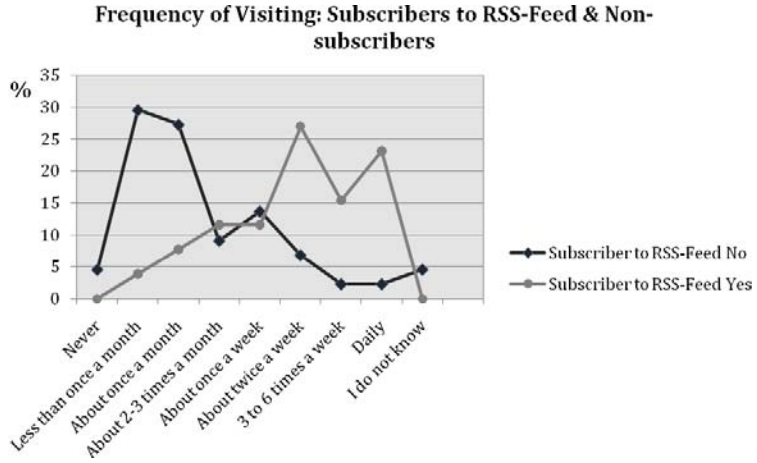

Fig. 6. Online survey: Frequency of visiting the Daimler-Blog – Comparison of RSS-Feed subscribers and non-subscribers

On average readers usually visit the Daimler-Blog or read the RSS-Feed between once a week and 2-3 times a month. A crosstabulation applying Pearson's chi-square revealed that subscribers to the RSS-Feed visit the Daimler-Blog significantly more often and regularly than readers who do not maintain a subscription (*n* = 70, x^2 =

26.68, *p (2-sided)* = .001). A correlation was found between the variables using Kendall-Tau-b (n = 60, r = .449, p < .01). About two-thirds of the subscribers (n = 17, 65.4%) visit the Daimler-Blog twice a week or more often and about one-quarter of them (n = 6, 23.1%) visit the Daimler-Blog daily. As visualized in figure 6, the majority of readers without subscription, in turn, visited the Daimler-Blog about once a month or less often than once a month (n = 25, 56.8%).

Parts Usually Read on the Daimler-Blog

When visiting the Daimler-Blog almost 75 per cent of the respondents (n = 52) usually read the most recent blog entries but only about half of them (n = 27) also read the comments on them. About one-fifth (n = 13, 18.6%) of respondents usually read blog entries topic oriented, but only three of them (4.3% of complete n) also read comments that touch upon that topic. The fields of interest specified most often in this context were 'technology & innovation', 'job & career' and 'internal workaday life of the company'. Further mentioned were 'motorsports' and 'products'. About half of the respondents (n = 33, 47.1%) read whatever spontaneously draws their attention and the great majority of them (n = 29, 87.9%) usually do not read blog entries topic-oriented. In turn, one-third of those reading topic oriented (n = 4, 30.8%) also read spontaneously.

Subscribers and readers without subscription to the RSS-Feed generally do not differ strongly in reading the Daimler-Blog. About half of both groups read whatever spontaneously draws their attention (subscribers: n = 12, 46.2%, non-subscribers: n = 21, 47.7%). Still, there is a tendency that readers without subscription read more topic oriented, since one fourth of them (n = 10, 22.7%) but only half as much of subscribers (n = 3, 11.5%) reported to do so. This tendency is furthermore emphasized by the difference that almost all subscribers (n = 24, 92.3%) but only two-thirds of other readers (n = 28, 63.6%) usually read the most recent blog entries.

Use of the Comment Function on the Daimler-Blog

More than half of the participants (n = 40, 57.1%) had already used the comment function on the Daimler-Blog and wrote 1.6 (SD = 1.77) comments on average during the last two months before filling in the questionnaire. Via multiple selections 85 per cent (n = 34) of the users reported to give their opinion about a blog entry in comments. Of those, about 30 per cent (n = 11) also use it to give their opinion on comments written to blog entries. About half of all participants writing comments (n = 22, 55%) use them to communicate and discuss with others, 35 per cent (n = 14) use them to ask questions and another 30 per cent (n = 12) supplement something to the content of blog entries.

Comparing subscribers and non-subscribers to the RSS-Feed the differences in use of the comment function further underlined the different levels of activity of the two groups. About three-quarters of subscribers to the RSS-Feed had used the comment function (n = 19, 73.1%) while less than half of the other readers did so (n = 21, 47.7%). As regards the purposes of using the comment function, readers receiving the RSS-Feed make more interactive use of it. A u-test revealed that significantly more subscribers (n = 15, 78.9%) use the comment function to communicate with the author and/or other readers than readers without subscription (n = 7, 33.3%) (n = 40, p

(2-tailed) < .004). In addition, significantly more subscribers use the comment function to ask questions about blog entries (*n* = 10, 52.6%) compared to readers without subscription (*n* = 4, 19%) (*n* = 40, *p (2-tailed)* < .028). The great majority of both groups (subscribers: *n* = 16, 84.2%; non-subscribers: *n* = 18, 85.7%) furthermore use it to give their opinion about blog entries. But more than 40 per cent of subscribers (*n* = 8, 42.1%) compared to only 14 per cent of usual readers (*n* = 3, 14.3%) also use it to give their opinion on comments written by others. This relation was just under the cut off for significance and showed a noticeable level of correlation (*n* = 40, *p (2-tailed)* < .052).

Perceived Dialogue Orientation & Authentic Human Voice of the Daimler-Blog
On average the readers perceived the Daimler-Blog to be rather *dialogue oriented* with a mean of 4.8 on a 7-point Likert scale (*n* = 70, *SD* = 1.33). The level of *authentic human voice* was perceived a bit lower but still positive with a mean of 4.23 (*n* = 70, *SD* = 1.17).

Reputation Components and Quality of Relationship to Daimler
The mean level of *trust/satisfaction* with Daimler was quite positive with 4.74 on a 7-point Likert scale (*n* = 60, *SD* = .85). *Commitment* of Daimler was estimated slightly positive, but close to a neutral value (*M* = 4.03, *n* = 60, *SD* = 1.23). *Control Mutuality*, in contrast, was perceived rather negative by the readers with a mean of 3.66 (*n* = 60, *SD* = 1.11). As well as the non-readers, the average of readers perceived the relationship as a *communal relationship* (*M* = 4.66, *n* = 60, *SD* = 1.26) instead of an *exchange relationship* (*M* = 4.13, *n* = 60, *SD* = 1.17).

Due to not normally distributed data for the scale a u-test was applied to compare readers and non-readers. All constructs were rated higher by readers than by non-readers. However, the u-tests revealed that the differences between the two groups (readers and non-readers) were only significant for the construct *commitment* (*p (2-tailed)* = .023). This difference was identified as a negative correlation using Kendall-Tau-b (*n* = 71, *r* = .282, *p (2-tailed)* < .05).

Comparing the reputation scale, *authentic human voice* and *dialogue orientation* for subscribers and non-subscribers of the RSS-Feed, subscribers rated all constructs higher than non-subscribers. A u-test revealed significance of the difference only for *dialogue orientation* (*n* = 70, *p (2-tailed)* < .001). This relation was identified as a correlation using Kendall-Tau-b (*n* = 70, *r* = .337, *p (2-tailed)* < .01). This result is in line with the significant correlation between subscription to the RSS-Feed and use of the comment function for communication with others found above.

7. Discussion

The study was conducted to generate comprehensive understanding of the Daimler-Blog as a successfully implemented corporate weblog. Several theoretical constructs were addressed to facilitate measurement of benefits/losses evolving from this medium for the company in relation to the intentions and expectations. The approach was designed to contribute to a detailed understanding of corporate weblogs in

communication research as well as testing and development of theoretical key concepts. Furthermore, indications for practical implementation of corporate weblogs especially in large organizations were expected from the results.

7.1. RQ1: Constitution of the Daimler-Blog

All three methods employed for the study gave results regarding the structure and constitution of the Daimler-Blog as addressed in RQ1, providing a basis for further analysis.

RQ1: *How is the Daimler-Blog constituted with regard to rules and regulations, editorial processes, target audience, authorship, readership, topics discussed, reciprocal exchange with readers, multimediality and hypertextuality?*

In line with the Daimler-Blog being declared as an employee blog, the majority of the 120 predominantly male authors were *employees*. Following the qualitative interviews, any employee may write voluntarily on the blog and only minimal internal regulations are tied to blogging in the company. However, the employees' contracts of employment regulate the necessary issues. The entries are prioritized and published by a team of editorial staff that further monitors the blogosphere and incoming comments. Still, the Daimler-Blog appeared to be a multifaceted and highly diverse medium during analysis. Most blog entries addressed the different business units and products of the company (*brands & products*) or told success stories and gave employment insights (*job & career*). Also addressed frequently were company decisions, initiatives or internal processes (*the company*) and contemporary issues of development (*technology & innovation*). Some types of authors on the Daimler-Blog showed preferences in writing. *Groups of employees* mainly wrote *interviews*, while the typically younger authors, namely *interns, apprentices* and *student trainees*, preferred *job & career* topics. Following the interviews, entries in this category are frequented higher by readers than other topics.

On average 11 entries were published on the blog per month mostly including multimedia-based content. Pictures were diverse and embedded three times as often as videos. The latter were usually related to products or new technologies, introduced advertisings or showed video clips of car reviews, events and expositions. Such entries focusing on *brands & products* were most diversified in multimedia-based content. Compared to popular and highly frequented blogs the level of hypertextuality was rather low, since almost one-fifth of entries did not contain any links and less than 60 per cent were hyperlinked internal and external to the blog. However, a corporate blog of a large company written by many authors who have published less than two blog entries on average cannot comply with such standards. Furthermore, Herring et al. [33] found that most weblogs link to external content much less than often affirmed or assumed. From this perspective, the measured level of hypertextuality may be acceptable. Still, data comparable to the presented study for the German blogosphere approaching this aspect do not exist to date which complicates interpretation of the results.

Although the blog was maintained frequently, most authors showed low levels of activity and reciprocity. The most active authors in both regards were *student trainees* and *interns*. Consequently, the presumably younger authors were not only most active in maintaining the blog but also used its opportunities for dialogue and exchange most intensely and reciprocally. Analyzed per single authors, *student trainees* wrote significantly more comments than all other authors and entries written by *interns* and *student trainees* received most comments on average and were commented significantly more often by the authors.

Following the interviews, the Daimler-Blog is targeted at all types of company stakeholder, especially, but not exclusively, focusing on a young audience. The interviewees claim that half of the readers are *employees* and the survey conducted on the Daimler-Blog indicated an even higher percentage. In the presented survey, in turn, only 30 per cent of readers were *employees*, still being the majority compared to other categories. The non-readers, in turn, mostly were *journalists* and *customers*. However, in both respects half of respondents categorized themselves as *other* compared to less than one-third in the Daimler study. These differences may be due to the recruitment practices reaching more readers without direct connection to the company visiting the blog less often than the study of Daimler that was exclusively announced on the blog itself.

Similar to the Daimler study the great majority of responding readers were male, which may be due to the company's products in the technology sector. However, Schmidt [62] argues, that corporate weblogs generally attract more male readers than other weblogs which usually have readership balanced in gender. He also found readers of corporate blogs to be slightly older and higher educated than readers of other weblogs. This is in line with readers' average age of 35 years in the present survey and the high level of education with 80 per cent having a college degree. Although the respondents in the Daimler survey were slightly younger, both studies document the relevance of the Daimler-Blog for the lucrative core target audience of advertisers.[26] The survey furthermore revealed that the readers visit the blog between 2 and 4 times a month on average and mostly read the most recent entries. Although spontaneously driven reading strategies were alternative and generally preferred to topic oriented reading habits, both strategies embraced reading the most recent entries as well. Subscription to the RSS-Feed further divided the readers in groups with different habits and levels of activity. More than one-third were subscribers and visited the blog significantly more often than non-subscribers. In addition, three-quarters of the subscribers used the comment function, while less than half of the non-subscribers did so. All readers who write comments do so to express their opinion, but subscribers use it significantly more to ask questions and communicate with others. Hence, RSS-Feed readers are more frequent readers of the blog and use the comment function more intensely and dialogue oriented than other readers.

The Forrester 'Social Technographics Ladder' applied to measure readers' general level of activity online revealed three-quarters to be active *creators* on the Internet besides reception of content and networking activities. This exceptionally high level

[26] In the marketing sector this target group is defined as the group of consumers between 14 and 49 years of age, which possesses purchasing power and is regarded as susceptible to advertising messages.

of activity online compared to the German average (10% *creators*; [46]) emphasizes the Internet affinity of Daimler-Blog readers which represents the 'investigative multiplicators' following Zerfaß [76]. These users are highly information seeking, networked and distribute information actively. The word-of-mouth of such disseminators and opinion leaders usually enjoys high reputation online and offline and considerably influences customers, the media and public opinion. Establishing exchange with and maintaining relationships to such readers is highly worthwhile for a company especially to establish online reputation. Consequently, reaching this audience is a relevant benefit evolving from the Daimler-Blog for Daimler.

Based on these overall results the Daimler-Blog can be classified as a *topic blog* following the typology of Zerfaß and Boelter [75] introduced in the beginning. It embraces all areas of corporate communications addressing and maintaining relationships to all types of internal and external stakeholders. The blog is used as a tool for informative and persuasive communication providing service and availability, telling personal stories of employees and informing about products, internal processes and projects. This diverse mixture of content provides stakeholders with insights they would not find in any other communication medium. Reports on the company's social engagement in Africa or on development of new technologies coexist effectively with personal stories of employees, interns and apprentices or with discussions between employees and the management on the consequences of the economic crisis. This complex and multilayered structure serves to generate customer contact, form a public opinion and demonstrate competence, expertise and soft skills.

7.2. RQ2: Intentions and Expectations of Daimler regarding the Daimler-Blog

The intentions and expectations related to the Daimler-Blog as addressed in RQ2 were identified by means of the qualitative interviews in order to facilitate measurement of benefits/losses evolving from the blog.

RQ 2: *Which reason(s) for implementation, expectation(s) and intended function(s) did and does Daimler tie to the Daimler-Blog?*

The *reasons* for implementing the Daimler-Blog communicated in the interviews were the changing media landscape, the resulting stakeholder fragmentation and changes in communication habits. Daimler decided to counteract the increasing competition, decreasing trust in organizations and attention scarcity for corporate messages in the *Google world* by means of a corporate weblog. Familiarizing employees and company structures with online communication facilitated to gear the company towards recent and evolving communication arenas. The *intention* tied to this medium was to use the chances social media provide through networked, multimedia-based and reciprocal communication. Consequently, the company aimed to create a flexible platform addressing all types of stakeholders by means of personally communicated diverse topics. The content was meant to demonstrate expertise and competence in the various sections of the company and facilitate to establish a direct and reciprocal communication channel providing dialogue oriented

communication. Daimler aimed to provide improved, transparent and authentic communication increasing the company's credibility and reputation, making it more tangible and personal by means of insights and a human voice. The *expectations* in the first place embraced to fulfill these intentions and to gain hands-on experience as an early adopter of the technology. This eminently included internal and external adoption of the blog and the natural coexistence of private and professional opinions. Featuring open and honest content the medium was further expected evoke positive reactions and improve reputation and attractiveness of Daimler. Finally, it was aspired to destruct hierarchical structures and encourage exchange between the different departments. Besides these general *functions* the blog was aimed to accompany corporate events, set themes on the public agenda and serve as a quick reaction tool to potential critics. Implementing this new means of communication the company was aware of its low predictability and the risk that the intentions and expectations could fail accordingly transforming the weblog into a threat for the company's reputation.

7.3. RQ3: Benefits / Losses Evolving from the Daimler-Blog for Daimler

The benefits/losses emerging from the Daimler-Blog as addressed in RQ3 were analyzed by means of the online survey based on the intentions and expectations identified in the qualitative interviews. For this purpose appropriate scales from academic literature were adapted, tested and implemented to measure the constructs *dialogue orientation* and *authentic human voice* as well as the *reputation* components and the quality of relationship.

RQ 3: *To what extent does Daimler benefit from the Daimler-Blog with respect to the company's expectation(s), reason(s) for implementation, and intended function(s) tied to the blog?*

The survey revealed that Daimler-Blog readers perceive the blog as rather *dialogue oriented* and *authentic in human voice* whereas authenticity is perceived lower than dialogue orientation. This positive tendency shows that Daimler benefits from the blog in both respects as intended with potential for development. RSS-Feed subscribers estimated both characteristics higher with dialogue orientation being estimated significantly higher compared to non-subscribers. This is in line with the significantly more reciprocal and dialogue oriented use of the comment function RSS-Feed subscribers showed. Consequently, the company benefits from the blog attracting a frequent and faithful readership that is persuaded of the medium's qualities and initiates an 'information push'. This regular, reciprocal contact with stakeholders may increase the company's reputation and stakeholder advocacy.

The scale measuring *reputation* revealed that stakeholder contact via the Daimler-Blog measurably increases reputation, as blog readers generally perceived all constructs more positive than non-readers of the blog. This is a worthwhile benefit for Daimler, but there is still potential to improve communication of the company's *commitment* and *control mutuality* in relationships to stakeholders. Those constructs were perceived rather negative or neutral by readers and non-readers compared to *trust/satisfaction.* Nevertheless, stakeholders generally seemed to have a satisfactory

relationship with Daimler independent of the Daimler-Blog. This is further substantiated by the perceived quality of the relationship to Daimler. Both parties rather estimated the relationship to be a *communal relationship* which emphasizes the emotional factor in the relationship instead of pure material exchange.

This generally positive perception of the company may be based on its role as a German global player. Tödtmann [70] argues that continuity and tradition increase strength and value of a brand. The Daimler-AG was founded in 1883 and is recognized as a manufacturer of traditionally high quality vehicles worldwide. In 2008, *Mercedes Benz*, the best known vehicle brand of Daimler, was among the 15 strongest brands worldwide [30] and in 2007 Daimler was the third strongest German brand [70]. This high esteem of the products and the brand value may evoke the generally perceived satisfaction with and trust in the company. However, Daimler-Blog readers' generally more positive perception of all reputational constructs and the relationship quality shows that the blog relevantly influences the company's reputation.

Besides these constructs, many benefits evolving from the blog following the intentions of the company were approved by means of the online survey. The blog for example facilitates to provide a multitude of topics addressing all types of stakeholders establishing intense contact and reciprocal exchange. This increases the company's tangibility and facilitates to cope with changing consumption patterns and circumstances in the media landscape. Furthermore, the blog reaches rather young stakeholders and activates exchange of internal departments. Facing employees' uncertainty with the emerging economic crisis, the company management gave all stakeholders openly account on the blog regarding Daimler's plans and procedures to cope with the crisis. In this respect the blog has proved beneficial as a quick reaction tool and an open and authentic means of exchange.

8. Conclusion

The findings of the study suggest that the Daimler-Blog represents a successful component of the company's overall communication strategy and evokes numerous benefits in this respect. Adapting and improving existing measures from academic literature this study revealed that the blog enhances reciprocity, personalization and authenticity of the company consequently increasing its reputation. It reaches a broad readership that is predominantly male, highly Internet affine, educated, young and active in retrieving and distributing content online. These disseminators and opinion leaders actively contribute to improving the company's reputation. Although few young and motivated authors are highly active in maintaining the blog, its variety in content provides insights in the company's diversity and demonstrates expertise in many respects. Important success factors are the blog's well cultivated condition, up-to-dateness and the compliance to rules and regulations. Although many bloggers criticize the often low level of polemic and critic on the blog, the comprehensive analysis exposed numerous examples contradicting this critic. This authenticity in blogging also appears in authors' voluntary efforts to contribute to the blog and establish contact with its readers. Furthermore, Daimler's courage of addressing

critical issues on the blog proves that the company is aware of its potential positive and negative impacts and faces critical situations with well-considered preparation. An important resource of Daimler in establishing this blog was the brand value of the company and its products, which most probably accelerated and enhanced the success of the medium. Consequently, a strong brand or company value is advantageous for organizations implementing a corporate weblog since this asset and leap of faith is transferred to the new medium. Compared to smaller organizations, this aspect may be especially relevant for large organizations which struggle with personalizing a blog. Those practical insights may be beneficial for organizations aspiring to implement corporate weblogs following suit of Daimler. However, a one-fits-all concept does not exist and corporate weblogs are individual means of communication reflecting an organizations profile and objectives. Nevertheless, general findings, as for example the predominantly male readership of corporate weblogs, the dichotomous typology of spontaneous and topic oriented readers or the value of young, Internet affine and motivated authors on a blog, are most probably generalizable.

From a theoretical perspective, the Daimler-Blog confirms the typology of Zerfaß and Boelter [75] and fulfills all aspects of the sub type *topic blog*. The different methods employed for the study furthermore prove that the Daimler-Blog covers the three functions *identity*-, *information*- and *relationship management* as formulated by Schmidt [61]. In relation to academic literature on corporate weblogs and organizational public relationships the study confirms the relevance of several key concepts for practical implementation in times of the *Google world* to increase attention for and trust in organizations, compete successfully and gain digital reputation. Expectations and intentions of Daimler are consistent with theoretical assumptions with regard to authenticity, human voice, dialogue orientation and reputation components. Through adaption and improvement of scales the study could generate reliable measures for these dimensions and confirms the value of the company's blogging practices. In general, the study contributes to a systematic understanding of corporate weblogs and provides data for comparison with other cases.

Nevertheless, the study has a number of limitations which provide suggestions for further research. Due to the case study nature and the analysis of a non-probability sample the results are not generalizable, but can only provide tendencies for interpretation and comparison with other cases. Furthermore, the results cannot serve as single indicators for improvement of typologies and theoretical frameworks in this field of communication research. Further studies replicating this approach, but focusing on other cases, would enhance opportunities for comparison and interpretation and contribute to gaining knowledge and more reliable data regarding corporate weblogs. In addition, the scales adapted in this study could be further improved or verified by means of replication. Finally, as a triangulation of methods, this study could not provide large scale qualitative data. Consequently, it was not possible to conduct detailed measurement of reciprocity and exchange on the Daimler-Blog. In this respect, an in-depth analysis of dialogues exploring the multifaceted nature of exchange would be an interesting and relevant approach for subsequent research to this study. Further empirical studies analyzing critic and

polemic on corporate weblogs and the quantity, quality and relevance of hyperlinks would generate relevant insights and serve interpretation of these dimensions.

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How Social Software Shifts Existing Paradigms in Corporate Knowledge Management and Learning

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Abstract. With the rise of the web 2.0, so-called social software applications have come to affect private and professional information behavior in a manner, which yet has to be thoroughly understood. The digital social networks resulting from user participation and interaction in such, most often privately used web applications, however, are already considered to be promising catalysts of corporate knowledge management and learning processes. This paper aims at addressing this topic from an academic as well as practical perspective. On the one hand it discusses traditional and latest developments in academia. On the other hand it showcases approaches to using concepts of web 2.0 within a global management consulting, technology services and outsourcing company in order to depict scenarios of the corporate use of digital social networks and user generated content. As a basis for this, traditional approaches to knowledge management and learning are reviewed and the validity of their hitherto diverging perspectives is analyzed. Finally, it is argued that in order to effectively introduce bottom-up concepts and tools of the web 2.0 into organizations and to secure their sustainable use, a shift of traditional knowledge management- and learning-paradigms towards a new, holistic perspective is required and should be based on four key dimensions.

Keywords: social software, collaboration, knowledge management, learning, talent management, web 2.0, technology-enhanced learning

1. Setting the Scene

Digital social networks and user generated content are the driving force of today's participative web [1]. The underlying concepts promote user participation and the distribution of user generated content based on the paradigm of the web 2.0 – serving as a platform, harnessing collective intelligence, and offering rich user experiences [2; 3]. How these phenomena affect the professional workplace environment or how they might even be successfully transferred to corporate contexts has been subject matter

of considerations in practice as well as in academia [4; 5; 6; 7]. Therein, aligning web 2.0 concepts with corporate knowledge management (KM) and learning processes is often considered to enable the cultivation of a collaborative corporate culture, to provide bite-sized information at the point of need, and to enable rapid knowledge transfer. Thus it might leverage efficiency and effectiveness as well as creativity and innovation of workforces. In general, effective KM and learning are seen as corporate success factors for creating and sustaining competitive advantage and continued business success [8]. Following these arguments, various ideas have been evolved on how to integrate the concepts of the web 2.0 into existing KM and learning approaches. The different perspectives of these two disciplines, however, have remained.

In order to understand the value and importance of the concepts for organizational KM and learning, one needs to take a closer look at the characteristics of today's workplace environments and industries. This paper is concerned with the domain of management consulting, technology services and outsourcing. It is heavily dependent upon the concepts of organizational knowledge management and learning. As part of the tertiary sector, the core products of this industry are knowledge-intensive services. The work in this field is specifically characterized by a dynamic environment of ever-changing tasks, roles, and topics. Furthermore, increasingly high attrition rates and job rotations on a global level require the effective sharing of experiences, skills, and knowledge within companies of this sector.

This paper aims at showcasing scenarios of learning and knowledge management in a case study in order to develop an adequate perspective when introducing concepts of web 2.0 into organizations, which aim at enabling a collaborative corporate culture. In order to do so it is useful to combine latest academic research findings as well as first, even preliminary, observations from implementations of these concepts in corporate settings. In a first step, Chapter 2 reviews traditional academic and professional approaches to KM and learning in the corporate workplace. Furthermore, the characteristics of social software and web 2.0 are presented. Chapter 3 will then reveal practical observations based on Accenture's approaches and initiatives for the corporate use of web 2.0 concepts. This will be done in order to take a closer look at usage scenarios and possible implementations of the concepts presented before. Based on an analysis of corporate tools for knowledge and learning management in the context of traditional KM and learning paradigms, the final chapter will make an argument for a new perspective on individual and organizational competence development based on four key dimensions. Today's organizations will have to follow this paradigm shift caused by the concepts of digital social networks and user generated content in order to successfully provide workplaces to their employees, which fit their need and enable them to perform adequately.

2. Traditional Paradigms and Latest Developments

From a scientific as well as practical perspective, two traditional paradigms have coined the fields of KM and learning.

On the one hand, there is the focus on knowledge itself and its management. Within the traditional academic discourse knowledge was defined as contextualized

information enabling an individual to take different actions [9; 8; 10]. A variety of taxonomies for classifying knowledge has been presented in this context [11; 12]. While Nonaka and Takeuchi [10] differentiate tacit from explicit knowledge, Spender [13] proposes a differentiation between explicit, implicit, individual, and collective knowledge. The concept of managing knowledge is – just like knowledge itself – defined in varying ways. Most common definitions, however, agree on considering strategic, organizational, and technological issues. Within this article we follow the definition of Chatti et al., who define KM as a "collection of the following processes: create, transform, organize, store, disseminate, share, deliver and use knowledge" [14]. Accordingly the process of KM is centered on the people creating, sharing, and making use of the knowledge to enhance learning and performance in organizations [15]. In order to support these processes and for enabling the storage of explicit knowledge, an organization can make use of a variety of IT systems. Even though the key issues of learning and KM have been, and still are, the object of significant effort both in academic and corporate contexts, one can state that these IT systems so far have failed to live up to their promise of facilitating the dissemination and integration of knowledge [16; 17].

On the other hand, there is the perspective on the individual employee as a learner. Within this article we will focus on the parts of learning arrangements that are supported by technology (eLearning) [18]. Based on classic learning theories, such as behaviorism, cognitivism, instructional design, and constructivism a variety of approaches to using technology for the enhancement of the individual (or even collective) learning process has been developed. Initial attempts to support the learning process by information technology lead to basic applications of computer-based trainings [e.g. 19; 20]. These were based on cognitive learning theory and focused on learning in interaction with multimedia. The next step was to transfer these applications to the asynchronous and globally accessible medium of the Internet. Accordingly, web-based trainings were developed, which included first elements of a learner's interaction with co-learners [e.g. 21; 22]. Blended learning approaches – most commonly combining instructor-led/classroom-based training elements with computer-/web-based learning applications – were found to be most effective in more complex learning situations and became a very noticeable field of research and corporate practice. Nevertheless, common learning approaches revealed a lack of interaction and communication between the participants, which lead to the approach of technology-enhanced learning (TEL). This concept puts the learning process up front and considers technologies as supporting means. Key aspects of TEL are individualization of learning content and processes, integration with context (e.g. business processes and day-to-day living situations), and interdisciplinarity of the learning approach [15].

Reviewing the traditional approaches to KM and learning some interfaces between these two disciplines become obvious. It seems that the disciplines of KM and eLearning/TEL are partly overlapping. Chatti et al. point out, that "KM methods and techniques are being adopted in learning environments." [14; citing 17] This becomes even more obvious when analyzing the concept of workplace learning (WPL). WPL incorporates central elements of KM, such as knowledge creation, acquisition and application processes [23]. WPL can best be described as learning activities, which are aligned with professional activities and work processes. Most approaches of work-

place-learning, however, lack the integration of cooperation approaches and information as well as knowledge management.

Furthermore, the fields of KM and learning are – both in academia and in companies – often still approached from different perspectives, kept separate in many organizations, and the management of the underlying processes is often conducted with different approaches/concepts and (incompatible) technology infrastructures [24]. Yet, considering the latest (academic) developments in regards to the above mentioned approaches one realizes that these paradigms are shifting. Especially web 2.0 concepts – in the form of social software – are applied to both, KM and learning [6; 25; 26]. Social software, allowing employees to collaborate seamlessly and exchange information easily, can be seen as a connecting element. They might enable a broadening of the overlapping area already described in former approaches, especially when discussing learning 2.0 [7] and social learning approaches [27].

Before we follow this train of thought, however, it is essential to understand the nature of the core concepts of web 2.0. Within the past years a new set of web applications evolved and seems to have significantly changed the way information is distributed. Sites like Wikipedia, Blogger, Wordpress, Twitter, del.icio.us, Flickr, YouTube, Facebook, MySpace, Orkut, LinkedIn, etc. appeared and soon stood at the very top of the rankings of sites with the most page views around the globe[1]. These applications are not so much characterized by innovative technologies, but by a common principle. They broke the prevalent paradigm of the Internet as a web of computers, which connects machines and forms an informative web generated by mostly professional information suppliers. It shifted towards a participative web [1] by setting the focus on using the web as a platform with the aim of enabling users to interact, share, and collaborate with each other. Taking this perspective into consideration, the importance of the user and his/her activities in collaborating, connecting, and exchanging information with others emerges as central element of the concept of web 2.0.

This leads us to the term s*ocial software*, which can be considered part of the overall concept of web 2.0, although this descriptive name for the new class of applications already existed since the "Social Software Summit" in New York in 2002 [7; 28]. While first attempts to specify this term only mention the aspect of interpersonal connectivity (which can be considered a characteristic of many IT applications), more recent scientific opinions, especially within the field of information science, have come to the following definition: "Social software (or web) consists of web based applications, which support users in exchanging information, building and nurturing relationships, communicating and collaborating in a social or collective context, as well as the resulting data, and the relationships between people using these applications" [29, p. 28]. Figure 1 displays the concept of social software in a functional scheme. The circle surrounding and including the various types of software represents the communicative function, which all of these tools have in common.

[1] According to Alexa YouTube (Rank 3), MySpace (6), Wikipedia (7), Facebook (8), Blogger (9), Orkut (11) were ranked within the most visited sites globally (Alexa, 2008).

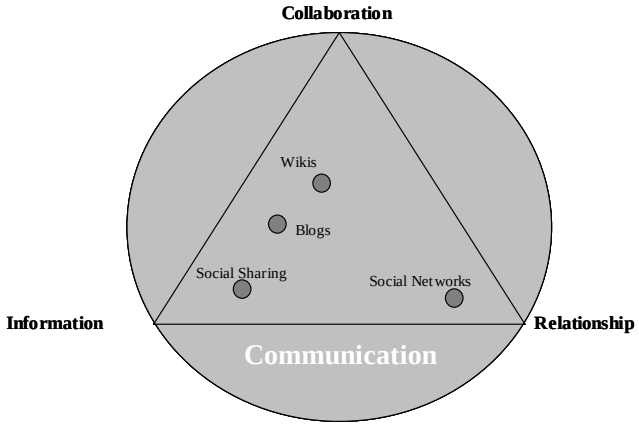

Fig. 1. Social Software Scheme [28]

The mentioned four types of applications (wikis, blogs, social sharing, and social network) however, do not only serve a communicative function. As the definition above points out, communication enables the exchange of information, the collaboration, and the building and nurturing of relationships, which – as a result – constitute digital social networks. Within the triangle of these three functions, the four types of social software can be placed according to their main affiliation. Furthermore, not only the various applications play important roles for the concept of social software but also the data mentioned in this definition, which results from the interactions within the described fields of activity. As these applications spotlight the user and only serve as a platform for his/her activities, the information provided by such services seems to be of a different quality. It is user generated content that decides over popularity and success of the here described family of web applications. User Created [or Generated] Content thereby is defined as "content made publicly available over the Internet, which reflects a certain amount of creative effort, and which is created outside of professional routines and practices" [1, p. 9].

The information provided by and created with social software creates the phenomenon of blurred lines between producers and consumers (described by Toffler 1980 as prosumers). This change of traditional roles in the information architecture brings about opportunities and challenges. One the one hand data produced in non-professional routines is available at large and without the barriers of economic interest. On the other hand it might lack the quality of professional services or even be misused. Regardless of concerns regarding the quantity and quality of this content, it can be stated, that the information exchanged within social software applications is of a social nature. It is produced, corrected, shared, rated, and recommended by users. Internet portals like digg or qype, which are based on user created recommendations and ratings for news or restaurants, reveal the full power of such information. Information created in professional routines would neither be able to reach the degree of coverage nor the extent of credibility.

Altogether the rise of the web 2.0 and its user generated content has developed a dynamic environment within the Internet itself and within all services providing cor-

porations dependent on the information provided by the World Wide Web. Furthermore, the described principles of the Internet may also be transferred to the realm of corporate approaches to KM and learning. As an example the following chapter presents a case study of approaches to using digital social networks within Accenture's corporate KM and learning processes.

3. Case Study: Scenarios of Social Software in Corporate Knowledge and Learning Management at Accenture

With more than 186,000 employees and annual revenues of $23.4 billion in fiscal year 2008 Accenture Ltd. is one of the largest, global management consulting, technology services, and outsourcing companies [30]. As insinuated above, the ability and motivation to transfer knowledge from one project to another is of central relevance for the success of services, such as consulting, system integration, and outsourcing [31]. For consultancies like Accenture – as for all kind of companies providing knowledge intensive services – it is essential to enable employees to seamlessly find, acquire, and use information within their daily work processes/activities as well as to cooperate with each other easily and immediately. Furthermore, the rapidly changing work environment and role-specific requirements ask for talent management approaches that enable self-organized competence development and thus a flexible workforce.

Regarding their workforce, the consulting industry faces specific challenges due to a wide range of individual competencies and educational backgrounds. Since the common job profile of a management consultant is of a rather methodical and analytical type, each newly hired employee needs to go through a certain core training, which brings all employees up to one common level of consulting skills regardless of their previous experience and abilities. Accordingly, Accenture invested over $900 million in training and professional development in 2008 and provided 12 million hours in educating to its employees [32]. In addition to local and central instructor-led/classroom-based training activities, the employees are introduced to such existing knowledge networks, tools, and communities in order to combine the initial learning approach with continuous KM activities. This is done in a blended approach of online learning and virtual communities as well as face-to-face community meetings and classroom trainings.

Next to these traditional training approaches, Accenture has a strong focus on KM activities. These include a knowledge exchange platform, discussion forums, and communities of practice, to mention but a few. Most recent efforts, accordingly, are concerned with the introduction of web 2.0 applications into these activities in order to enable the enhancement of collaboration. The internal initiatives aim at supporting four levels of corporate collaboration: connecting, teaming, networking, and sharing. The combination of the three formerly (at least) loosely coupled areas of collaboration, learning, and KM form digital social networks and can be seen as a powerful concept of enabling companies to exchange information and build up knowledge. Accenture’s approach of a so-named High Performance Workspace – as an interface to access the evolving digital social networks – will be illustrated in the following.

It is characterized by a next-generation workplace portal deeply designed around an employee's role, which enables collaboration, KM, and learning in daily business. This approach is illustrated below and will be described in more detail in the following.

Fig. 2. Screenshot of the Accenture High Performance Workspace

First of all, the concept of the High Performance Workspace provides the employee with basic task-supporting information elements by supporting his/her work with personalized and task-related information such as operative key performance indicators, client information, a list of tasks, appointments, and available tools. These elements are not necessarily considered part of KM or learning, they rather represent the personal information management required to perform one's tasks. Traditional elements of KM and learning may be seen on the left, where respective links to the knowledge exchange database and a learning management system (LMS) are displayed. These resources are always at hand to provide the employee access to task-, domain-, or client-related credentials and learning modules. The concepts of digital social networks and user generated content are introduced by additional features of the High Performance Workspace. As with the definition of social software, these elements may be classified into four types: Wikis, blogs, social sharing, and social networks.

The foundation of these newly introduced elements of the workspace is represented by the Expert toolbox. This tool is part of the concept of digital social networks. Connecting the employee with experts relevant to his current task, domain, or client, enables him/her to gather highly context-sensitive, situational and relevant information. A click on the respective colleague leads the employee to a social network platform called *PeoplePages*. Here the employee may retrieve background information on the expert mentioned on the High Performance Workspace and gather insights regarding his/her previous project experience, interests, skills, and personal network. On the

profile page of his/her colleagues, he/she is also able to read his colleagues' blog entries. This element of social software is also included into this platform and therefore adds the elements of digital social networks and user generated content in a meaningful manner. The employee is thus revealed a network of content and colleagues, who may be contacted immediately and function as subject matter experts, coaches, or contact points for the discussion and clarification of open questions. This way both purposes are served: managing knowledge within the organization and enabling individual learning processes. Similar approaches might also lead to a more intensive participation in vibrant communities of knowledge sharing and learning [27].

An additional web 2.0 element introduced into the High Performance Workspace at Accenture is considered with the aspects of social sharing and collaboration. This is represented by two applications aiming at the dissemination of user generated content, the *Accenture Encyclopedia* and the *Media Exchange*. These two platforms enable the employee to either access content generated by colleagues or to contribute own content relevant to other colleagues in similar task-, domain-, or client-contexts. As Figure 3 shows, the *Media Exchange* is a YouTube-like platform for user contributions in rich media formats.

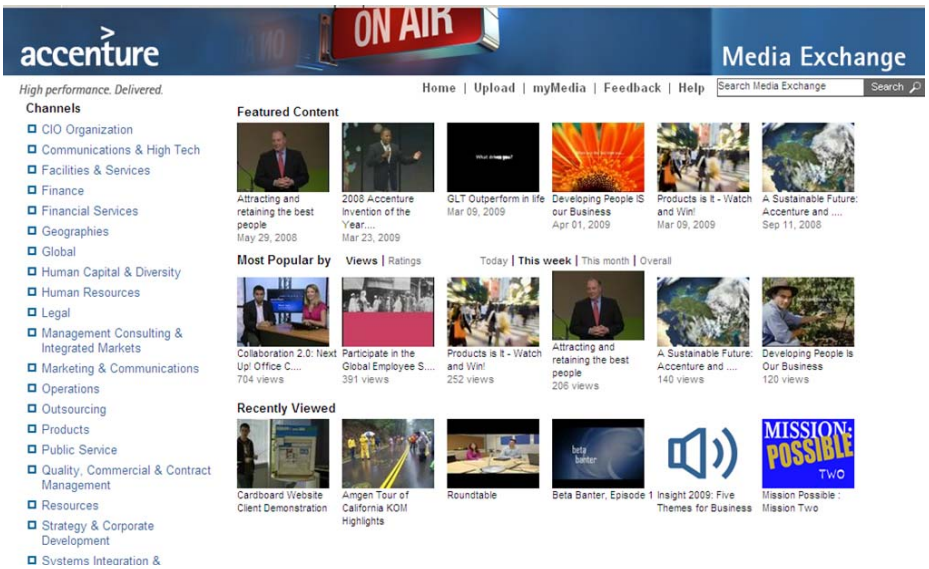

Fig. 3. Sceenshot of the Accenture Media Exchange

With the allusion to similar web platforms, this tool allows employees to transfer their experience with such applications from the private realm to corporate practice. This also applies to the Wiki functionality within the *Accenture Encyclopedia*, a collection of user contributions to a firm-wide glossary of clients, projects, and functional expertise.

Next to the mentioned web 2.0 concepts, further tools have been introduced into the Accenture High Performance Workspace. Employees, for example, may share their internal and external bookmarks on task-, domain-, and client-related resources. Based on their tags, entire folksonomies are created by sheer user participation.

Within the Accenture High Performance Workspace and across all internal resources, employees now have the possibility to review, recommend, and rate items of the knowledge exchange database, the learning management system, or even user generated resources.

This diversity of user generated content reveals the full power of employee collaboration for KM and learning processes within a global management consulting, technology services, and outsourcing company. The employee now is not only dependent upon the information provided to him by the employer or captured and classified in traditional learning and KM approaches. He/she rather has access to the dynamic, personal, and experience-based information, created by his colleagues in a digital social network weaved by the above mentioned concepts of web 2.0 and the underlying social software applications.

4. Learnings of User Generated Content in Knowledge Management and Learning: Calling for One Holistic Perspective

After having reviewed traditional and latest developments in academia as well as practice, we would like to pick up the train of thought of Chapter 2 and close this article with an analysis of the impact of the here described move towards the use of digital social networks for corporate KM and learning processes. The previous chapters have illustrated that this development confronts traditional approaches to KM and learning with a paradigm shift. As the creative power of the user generated content and digital social networks unfold by means of the above mentioned web 2.0 concepts, the lines between KM and learning are blurred. Is a blog entry reflecting the learnings from a project or a classroom training an element of learning since it supports the reflective function of the cognitive learning paradigm or is it rather an element of KM since the employee shares experience with his peers? The same considerations apply to many of the items contributed by employees in other such tools (e.g. Wiki entries on a client, Reviews of a WBT, etc.). This is fostered by the fact, that people do make extensive use of social software in private and increasingly in professional settings, too. Especially technical-savvy users do demand for tools supporting them in a comprehensive manner on their workplace. They ask for tools and concepts already used within their private everyday life.

While technically easy to implement, companies are faced with problems to incorporate these web 2.0 concepts from an organizational perspective. Major problems of this process have been discussed within several articles. For instance, Leyking et al. suggest an approach of integrated WPL, applying learning and knowledge instruments to a workplace setting, which should be based on premises of individualized, integrated, and interdisciplinary KM and learning technology. This covers the integration of knowledge acquisition and learning into the day-to-day environment of the employees, the support of interaction/collaboration and the information exchange, and the integration of enterprise systems with learning 2.0 systems. They conclude that the integration of KM and learning activities into work processes can be enabled by uniting formerly isolated functions of KM systems, learning applications, and further

enterprise systems. [15] Chatti et al. characterize KM and learning processes as two sides of the same coin and state that KM and learning approaches "need to recognize the social aspect of learning and knowledge and as a consequence place a strong emphasis on knowledge networking and community building to leverage, create, sustain and share knowledge in a collaborative way, through participation, dialogue, discussion, observation and imitation." [24]

Chatti et al.'s image of the two sides of the same coin would mean a complete overlay of KM and learning processes. The introduction of web 2.0 concepts into corporate KM and learning approaches, however, does not apply to all elements of the traditional activities of these fields. It is the user generated content, which is added to existing concepts or part of new innovative tools, that brings these two perspectives closer together. The focus of these scientific concepts – as also the activities at Accenture reveal – rather concentrates on providing innovative platforms in order to enable collaboration and thus unfold the power of user generated content. Figure 4 accordingly presents a scheme of our understanding of a more holistic perspective focused on the concept of collaboration.

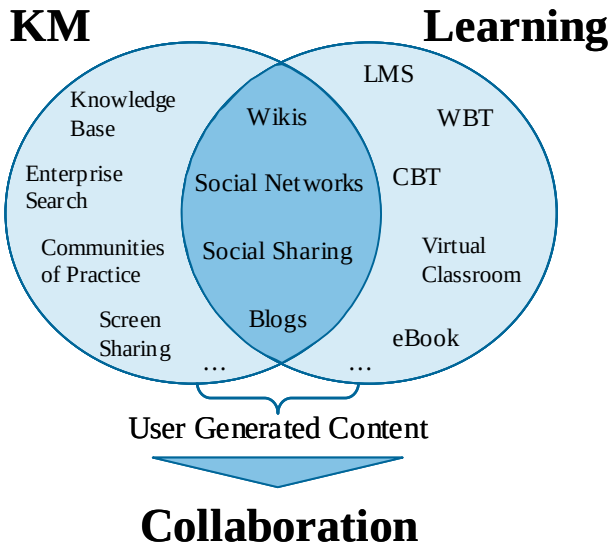

Fig. 4. Collaboration as interface between KM and Learning

When applying this scheme for corporations and by incorporating the mentioned concepts of web 2.0 – most often to foster the collaboration between employees – in professional settings, one of their main potentials becomes obvious: Since the content created within these concepts is generated by users, and because it is rated and maybe also filtered by the users, they are more likely to produce useful and successful results from an organizational as well as from an individual perspective. It also becomes apparent that within both – KM and learning – the employees are driven by personal

needs and interests, resulting in much higher knowledge retention/transfer rates and learning success.

Having analyzed the shifting overlap between traditional KM and learning perspectives when introducing bottom-up concepts of the web 2.0 into corporate organizations, we therefore consider the following 4 dimensions to be most critical for success:

- **Organization**: Do not approach the introduction of web 2.0 concepts from a KM or learning perspective only! Create an organizational interface between existing KM and learning departments, which is considered with any kind of initiative touching the concepts of user generated content and digital social networks.
- **User Experience**: Do not approach the introduction of web 2.0 concepts without considering the targeted workforce and the habitual usage behavior of the employees! Analyze existing usage patterns from private settings in order to leverage the full potential of collaboration.
- **Culture**: Do not approach the introduction of web 2.0 concepts from a technical perspective only! It is essential to realize that the here presented concepts are all based on the idea of bottom-up generation of content and digital social networks. The success of these is not based on technical solutions but a collaborative corporate culture.
- **Consistency**: Do not approach the introduction of web 2.0 concepts for every possible purpose while leaving behind existing successful elements of KM and learning! While to some extent – especially when using social software – KM and learning will merge or at least move closer, other usage scenarios will still remain to be of unique interest of one of the two realms. It is essential to use a comprehensive perspective when establishing corporate instruments for enabling the creation and sharing of user generated content. But it is also necessary to provide one-stop-shops for employees to access both areas and use the desired methods and tools in adequate, comprehensive (technical) environments.

Based on the here presented observations in academia and practice, it can be concluded that both – KM and learning concepts – offer suitable fields of application for digital social networks and user generated content. Therefore they should be integrated into a coherent “high performance workspace” approach, which should in addition be enhanced by tools offering opportunities to create, share and make use of user generated content. In summary, the challenge is to begin using a more holistic perspective when adding web 2.0 concepts to corporate KM and learning processes.

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Lehre ins Internet? Hindernisse und Erfolgsfaktoren für Social Software an der Hochschule

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Abstract. Ausgehend von den Vorteilen des Einsatzes von Social Software in der Lehre (in Bezug zum „shift from teaching to learning“ und im Rahmen des Bologna-Prozesses) werden Hindernisse für ihre Nutzung an Hochschulen aufgeführt. Diese können in allgemeine Innovationshindernisse, eLearning-Hindernisse sowie in spezielle Social Software-Hürden unterteilt werden. Abschließend werden die Koppelung von Learning-Management-Systemen und Social Software sowie das Angebot von Fortbildungen als Erfolgsfaktoren diskutiert.

1. Bedeutung von Social Software in der Lehre

Obwohl Social Software[1] in der Hochschule einige Vorteile im Rahmen der aktuellen Bildungsdiskussionen bietet, ist eine flächendeckende Nutzung in der Lehre bislang ausgeblieben.[2]
Bevor hier auf die verschiedenen Gründe für die nur schleichende Annahme des Konzepts Social Software in der Lehre eingegangen und Lösungsansätze aufgezeigt werden, werden im Folgenden Vorteile der Nutzung von Social Software besprochen.

These 1: Social Software ist eine Annäherung an den „shift from teaching to learning“

Der Shift vereint ein studierendenorientiertes und vom Lernen her gedachtes Lehren mit einer Stärkung der Eigenaktivität der Studierenden [2]. Hintergrund sind die auf

[1] Hier wird die Bezeichnung Social Software synonym zu Web 2.0 verwendet, da erstere den Beziehungsaspekt dieses Konzepts stärker betont.

[2] Vgl. hierzu beispielsweise Schulmeister: „Es verwundert, dass unsere Studierenden die meisten der unter dem Begriff Web 2.0 propagierten Anwendungen nicht kennen oder nicht nutzen“ [1, p. 135]. Er bezieht sich dabei auf eine Befragung von 2098 Studierenden aus 23 Städten, von denen bspw. über 90% nicht Zoho, Twitter oder Del.icio.us kennen oder nicht nutzen.

‚learning outcomes' orientierten Bachelor- und Mastermodelle, welche den Erwerb von Berufskompetenzen stark an die konkreten Aktivitäten der Studierenden koppeln. Hier bietet die Vermischung von Consumer und Producer im Rahmen von Social Software (Inhalte werden dabei nicht von Dozierenden vorgegeben, sondern gemeinsam konstruiert und kritisch überprüft) neben Aspekten des Networking wichtige Ansatzpunkte für eine auf das Lernen hin orientierte Lehre. Kerres spricht in diesem Zusammenhang davon, dass die Grenze zwischen User und Autor im Bildungskontext derjenigen zwischen Lehrendem und Lernenden entspreche. Diese „klare Trennlinie relativiert sich, wenn man sie im Zusammenhang mit der Diskussion über konstruktivistische Ansätze der Didaktik und die konsequente Umsetzung von Ansätzen des Web 2.0 betrachtet" [3, p. 4]. In Beiträgen zur Nutzung von Social Software und bei Vertretern der Hochschuldidaktik finden sich also ähnliche Ziele.
Dabei ist die Stärkung der Studierenden bei der Nutzung von Social Software auch technisch umgesetzt, z.B. indem Beiträge in Weblogs im Einflussbereich der VerfasserInnen bleiben, was bei institutionell betriebener Software nicht immer der Fall ist [4; 5].
Viele Lehrveranstaltungen, bei denen Social Software eingesetzt wird, sind außerdem so konzipiert, dass Studierende dort Projektarbeit durchführen (Podcasts erstellen, Glossare gemeinsam formulieren, etc.).[3] Hier ist Social Software zusätzlich eingebettet in ein Konzept der moderierten, gecoachten aber selbständigen Erarbeitung von Themengebieten meist inkl. der Präsentation des Projektergebnisses.

These 2: Social Software unterstützt Selbststudium

Social Software ist durch den starken Bezug zu informellen Lernen besonders geeignet, den im Rahmen des Bolognaprozesses durch klare Workload-Angaben stärker in den Fokus gerückten Selbststudiums-Anteil einer Lehrveranstaltung zu unterstützen.[4] Hierzu nur wenige Hinweise: Informelle Lernprozesse, die nicht durch Institutionen geprägt sind, finden stark im diskursiven Rahmen unter Freunden und Peers statt. Diese Lernprozesse gilt es zu fördern und zu begleiten, Social Software kann hierbei eingesetzt werden. Reflektionen über Lerninhalte und Kompetenzen sind zum Beispiel ein Einsatzgebiet von Blogs als Lerntagebücher.

These 3: Social Software belebt den virtuellen Campus

Wichter Erfolgsfaktor von eLearning-Angeboten ist die sogenannte Social-Awareness, die in Präsenzveranstaltungen durch Anwesenheit und aktive Mitarbeit

[3] Projektarbeit im Unterricht, d.h. Projektunterricht weist in der Regel unter anderem folgende mit Social Software-Prinzipien verwandte Elemente auf: handlungsorientierte Durchführung eines Vorhabens, vermitteln von Produkten/Ergebnissen an andere, Selbstorganisation und Selbstverantwortung, soziales Lernen.

[4] Dass das prüfungsorientierte Studium dabei häufig keine Freiräume für das Selbststudium lässt, ist einer der Widersprüche, die bei der Umsetzung des Bolognaprozesses entstanden sind [6].

erzeugt wird [7; 8]. Je nach eLearning-Konzept wird deren Förderung online aber wenig beachtet. Durch die unveränderte Übertragungen von Klassenzimmerkonzepten in das Internet entstehen Lernumgebungen, die damit zu kämpfen haben, dass „such environments can be pretty sterile places“ [5, p. 4]. Leider wird in Lehr- und Lernsituationen aber auch allgemein häufig unterschätzt, dass Lernen immer in einem Beziehungsrahmen [9] stattfindet. Der Einsatz von Social Software kann hier ergänzend zu einer Campuskultur nützliche Dienste leisten. Kerres führt dazu am Beispiel der Notebook-Universität aus, dass die Verzahnung von Online- und Offline-Lernen und die Verfügbarkeit von Informationen überall auf dem Campus die physikalischen Grenzen des Lernraums aufbrechen [3].

Weitere Vorteile

Weitere Vorteile der Nutzung von Social Software können – immer unter Berücksichtigung eines angemessenen Konzeptes – in der Nutzung frei verfügbaren Contents, der Berücksichtigung der Bedürfnisse einer Netzgeneration (vgl. kritisch zur Netzgeneration [10]) und der Etablierung neuer Formen der kollaborativen Arbeit liegen.

2. Hindernisse

Dass Social Software bereits in einigen Bereichen der Hochschullehre erfolgreich eingesetzt wird, andere Bereiche oder gar eine flächendeckende Nutzung bislang jedoch nicht erreicht wurden, kann auf drei Hindernis-Cluster zurückgeführt werden: Zum einen auf allgemeine Hindernisse für Innovationen in der Lehre, zum zweiten auf solche, die für den Bereich des eLearning gelten und zu guter Letzt Hindernisse, die mit der Besonderheit der Nutzung von Social Software in der Lehre zusammenhängen.

2.1. Allgemeine Innovationshindernisse

Nicht nur in der Lehre, auch in der Wissenschaftskommunikation und im Wissensmanagement kann Social Software – wie andere Beiträge der Tagung Social Software @ Work vor allem für den Bereich der Wirtschaft gezeigt haben – ein wichtiger Erfolgsfaktor sein. Einige Hindernisse für den Einsatz in der Lehre treten auch in diesem Bereich auf. Hier soll jedoch der Schwerpunkt auf Probleme in der Lehre gelegt werden.

Bedeutung und Verständnis von Lehre – Educational Beliefs

Lehrinnovationen in der Hochschule haben allein schon deshalb einen schweren Stand, weil Lehre trotz zahlreicher Bemühungen (z.B. an der Heinrich-Heine-Universität Düsseldorf mittels des Lehrpreises oder des Lehrförderungsfonds für innovative Lehrprojekte) im Hochschulkontext immer noch wenig Möglichkeiten zur

Reputation und zur Beschäftigung von Wissenschaftlern (die auf Grund guter Lehrleistungen gefördert wurden) bietet. Eine wahrscheinliche Folge ist, dass die meisten Hochschullehrenden sich eher als Wissenschaftler und Fachexperten, denn als Wissensvermittler verstehen.
Passende Untersuchungen zu den sogenannten „Educational Beliefs“ von Wissenschaftlern, also den meist nur impliziten und unreflektierten Vorstellungen über Lehre, stehen im deutschsprachigen Raum noch aus. Hier setzen auch fachkulturelle Unterschiede an, z.B. die Vorstellung, dass Social Software in den eher diskussionsorientierten Geisteswissenschaften leichter für die Lehre zu nutzen sei.[5]

2.2. eLearning-Hindernisse

Bei der Einführung von eLearning kommen zu den oben genannten allgemeinen Innovationshürden weitere Hindernisse hinzu. Vor allem die häufig (noch) keine Unterstützung des eLearning vorsehenden Studienordnungen erschweren es, Vorteile des eLearning zu nutzen. Zu nennen ist hierbei vor allem zeit- und ortsunabhängiges Lernen und Lehren, bei welchem entweder Kontaktzeit als Online-Kontaktzeit konzipiert wird oder das Selbststudium durch eLearning betreut und unterstützt wird.
Eine weitere Hürde stellt für viele Dozierende der erste Einsatz der Technik bzw. Software dar, vor allem im Zusammenhang mit dem Aufwand für die Konzeption und Betreuung von eLearning-Veranstaltungen sowie die Content-Erstellung.[6]
Als größtes Problem dürfte allerdings der Projektstatus von Lehrinnovationen zu nennen sein. Dieser und das Lehrstuhlprinzip[7], das eine Arbeitsteilung beispielsweise bei Medienproduktionen erschwert, erzeugt auch hier Hindernisse, die Kerres folgendermaßen ausführt: „Durch die Befristung der Projekte ergibt sich das Problem, dass deren Fokus in der Regel auf der *Medienproduktion* liegt. Nicht selten werden Medienproduktionen in Projekten erfolgreich realisiert, ihr Einsatz in der Lehre scheitert jedoch an dem Auslaufen des Projektes. In diesem Fall tendiert der *didaktische* Nutzen eines solchen (scheinbar erfolgreichen) Projektes gegen Null. Ebenso problematisch sind Projekte, die Medien erfolgreich produzieren und auch erproben konnten, deren Ergebnisse aber nicht angemessen an anderen Orten nutzbar gemacht werden. Für eine solche Dissemination und „Vermarktung“ der Projektergebnisse sind Lehrstühle und Institute in der Regel aber nicht vorbereitet“ [12, p. 5]

[5] Für eine Vertiefung der fachkulturellen Herausforderungen für eLearning 2.0 siehe [11].
[6] Vgl. zum Aufwand auch das Projekt LeLeCon an der Universität Düsseldorf: http://www.phil-fak.uni-duesseldorf.de/ew/abteilungen/bf/projekte/laufende-projekte/#c20972
[7] Das Lehrstuhlprinzip besagt, dass der Lehrstuhl autonom agiert und nur lose mit anderen Einheiten verknüpft ist. Dies kann dazu führen, dass Kompetenzen im eigenen Lehrstuhl erst mühsam aufgebaut werden müssen, obwohl in anderen Einrichtungen Kompetenzen vorhanden wären [12].

2.3. Social Software-Hindernisse

Das elementare Hindernis für den Einsatz von Social Software dürfte in der Einstellung der Lehrenden gegenüber dem Ablauf und der Organisation einer guten Lehre liegen. Zwar wird in der Hochschuldidaktik ein „Shift from teaching to learning“ propagiert, dieser dürfte aber bei den meisten Dozierenden noch auf Widerstand stoßen. Somit ist die Passung von Social Software zu den in der Mehrzahl überholten Lehrvorstellungen häufig schlichtweg nicht gegeben. Social Software wird deshalb dort nicht eingesetzt werden, wo

- die Lehre eher dozierendenorientiert ist,
- kaum Lernräume geschaffen werden, in welchen Studierende durch aktive Auseinandersetzung Kompetenzen erwerben können,
- Dozierende sich scheuen, Lernprozesse auch vermeintlich unkontrolliert ablaufen zu lassen, z.B. moderiert in einer Lernumgebung (ob man diese Personal Learning Environment (PLE) oder ähnlich nennt, ist für diesen Aspekt unerheblich),
- unverrückbare und undiskutierbare Inhalte im Zentrum stehen, anstatt der im Bologna-Prozess geforderten Kompetenzen.

[11] fasst diese Thesen in ähnlicher Weise folgendermaßen zusammen: „So ist die Integration von E-Learning-2.0-Elementen eher dort didaktisch sinnvoll, wo kommunikative und kooperative Lehr- und Lernformen zur Fachkultur gehören und die Lernenden als gestaltende Subjekte im Lehr- und Lernprozess betrachtet werden“ [11, p. 166]. Hier kann Social Software vergleichsweise unproblematisch ein weiterer Impuls sein, die Qualität der Lehre voranzutreiben. Gleichzeitig steht zu vermuten, dass die Differenz zwischen Prinzipien der Social Software und den meist noch vorherrschenden Lehrvorstellungen ein Hindernis für die Nutzung von Social Software darstellt.

Ein weiteres Problem ist die Beachtung von Datenschutzbestimmungen. Sind Datenschutzfragen an Hochschulen für den eLearning-Bereich häufig noch nicht ausreichend geklärt, so stellt sich dieses Problem in stärkerem Maße für den Einsatz von (meist extern gehosteter) Social Software. Hier stimmen die Datenschutzbestimmungen des Anbieters selten mit den Vorstellungen der Hochschule überein. Die Verpflichtung Studierender, sich bei einem externen Anbieter anzumelden, stellt eine nicht zu unterschätzende Hürde dar. Häufig wird dieser Aspekt aus pragmatischen Gründen schlicht marginalisiert: „Weiters wurden rechtliche Bedenken, insbesondere auf Datenschutz und Urheberrecht, vorerst ausgeblendet“ [4, p. 189].

Eng mit der Datenschutzthematik, aber auch mit der für ein erfolgreiches Lernen förderlichen Umgebung, hängt die Diskussion um geschlossene oder offene Lernräume zusammen (siehe auch 3.1). Social Software lebt zu einem großen Teil davon, dass die Inhalte einer großen Gemeinschaft zugänglich sind (z.B. Ergänzung und Korrektur von Wikipedia-Artikeln, die von Studierenden erstellt wurden). Gleichzeitig muss gewährleistet sein, dass Studierende Lernerfahrungen und Fehler machen können, ohne dass diese im Netz beispielsweise für jeden potentiellen Arbeitgeber einsehbar sind.

Angesichts der aktuellen Diskussion im Bildungsstreik um ein verschultes Bachelor- und Masterstudium und eine zu hohe Prüfungslast stellt die Notwendigkeit,

(Prüfungs-)leistungen zu kontrollieren, ebenfalls ein Hindernis für den Einsatz von Social Software dar. Hier setzen Reinmann, Sporer und Vohle ein humanistisches Bildungsideal im Rahmen von Social Software einem kontrollorientierten Bologna-Prozess entgegen: „Gleichzeitig rückt Web 2.0 eine neue Form der humanistischen Selbstbildung in greifbare Nähe, die jedoch an den strukturellen Hindernissen des Hochschulalltags gleich wieder zu scheitern droht. Der Versuch, Studierende am Lehr-Lernprozess gleichberechtigt teilhaben zu lassen, beißt sich mit der Notwendigkeit, deren Leistungen permanent zu kontrollieren“ [6, p. 4]. Es bleibt zu hoffen, dass die politischen Entwicklungen einen Freiraum für diejenigen Lernformen schaffen, die einer kompetenzorientierten Ausbildung gerecht werden können.

3. Zwischenwege und Erfolgsfaktoren

Hochschulen bedienen sich unterschiedlichster Wege zur Unterstützung und Steuerung der die Lehre betreffenden Entwicklungen. Im Bereich des eLearnings sind dafür vor allem folgende Maßnahmen zu nennen:

1. Infrastrukturelle Maßnahmen durch Bereitstellung und Unterstützung verschiedener eLearning-Software
2. Fortbildungsmaßnahmen für die Qualifizierung der Lehrenden hinsichtlich der Einbindung von eLearning-Überlegungen bis hin zur Entwicklung von eLearning-Konzepten für ihre Lehre
3. Fördermaßnahmen zur finanziellen und personellen Unterstützung von Projekten
4. Schaffung von Rahmenbedingungen, die eLearning ermöglichen (Studien- und Prüfungsordnungen, Datenschutzregelungen etc.)

In diesem Rahmen soll nur auf die Punkte 1 und 2 eingegangen werden. Zu Punkt 3 sei nur kurz erwähnt, dass bei den Fördermaßnahmen auf die didaktische Konzeption der Projekte geachtet werden muss. Gerade der Hype um Social Software und das Bedürfnis bei aktuellen Trends mitwirken zu wollen, können dazu führen, dass Tools unreflektiert eingesetzt werden.
Die Schaffung von Rahmenbedingungen für eLearning (Punkt 4) ist ein strukturelles und rechtliches Problem, auf das hier aus Platzgründen nur hingewiesen werden kann [13].

3.1. Infrastrukturelle Maßnahmen – Learning-Management-Systeme

In der Regel finden sich an einer Hochschule zur Unterstützung der Lehre ein (oder mehrere) Learning-Management-Systeme (LMS). Kritik an diesen LMS kam schon 2006 von [3], der die Plattformen als „Datengrab ohne Leben“ bezeichnete, für die oft mühsam Inhalte erstellt werden, obwohl doch frei verfügbar (Lern-)Inhalte vorhanden seien „auf den vielen Homepages, auf denen sich die Lernenden über alle möglichen Dinge des Lebens austauschen“ [3, p. 5]. Die Rolle des Lehrenden solle sich laut Kerres so ändern, dass dieser nur noch Wegweiser zu diesen Inhalten aufstellt, wodurch die Lernumgebung keine Insel im Internet mehr ist, sondern als Portal in

dieses fungiert. Kerres argumentiert, dass Funktionen der von der Bildungsinstitution zur Verfügung gestellten Lernplattformen (zeitlich getaktetes Freischalten von Tests, Bilden von Lerngruppen etc.) in eine Persönliche Lernumgebung (PLE) integriert werden müssten [3]. Aufgegriffen wurde diese Argumentation von Baumgartner [14], der zusätzlich den Aspekt betont, dass nicht nur im Netz vorhandene Inhalte genutzt werden sollten, sondern man besonders Wert darauf legen sollte, auch Personen (Lernkontakte) miteinander zu vernetzen.
Wichtig bei dieser Kritik an LMS ist, dass nicht für die Abschaffung dieser Systeme plädiert wird, sondern für die Weiterentwicklung und Schaffung von Schnittstellen. Seit einiger Zeit öffnen sich Learning-Mangement-Systeme nicht nur für inhaltliche Verknüpfungen durch Social Software (z.B. durch Tagging) sondern auch für die personenbezogene Vernetzung ihrer Nutzer, indem Benutzerkonten mit Kontaktdaten aus diversen sozialen Netzwerken ergänzt werden können. Wikis beispielsweise werden schon länger in LMS integriert. Wichtig bleiben die LMS vor allem aber aus einem Grund: Lernen erfordert in der Regel einen geschützten Lernraum. Baumgartner formuliert hierzu: „Privat- bzw. Intimsphäre und öffentliche Sphäre haben jedoch für jede Person unterschiedliche Überlappungen – und das ist genau jener Bereich wo Lernen Vertrauen voraussetzt und in geschützten Räumen (wie z.B. innerhalb des geschlossenen Kurses in einem LMS) stattfinden muss“ [14].
Insofern erscheint es sinnvoll, einerseits die LMS als Portal zur Social Software-Nutzung zu verwenden, andererseits (aus rechtlichen Gründen) häufig genutzte Social Software auch seitens der Universität auf eigenen Servern anzubieten.

3.2. Fortbildungsangebote

Auch wenn die Gegenüberstellung von [15] zwischen eLearning 1.1 und eLearning 2.0 vermuten lassen könnte, dass im eLearning 2.0 keine Fortbildungen mehr notwendig sind[8], sieht die Praxis an Hochschulen anders aus. Dies hat mehrere Gründe:

- Für die Lehrinnovation ist eine Reflektion der bisherigen Praxis und damit eine Distanz zu dieser förderlich. Dies kann am ehesten in Fortbildungen umgesetzt werden.
- Nicht die Bedienung von Social Software steht im Vordergrund von Fortbildungen, sondern das Erfahren der Möglichkeiten, die in diesem Konzept liegen sowie der Transfer dieser Möglichkeiten auf die eigene Lehre.
- Fortbildungen bieten einen Lernraum, in welchem Dozierende sich über Vermittlungsstrategien austauschen können. Die ansonsten oft geförderte Einzelkämpfermentalität [12] wird gezielt unterlaufen.

Social Software kann als ein Element in eine studierendenorientierte Lehre eingebunden werden. Zentral ist dabei die Passung von Lehrzielen und angewandten Methoden, die durch verschiedene Softwarekonzepte unterstützt werden können.

[8] [15] unterscheidet eLearning 1.1. und eLearning 2.0 in einer prägnanten Übersicht u.a. so, dass für eLearning 1.1 gilt: „Handling der leistungsfähigen, aber komplexen technischen Plattformen erfordert Schulung und Training“, für eLearning 2.0: „vergleichsweise einfach zu bedienende Software Tools mit beschränktem Funktionsumfang“ [15, p. 150].

Diese Überlegung ist bspw. ein wichtiger Bestandteil aller hochschuldidaktischen eLearning-Angebote an der Heinrich-Heine-Universität Düsseldorf.

4. Fazit

Die mit den Überlegungen zur Ausweitung des Social Software Einsatzes in der Lehre angestoßene Diskussion flankiert die hochschuldidaktischen Forderungen nach einem „Shift from teaching to learning". Hier können aus der gemeinsamen Beachtung hochschuldidaktischer und technologischer/konzeptioneller Entwicklungen im Bereich der Social Software Synergien für ein studierendengerechtes Lernen und Lehren geschaffen werden. Auch Bezüge zum Bologna-Prozess sind offensichtlich, sind aber abhängig von der konkreten Ausgestaltung der Bachelor- und Masterstudiengänge. Anknüpfend an Vorstellungen über gute Lehre treten mit dem Einsatz von Social Software aber auch Schwierigkeiten der Passung von Lehrkultur bzw. Educational Beliefs und innovativen Lehrformen stärker zu Tage. Auch wenn viele Hindernisse zum Einsatz von Social Software in der Lehre ausgeführt wurden (u.a. Datenschutz, Innovationsbarrieren, offene vs. Geschlossene Lernräume), überwiegen die Vorteile bei einer didaktisch sinnvoller Nutzung (u.a. Unterstützung des Selbststudiums, Ausweitung des Lernraums).

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Wie Suchmaschinen von Social Software profitieren

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Abstract. Dieser Beitrag geht der Frage nach, in welcher Form Web-Suchmaschinen Daten aus Social Software ausnutzen (können), um ihre Ergebnisse zu verbessern. Dabei wird zum einen gezeigt, dass Suchmaschinen bereits in der Vergangenheit implizite, von der Nutzermasse erstellte Daten ausgewertet haben. Zunehmend werden nun explizite Daten verwendet. Dieser Beitrag versucht eine Systematisierung dieser Datenverwendung und stellt die Verbesserungsmöglichkeiten für Suchmaschinen anhand ihrer typischen Komponenten dar.

Keywords: Social Software, Suchmaschinen, Content Acquisistion, Indexierung, Qualitätsbewertung, Trefferpräsentation

1. Einleitung

Die Suche im Netz mit Hilfe von Suchmaschinen ist neben E-Mail die meistgenutzte Anwendung im Internet [1]. Pro Monat werden nach Angaben von ComScore allein in Deutschland etwa 5,6 Milliarden Suchanfragen an die allgemeinen Suchmaschinen (d.h. Universalsuchmaschinen) gestellt[1].

Die Recherche über Suchmaschinen ist damit *der* Zugang zu den Informationen im Netz; andere Ansätze (wie Web-Kataloge) haben ihre Bedeutung verloren. Alternative Ansätze wie beispielsweise Social-Bookmarking-Dienste konnten sich als alternativer Zugang zu den Informationen im Netz nicht in der Masse etablieren.

Aktuell wird die Entwicklung der Web-Suche hin zu einer (verstärkten) Sozialen Suche diskutiert. Das Ziel dieses Aufsatzes ist es, zu zeigen, wie Suchmaschinen an verschiedenen Stellen bereits auf die Mitarbeit ihrer Nutzer setzen und welche (impliziten) Nutzerdaten sie sich zunutze machen (können). Die Ausgangsthese ist dabei, dass die Suchmaschinen schon seit langem *implizite* Nutzerbewertungen verwenden, nun jedoch auch vermehrt *explizite* Nutzerbewertungen einsetzen. Letzteres dürfte in Zukunft noch weiter anwachsen.

[1] http://comscore.com/Press_Events/Press_Releases/2010/1/Global_Search_Market_Grows_46_Percent_in_2009.

Implizite Mitarbeit der Nutzer meint hierbei, dass Daten, die von einer Masse von Nutzern zu einem anderen Zweck als der Zuarbeit zu einer Suchmaschine generiert wurden, für die Verbesserung einer Suchmaschine eingesetzt werden. Ein Beispiel hierbei ist das einfache Setzen eines Links, der später von Suchmaschinen zur Qualitätsbewertung des referenzierten Dokuments eingesetzt wird.

Mit expliziter Mitarbeit ist dagegen gemeint, dass Nutzer Dokumente beschreiben und/oder bewerten in dem Bewusstsein, dass diese Informationen für die Verbesserung und/oder Ergänzung eines Web-Angebots, also beispielweise einer Suchmaschine eingesetzt werden.

2. Implizite Mitarbeit der Suchmaschinennutzer

In der Diskussion um die Mitwirkung der allgemeinen Nutzerschaft bei der expliziten Verbesserung der Suchmaschinen bzw. ihrer Ergebnisse wird oft vergessen, dass sich Suchmaschinen auch in der Vergangenheit schon die Mitarbeit ihrer Nutzer zunutze gemacht haben, wobei dies aber im wesentlichen implizit geschah, d.h. dem Nutzer war bei seiner Aktivität nicht bewusst, dass diese der Verbesserung der Suchmaschine dient.

Streng genommen ist ja schon der Aufbau der Suchmaschinen-Datenbank ohne den Nutzer nicht zu denken. Die verteilt vorliegenden Dokumente des WWW werden von unterschiedlichsten Nutzern mit den unterschiedlichsten Intentionen erstellt. Deutlicher noch wird die Mitwirkung der Nutzer allerdings bei den Verfahren der Popularitätsmessung, worunter hier sowohl die linktopologischen als auch die Nutzungsstatistischen Verfahren verstanden werden.

Linktopologische Rankingverfahren machen sich die Verlinkungsstruktur des Web zunutze und bewerten Dokumente anhand ihrer Linkpopularität. Das Kollektiv der Nutzer (hier: derjenigen, die Websites selbst erstellen, bzw. genauer: diejenigen, die Links setzen) gibt durch das Setzen der Links Stimmen für bestimmte Dokumente ab. Die Suchmaschinen gewichten diese Links nach ihrer Herkunft und versuchen so, über ein gewichtetes Popularitätsmodell Aussagen über die Qualität bestimmter Dokumente zu erlangen (vgl. [2], Kapitel 8).

Nutzungsstatistische Verfahren hingegen beziehen alle aktiven Nutzer des Web ein, ob diese nun selbst aktiv handeln oder aber nur Inhalte konsumieren. Hier gilt das Anklicken von Dokumenten, kombiniert mit der Verweildauer auf diesen Dokumenten, als Indikator für ihre Qualität (vgl. [2], Kapitel 7). Jeder Klick bedeutet also eine Zuarbeit für die Suchmaschine, die diesen Klick erfassen kann. Gängige Methoden sind Toolbars, die die Nutzeraktivität protokollieren; unabhängig davon, ob der Nutzer sich nun auf dem Angebot der Suchmaschine befindet oder eine von der Suchmaschine unabhängige Seite besucht.

3. Explizite Mitarbeit der Suchmaschinennutzer

Während die implizite Mitarbeit den meisten Nutzern nicht bewusst ist und auch nicht in erster Linie der Verbesserung der Suchergebnisse dient, ist bei der expliziten Mitarbeit zwischen der innerhalb der Suchmaschinen selbst und der in Social Software, die wiederum von den Suchmaschinen ausgenutzt wird, zu unterscheiden. Ein Nutzer beispielsweise, der ein Produkt auf einer Shoppingplattform bewertet, tut dies explizit, dürfte sich aber kaum bewusst sein, dass ebendiese Bewertung wiederum zur Bewertung durch eine Suchmaschine eingesetzt werden kann.

Die explizite Mitarbeit im Angebot einer Suchmaschine ist deutlich bei Google vertreten; über die Dienste SearchWiki und SideWiki wurde in der Presse ausführlich berichtet. In diesen Diensten hat jeder (angemeldete) Nutzer uneingeschränkt die Möglichkeit, Suchergebnisse zu kommentieren und zu bewerten.

SearchWiki wird automatisch innerhalb jeder Trefferliste angeboten, sofern ein Nutzer in einen Google-Dienst eingeloggt ist. Zu jedem Eintrag in den Trefferlisten besteht nun die Möglichkeit, den Treffer an den Beginn der Trefferliste zu stellen, ihn aus der persönlichen Trefferliste zu löschen und den Treffer zu kommentieren. Kommentare sind für alle anderen Nutzer sichtbar; die veränderte Reihung der Trefferliste aber nur für den betreffenden Nutzer selbst. Allerdings bleibt diese Reihung auch bei zukünftigen Suchen nach den gleichen Suchbegriffen bestehen.

SideWiki erweitert SearchWiki in der Hinsicht, dass Nutzer der Google-Toolbar diesen Dienst für jede Seite im Web hinzuschalten können. Sie bekommen dann die Kommentare der anderen Nutzer direkt mit dem aufgerufenen Dokument zusammen angezeigt. Welche Implikationen sich daraus ergeben, verdeutlicht das Beispiel der Homepage von Microsoft, welche durch (vor allem negative) Nutzerkommentare ergänzt wird (s. Abb. 1).

Auch Nutzerkommentare aus fremden Diensten können von den Suchmaschinen ausgewertet werden. Hier ist zu unterscheiden zwischen einer direkten Einbindung und der Aggregation von Beschreibungen oder Bewertungen aus fremden Diensten.

In einer direkten Einbindung werden beispielsweise Produktbewertungen aus einem Vergleichsportal direkt in eine Trefferbeschreibung integriert (Abb. 2). Die Suchmaschine macht sich hier eine bereits auf der ausgewerteten Webseite vorhandene Bewertung bzw. einer dort vorhandenen Aggregation von Bewertungen zunutze.

Im Gegensatz dazu steht die Aggregation von Beschreibungen und/oder Bewertungen durch die Suchmaschine selbst. So können analog dem genannten Beispiel bei dieser Form der Integration die Bewertungen aus unterschiedlichen Portalen zusammengeführt und neu gewichtet werden. Die Suchmaschine bietet hier einen Mehrwert einerseits durch die Aggregation selbst, andererseits durch die Gewichtung selbst, die als besonders vertrauenswürdig eingeschätzte Websites in der Gewichtung bevorzugen kann. Eine solche gewichtende Aggregation wurde bereits bei der US-Version der Suchmaschine Bing realisiert.

Abb. 1. Nutzerkommentare als Ergänzung der Webseitenpräsentation bei Googles SideWiki

iRobot **Roomba** Discovery Robots and robot kit reviews - CNET Reviews -
★★★★☆ Bewertung von Aimee Baldridge - 19. Jul 2004 - Preisspanne: $259.00
CNET's comprehensive iRobot **Roomba** Discovery coverage includes unbiased reviews, exclusive video footage and Robots and robot kit buying guides.
reviews.cnet.com/...**roomba**.../4505-3510_7-30975237.html - Im Cache - Ähnlich

Abb. 2. Integration von Produktbewertungen in eine Trefferbeschreibung

Während also bei der direkten Einbindung der Bewertungen für den Nutzer offensichtlich ist, woher die Daten kommen (und damit eingeschränkt auch, wer die jeweiligen Bewertungen verfasst hat), kann die Aggregation fremder Bewertungen durch die Suchmaschine selbst zwar im Idealfall zu einer verlässlicheren Bewertung führen, bringt jedoch auch einen – weiteren – Verlust an Transparenz mit sich.

4. Ausnutzung von Daten aus Social Software in verschiedenen Suchmaschinen-Komponenten

In diesem Abschnitt soll die Integration von Daten aus Social Software auf die unterschiedlichen Komponenten von Suchmaschinen bezogen werden. Dabei können sich Suchmaschinen in allen ihren Komponenten dieser Daten bedienen, um Inhalte besser auffinden, bewerten und präsentieren zu können.

Als wesentliche Komponenten einer Suchmaschine werden hier die folgenden angesehen:

- Content Acquisition, also das Hinzufügen von Inhalten zum Datenbestand der Suchmaschine. Dieses erfolgt in erster Linie durch das Crawling, kann jedoch durch Daten anderer Herkunft (bspw. Feeds) ergänzt werden.

- Indexierung, also die Aufbereitung (und ggf. Anreicherung) der gefundenen Daten, um sie durchsuchbar zu machen.
- Qualitätsbewertung.
- Trefferpräsentation.

Im Bereich der Content Acquisition können Daten aus Social Software zum Auffinden neuer Links eingesetzt werden, zum Beispiel indem neu auftauchende Links bei Facebook oder Twitter direkt erfasst werden. Die Suchmaschine kann sich hiermit einen (Index-)Aktualitätsvorteil schaffen, wenn über die Social Software Links verbreitet werden, die der Suchmaschine (noch) nicht bekannt sind. Weiterhin können, wenn die Suchmaschinen selbst proprietäre Social Software betreiben, die dort erstellten Daten direkt in den Suchindex integriert werden. Hier verschafft sich die betreffende Suchmaschine nicht nur einen Aktualitätsvorteil, sondern auch einen direkten Vorteil hinsichtlich der Informationen, welche andere Suchmaschinen nicht bieten können.

Im Bereich der Indexierung können Daten aus Social Software beispielsweise zur Beschreibung von nicht-textuellen Inhalten verwendet werden. So verwendet Yahoo für seine Bildersuche tags aus Flickr.

Im Bereich der Qualitätsbewertung kann schon das Vorhandensein einer URL in einem Social-Bookmarking-Dienst oder einer anderen Social Software als Qualitätskriterium verwendet werden. Bedeutender jedoch sind Tag-Häufigkeiten, die Anzahl von Kommentaren zu einem Beitrag oder die Linkhäufigkeit bei Blogbeiträgen. Alle diese Kriterien können zusätzlich auf einen bestimmten Zeitraum bezogen werden.

Im Bereich der Trefferpräsentation schließlich können mit Hilfe der Daten aus Social Software erweiterte Trefferbeschreibungen generiert werden. In erster Linie sind hier Bewertungen zu nennen (wie oben gezeigt), aber auch Kommentare oder von Nutzern erstellte Bilder können hier verwendet werden

5. Fazit

Social Software ist bei den Suchmaschinen „angekommen“. Zwar haben sie auch schon in der Vergangenheit auf die (vor allem implizite) Mitarbeit ihrer Nutzer gesetzt, durch Social Software bietet sich ihnen aber ein noch weit größerer Spielraum. Vor allem die Einbindung expliziter Nutzerbewertungen, ob diese nun bei den Suchmaschinen selbst oder auf der Website eines anderen Anbieters abgegeben wurden, wird momentan stark ausgebaut. Für die Zukunft ist vor allem eine stärkere Aggregation von user-generated content durch die Suchmaschinen zu erwarten, wodurch sich diese weiter von der klassischen Darstellungsform der „zehn blauen Links“ abwenden und sich weiter in Richtung entscheidungsunterstützender Maschinen wandeln werden.

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Mit “People Tagging” zum Kollaborativen Kompetenzmanagement

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Abstract. Das Wissen darüber, wer was weiß, ist im Unternehmen ein essentielles Element für effiziente Wissensreifungsprozesse, wie etwa das Finden des richtigen Ansprechpartners. Viele Ansätze, die dies adressieren, konnten ihren Versprechungen jedoch nicht gerecht werden. Häufig weil in den Verzeichnissen enthaltene Informationen schnell veraltet oder nicht in einer für die Nutzer relevanten Weise beschrieben waren. Zur Überwindung dieser Probleme präsentieren wir einen Ansatz zum kollaborativen Kompetenzmanagement, der alle Mitarbeiter einbindet und teilnehmen lässt. Die Basis hierfür bildet das sog. „People Tagging“, bei dem jeder Mitarbeiter die Expertise und Interessen seiner Kollegen mit Tags beschreiben kann. Dies wird durch Methoden der Community-gestützten Ontologieentwicklung ergänzt, mit denen Mitarbeiter den zum Tagging verwendeten Kompetenzkatalog ständig weiterentwickeln und ihren Bedürfnissen anpassen.

Keywords: People Tagging, kollaboratives Kompetenzmanagement, Ontologiereifung, SOBOLEO

1. Einleitung

Heutige Kompetenzmanagementansätze bieten vielversprechende Instrumente für Personaleinsatz und -entwicklung, Wissensmanagement und Lernunterstützung, hauptsächlich in größeren Unternehmen. Bisher konnten solche Ansätze jedoch insbesondere auf der Ebene der einzelnen Mitarbeiter keinen nachhaltigen Erfolg zeigen. Pilotanwendungen zum Suchen und Finden von Experten kämpfen auf Dauer neben sozialen und organisationalen Barrieren immer wieder mit veralteten oder mit unvollständigen bzw. nicht in der für den potentiellen Nutzer relevanten Weise beschriebenen Datensätzen.

Traditionell werden Kompetenzmanagementansätze als Top-Down-Instrumente betrachtet, bei denen in der Regel eine kleine Expertengruppe einen zentralisierten Kompetenzkatalog, der als Vokabular u.a. für die Mitarbeiterprofile verwendet wird, in unregelmäßigen Zeitabständen (für gewöhnlich >1 Jahr) pflegt. Bei der Anwendung des Kompetenzkatalogs stoßen die Mitarbeiter häufig auf das Problem, dass sie die Bedeutung der Kompetenzbegriffe nicht verstehen können (da sie nicht in

den Modellierungsprozess eingebunden waren) und sie nicht die für sie relevanten Themen finden (was insbesondere für neu aufkommende Themen zutrifft) [1,2].

Ebenso problematisch ist häufig auch die Erstellung und Pflege der individuellen Mitarbeiterprofile selbst. Hierfür werden meist Ansätze zur Selbstbewertung oder zur Fremdbewertung durch Vorgesetzte oder formale Bewertungsverfahren angewandt. Wohingegen letzteres sehr teuer und mühselig ist, scheitert die Selbstbewertung häufig an mangelnder Motivation, die auf den fehlenden unmittelbaren Nutzen für den Mitarbeiter zurückgeführt werden kann [3]. Die Systeme sind kaum in die alltäglichen Arbeitsaktivitäten eingebettet und so umfassen diese Profile oft nicht die Informationen, die für andere Kollegen relevant sind. Sehr neue oder spezialisierte Themen können nicht verwendet werden, da sie im Kompetenzkatalog aufgrund der großen Intervalle zwischen den Aktualisierungen nicht enthalten sind.

Der Ansatz des kollaborativen Kompetenzmanagements bindet alle Mitarbeiter ein und lässt sie teilnehmen. Die Basis hierfür bildet das sog. „People Tagging", d.h. die Mitarbeiter taggen sich gegenseitig mit Themen, die sie mit der jeweiligen Person assoziieren. Dies wird durch Methoden der Community-gestützten Ontologieentwicklung ergänzt, mit denen Mitarbeiter den Kompetenzkatalog ständig weiterentwickeln und ihren Bedürfnissen anpassen können.

Die Kernidee unseres Ansatzes ist, dass Kompetenzmanagement nicht vollständig ohne ein vereinbartes Vokabular (oder Ontologie), d.h. dem Kompetenzkatalog, und damit verbunden ein gemeinsames Verständnis darüber, auskommt. Und dass dieser Katalog (zusammen mit dem Verständnis) kooperativ und eingebettet in die tatsächliche Nutzung entwickelt werden muss (z.B. während des Tagging anderer Mitarbeiter). Gleichzeitig betrachten wir Mitarbeiterprofile nicht nur als Selbstbeschreibung, sondern vielmehr als Ergebnis kollektiver Beurteilung anderer.

2. Der Ansatz: Kollaboratives People Tagging

Unser leichtgewichtiger Ansatz basiert auf dem Kollaborativen Tagging als Grundprinzip, um Informationen über Personen innerhalb und außerhalb des Unternehmens (wenn und wo relevant) zu sammeln: jeder Mitarbeiter kann die Expertise und Interessen seiner Kollegen mit Schlüsselwörtern auf einfache Art und Weise taggen und beschreiben. Auf diese Weise erhalten wir eine kollektive Betrachtung der vorhandenen Fähigkeiten und Kompetenzen. Das Wissen kann innerhalb des organisationalen Kontexts auf einfache Weise gemeinsam geteilt und das Gewahrsein um „Wer Weiß Was" vergrößert werden.

Diese Tagging-Informationen können dann zur Suche nach Ansprechpartnern in einer bestimmten Situation genutzt werden, aber auch für zahlreiche darüber hinaus gehende Zwecke. Zum Beispiel werden für die Personalentwicklung ausreichend Informationen über Bedarfe (wie sie etwa aus den Suchanfragen ermittelt werden können) und derzeitige Fähigkeiten der Mitarbeiter benötigt, um richtige Entscheidungen über erforderliche Weiterbildungsmaßnahmen treffen zu können.

3. Die Grundlage: Kollaborative Entwicklung eines gemeinsamen Verständnisses

Wenn wir über die Lenkung und Steuerung durch das Unternehmen nachdenken, so ist damit auch ontologisches Wissen verbunden: Wissen, wie man beschreibt, was andere tun, was sie wissen oder woran sie interessiert sind. Solch ein (gemeinsam geteiltes) Vokabular wird benötigt, um das Wissen über Einzelne in einem kollektiven „Portfolio“ aggregieren zu können, das dann mit der Unternehmensstrategie und erwarteten zukünftigen Entwicklungen abgeglichen werden kann, um daraus ggf. Interventionsmaßnahmen abzuleiten.

In der Vergangenheit wurde dies unter dem Label des Kompetenzmanagements mit einem zentralisierten Kompetenzkatalog als kontrolliertes Vokabular, der von einer Expertengruppe gepflegt wird, adressiert. Wie in [4] zusammengefasst, misslang es diesen Ansätzen, ihren Erwartungen gerecht zu werden. Vor allem weil das kontrollierte Vokabular selten zu einem gemeinsam geteilten und gelebten Vokabular wurde – das Resultat der Loslösung des ontologischen Wissens von der Entwicklung des kollektiven Wissens über die Personen.

Wir benötigen also eine kontinuierliche Entwicklung eines gemeinsamen Vokabulars. Kompetenzen haben für gewöhnlich eine integrative Funktion im Unternehmen. Sie bringen die strategische und die operationale Ebene und Aspekte der Personalentwicklung und des Leistungsmanagements zusammen. Das bedeutet, dass diese Begrifflichkeiten von der ganzen Organisation (im Idealfall) geteilt werden müssen: In der Konsequenz können wir das nicht ohne ein gemeinsam geteiltes und gelebtes Vokabular erreichen – ein Vokabular, das die Mitarbeiter in dessen Nutzung, das heißt während der Tagging- oder Suchprozesse, weiter entwickeln.

Das hierfür von uns entwickelte Modell der Ontologiereifung [4] operationalisiert diese kollaborative Sicht auf die Entwicklung eines solchen Vokabulars (Kompetenzontologie) und damit einhergehend eines gemeinsamen Verständnisses und strukturiert diesen Prozess in vier charakteristische Phasen: 1) *Entstehen von Ideen*, wobei sich die Mitarbeiter mit beliebigen Themen-Tags annotieren und dadurch neue Themenideen entstehen, 2) *Konsolidierung in Communities*, wobei sich aus der kollaborativen (Wieder-)Verwendung der Themen-Tags eine gemeinsame Thementerminologie (Folksonomy) entwickelt, 3) *Formalisierung*, wobei in „Aufräumaktionen“ u.a. durch das Hinzufügen von hierarchischen oder auch ad-hoc Relationen zwischen Themen-Tags die Thementerminologie in wohldefinierte Kompetenzen strukturiert wird, 4) *Axiomatisierung*, wobei u.a. abstrakte Kompetenzen in Kompetenzen mit unterschiedlichen Niveaus ausdifferenziert und präzise Generalisierungs- und Kompositionsrelationen hinzugefügt werden.

4. Werkzeugunterstützung: SOBOLEO für People Tagging

Mit den Werkzeugen des webbasierten SOBOLEO Systems[1] können Mitarbeiter sich gegenseitig mit Konzepten aus dem gemeinsamen Vokabular taggen. Die primäre

[1] http://tool.soboleo.com.

Idee ist, dass man eine Person über deren persönliche Webseite taggt. Hierfür steht ein Bookmarklet-basiertes Tagging-Werkzeug zur Verfügung (siehe Abbildung 1), das obenauf von existierenden Mitarbeiterverzeichnissen im Intranet oder sozialen Netzwerk-Seiten genutzt werden kann. Stößt der Nutzer nun z.B. auf die Webseite eines Kollegen, so kann er diese über einen Klick auf das Bookmarklet im Browser einfach dem Verzeichnis hinzufügen und sie mit Konzepten aus dem gemeinsamen Vokabular taggen. Personen, für die keine Webseite zur Verfügung steht, können auch direkt dem System hinzugefügt werden. Jede Person, die wenigstens ein Mal annotiert wurde, wird in SOBOLEO durch eine eigene Profilseite repräsentiert und kann auch dort direkt getaggt werden.

Beim Tagging wird der Nutzer durch Vorschläge für mögliche Tags auf Basis des vorhandenen gemeinsamen Vokabulars und des Inhalts der Webseite der Person unterstützt. Im Falle, dass die vorhandenen Konzepte das gewünschte Thema nicht abdecken (z.B. weil es zu spezifisch oder neu ist), können die Mitarbeiter ein existierendes Konzept anpassen oder einfach einen neuen Begriff, ohne eine bisher einstimmige Bedeutung, verwenden. Diese neuen Begriffe werden automatisch als „prototypische Konzepte“ in das gemeinsame Vokabular eingefügt und spiegeln auf diese Weise wider, dass noch nicht geklärt ist, in welchem Verhältnis diese zu den existierenden Konzepten stehen.

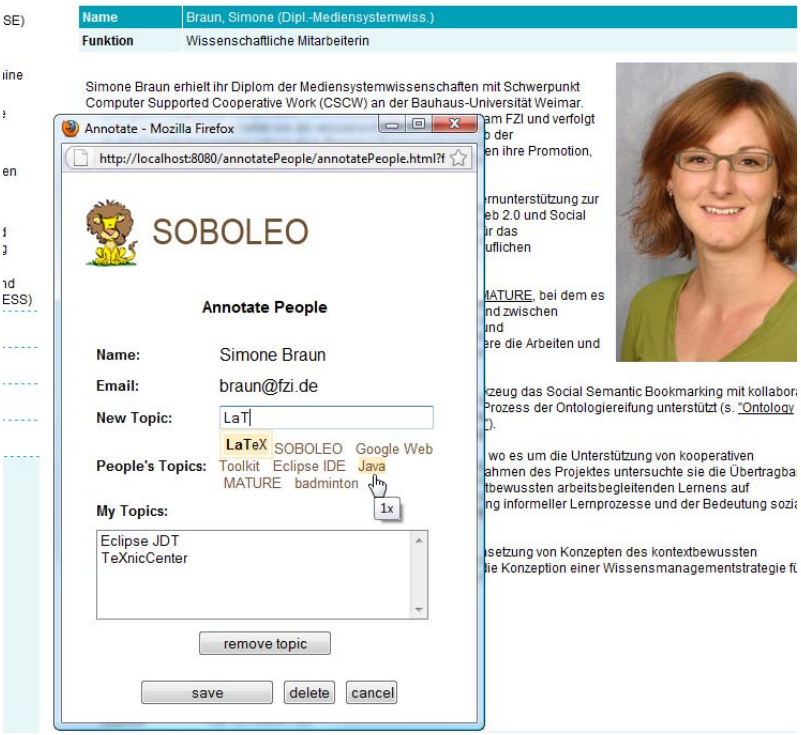

Abb. 1. Tagging einer Person über deren Webseite mittels des SOBOLEO Tagging-Werkzeugs

Im Rahmen des kollektiven Aufräumens („gardening“) können diese Begriffe schrittweise formalisiert und aggregiert werden, so dass dort, wo z.B. für organisationale Auswertungen erforderlich, Kompetenzen definiert werden können. Hierfür steht ein leichtgewichtiger und browser-basierter Editor für Kompetenzontologien auf Basis des SKOS Formats [5] zur Verfügung (siehe Abbildung 2). Als ein leichtgewichtiger Formalismus, ist SKOS relativ einfach für Nicht-Modellierungsexperten zu verstehen und erlaubt mit halbformalisierten Domänen zu arbeiten. So können Konzepte mit hierarchischen oder als ähnlich gekennzeichnete Relationen strukturiert werden und einen (mehr-wörtigen) bevorzugten Bezeichner, eine Beschreibung sowie eine Vielzahl an alternativen Bezeichnern in mehreren Sprachen haben. Der kollaborative Editor kann von mehreren Nutzern gleichzeitig verwendet werden. Änderungen sind sofort für alle Nutzer und die Ontologienutzung sichtbar und wirksam.

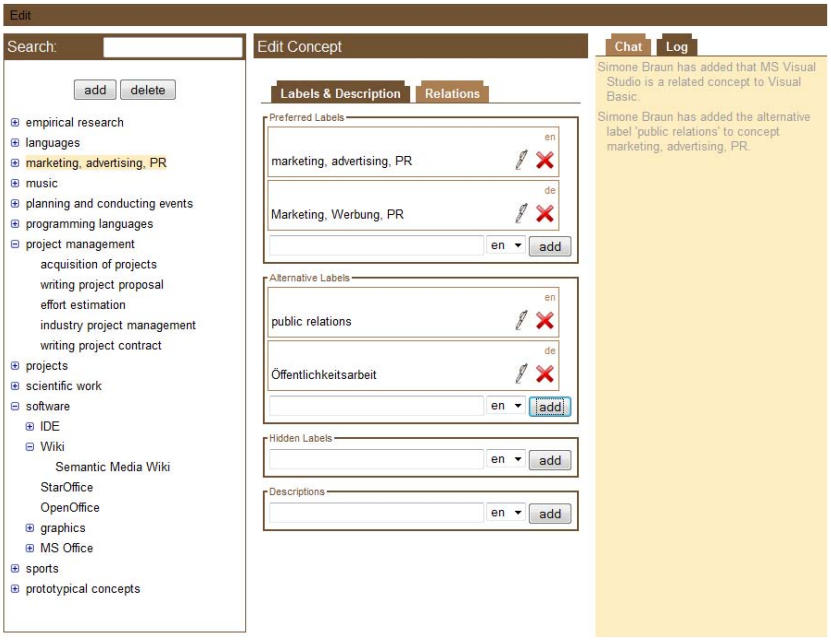

Abb. 2. Echtzeit-Ontologieeditor zur kollaborativen Entwicklung der Kompetenzontologie

Das Vokabular wird ebenfalls als Hintergrundwissen zur Unterstützung der Suche oder explorativen Navigation genutzt (siehe Abbildung 3). Das bedeutet, dass die Nutzer das Retrieval verbessern können, indem sie Vokabularinformationen hinzufügen und verfeinern. Zum Beispiel, wenn die Nutzer Einträge in den Suchergebnissen aufgrund von fehlenden Relationen zwischen Konzepten vermissen, können sie diese einfach hinzufügen. Auf diese Weise kann eine kollaborative und inkrementelle in-situ Revision und Verbesserung erreicht werden. Systemhinweise und -vorschläge für Aufräum- und Verbesserungsmöglichkeiten unterstützen die Konvergenz hin zu einem gemeinsamen, gelebten Vokabular.

Abb. 3. Semantische Suche zum Finden von Ansprechpartnern

5. Schlussfolgerungen und Ausblick

Erste Evaluationsstudien des People Tagging Ansatzes im Rahmen des Projekts MATURE[2] sind vielversprechend und haben gezeigt, dass People Tagging von den Nutzern im allgemeinen akzeptiert und als nützlich angesehen wird. Allerdings zeigt sich auch, dass neben den rein technischen Aspekten auch das gesamte sozio-technische System betrachtet werden muss. Es kann keine Einheitsversion passend für alle Anwender geben, da es von der organisationalen und Teamkultur abhängt, welche Aspekte des People Taggings als willkommen und welche als befremdlich angesehen werden.

Dies führte uns zur Entwicklung eines konzeptuellen Gestaltungsrahmenwerks, in welchem wir grundlegende Gestaltungsmaßnahmen identifiziert haben, die für jede Instanz des People Tagging Systems unternehmensspezifisch angepasst werden können. Hierzu gehören Gestaltungsmaßnahmen wie z.B. wer kann vergebene Tags zu einer Person sehen? Müssen sie von der annotierten Person freigegeben werden bzw. kann sie unerwünschte Tags löschen? Welche Arten von Tags sind erlaubt? Nur fachliche oder auch nicht-fachliche? Wie gehen Häufigkeit oder Vergabezeitpunkt von Tags in die Suchheuristiken ein? Im Rahmen eines Piloten werden derzeit

[2] http://mature-ip.eu.

Antworten auf diese Fragen systematisch im Zusammenhang mit dem Organisationskontext geklärt.

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Social Software, Wikinomics & Co: Fitness-Programm für Organisation, Kultur und Kommunikation von Unternehmen

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„Dax 30-Unternehmen nutzen Social Media nur halbherzig“ [1], „Dax 30-Unternehmen experimentieren im Web 2.0“ [2] – so wurden Berichte über zwei Befragungen der DAX-30-Konzerne überschrieben, die die Fachhochschule Mainz und die Agentur PR-COM unlängst durchführten. Im Ergebnis stellten beide Untersuchungen unisono einen zögerlichen Umgang der Unternehmen mit den „Mitmach-Medien“ fest.

Die für die Untersuchungen Verantwortlichen machten sich folgenden Reim auf die Befunde: „Kontrollverlust im Netz, Angst vor der unbekannten Masse der weltweiten User und das Unvermögen, Vorteile der Onlinewelt mit den Nutzern erwartungsgerecht zu teilen“ seien die Hauptgründe, „gar nicht oder nur vorsichtig im Netz zu experimentieren", erklärte Lothar Rolke, der für die die Untersuchung der Mainzer Fachhochschule verantwortlich zeichnete. Und er warnte vor einer „Verweigerungshaltung“, die den zurückhaltenden Firmen Reputationsverlust und Markenschwächung bescheren würden. Nicht schmeichelhafter fiel die Interpretation der Daten seitens des PR-COM-Geschäftsführers Alain Blaes aus: Sie verwiesen auf einen „langen Selbstfindungsprozess“, auf „Lethargie“, die der Realisierung wirtschaftlicher Potenziale im Weg stünden.

Lässt man die harschen Töne dieser kritischen Interpretationen außer Acht, ist die diagnostizierte Zögerlichkeit im Umgang mit sozialen Medien in der deutschen Unternehmenslandschaft dennoch nicht zu übersehen. Sie verweist darauf, dass die Tragweite der Einbindung dieser Medien sehr genau bekannt ist. Man glaubt zu wissen, dass – nutzt man soziale Medien angemessen – man einen Geist aus der Flasche lässt, der das Zeug dazu hat, das Unternehmen grundlegend und irreversibel zu verändern, in seinen Organisationsstrukturen, seiner Kultur und seiner Kommunikation.

Angesichts dessen ist eine abwartende Haltung sehr nachvollziehbar – es steht einfach viel auf dem Spiel: der Verlust bewährter Strukturen und Interaktionsweisen, die zu entwickeln viel an Kraft und Ressourcen gekostet haben und die auch die Unternehmen auf ihren Märkten erfolgreich werden ließen. Soll dieses Bewährte auf den Prüfstand kommen, müssen die Potenziale sozialer Medien geifbar werden, die sie im Blick auf die Organisation, die Kultur und die Kommunikation zu entfalten versprechen.

1. Organisation

Das Social Web ist ein Kind, das Unternehmen hervorgebracht bzw. deren Entwicklung sie begünstigt haben. Sein Aufstieg verdankt sich wirtschaftlichen, technologischen und gesellschaftlichen Entwicklungen seit Beginn der 90er Jahre des letzten Jahrhunderts. Als Treiber der „Google-Gesellschaft“ fungierten Deregulierung und Internationalisierung, technologische Innovationen und die weltweite Verbreitung von Internetzugängen: sinkende Zugangsschranken, immer einfacher handzuhabende Software und Engeräte machten das Social Web global so populär, dass es nahezu alle Lebensbereiche durchdringt – und damit auch den Unternehmen ihren Stempel aufzudrücken im Begriff ist [3].

Damit treffen Unternehmen auf Auswirkungen von Entwicklungen, die sie auf die Märkte brachten und bringen. Diese Auswirkungen gruppieren sich um Begriffe wie „Enterprise 2.0“ und „Open Innovation“. Die damit bezeichneten Programme verlangen nach ergebnisoffener Prüfung und nach Antworten.

Unter den Stichworten „Enterprise 2.0“ und „Open Innovation“ wird ein grundlegender Erneuerungsprozess verstanden. Während Open Innovation auf eine erhöhte Innovationsdynamik durch die Vernetzung mit externen Kompetenzen abhebt, verbindet sich der Begriff Enterprise 2.0 mit einer interaktiven Wertschöpfung, die der mithilfe von Social Software zum „Prosumenten“ („Produzenten-Konsumenten“) mutierte Konsument maßgeblich mitgestaltet.

Dieses „Heranrücken“ von Stakeholdern und externer Fachexpertise realisiert sich in Netzwerken, in denen „auf Augenhöhe“ interagiert wird. Die dadurch entstehende Integration zwischen innen und außen wirkt sich grundlegend positiv auf die Organisation aus, stellt aber auch etablierte Strukturen in Frage. Der Nutzen dieser Infragestellung ist eine erhöhte Innovationsdynamik, die zu höherer Wertschöpfung führt [4; 5].

Die mit Enterprise 2.0 und Open Innovation verbundenen Ansätze sind Teile der „Wiki-Ökonomie“ (auch: „Wikinomics“), die auf den Grundlagen „Offenheit“, „Gleichrangigkeit“, „Teilen“ und „globales Handeln“ beruhen [6].

Mit der Einführung dieser Basics ins Unternehmen geht eine Neubewertung gewachsener Geschäftsmodelle, Prozesse, Strukturen und Befindlichkeiten, aber auch der etablierten Innovationsfähigkeit einher. Gleichzeitig enthalten die Werte der Netzökonomie das Versprechen, auf grundlegende Unternehmensziele und -werte einzuzahlen – ein Versprechen, dessen Potenzial gerade im Hinblick auf die Erkenntnisse und Folgen der Wirtschafts- und Finanzkrise getestet werden sollte. Wenn organisationale Um- und Neugestaltung ohnehin gefragt ist, wenn die Innovierung von Produkten, Abläufen und Prozessen im Blick auf Krisenbewältigung und Wetterfestigkeit für die Zeit nach der Krise ohnehin angesagt ist, sollten die – in etlichen Unternehmen bereits gelebten – Werte der Wikinomics nicht außer Acht gelassen werden. Dabei muss die mit der Realisierung dieser Werte herbeizuführende Diskontinuität zum Status quo [7] kein Grund sein, die praktische Prüfung der Wiki-Ökonomie zu unterlassen, auch wenn er vernünftig mit Übergängen gestaltbar ist, wie mittlerweile zahlreich vorliegende Unternehmensbeispiele aufzeigen [6].

2. Kultur

Social Media beansprucht, der ganzheitlichen Gestaltungsintention zur Folge, auch die Unternehmenskultur zu beeinflussen. Unternehmenskultur hat folgende Ausprägungen, wie Schmidt [8] im Rekurs auf die breite Diskussion zusammengestellt hat:

- Unternehmen sind Kultur, haben Kultur und machen Kultur,
- Unternehmenskultur entsteht eigenständig unter den Unternehmensmitgliedern – durch erfolgreiche Lösungen innerer und äußerer Probleme,
- Unternehmenskultur wird beobachtet und beschrieben, gestaltet bzw. verändert,
- Unternehmenskultur ist inhaltlich positiv besetztes, erfahrungsbasiertes Wissen und Wahrnehmung, welches Denken, Fühlen und Handeln aller Unternehmensmitglieder maßgeblich bestimmt und in Zeichen und Symbolen sichtbar wird,
- Unternehmenskultur kann sich durch Ausdifferenzierung zu kreativitätssteigernden Subkulturen entwickeln,
- Unternehmenskultur steuert das Verhalten der Unternehmensmitglieder und sorgt auf hohem positiven Emotionslevel für Systemerhaltung – durch Integration, Koordination, Motivation und Koordination.

Insbesondere die Grundlagen der Wiki-Ökonomie (Offenheit, Gleichrangigkeit und Teilen) korrelieren mit wesentlichen unternehmenskulturellen Ausprägungen und beanspruchen, diese zu intensivieren. Darüber hinaus spricht man den Social Media-Werten „Peer to Peer“, „Partizipation“, „Konvergenz“ und „Transparenz“ eine Wirkung zu, die Unternehmenskultur (re)vitalisiert bzw. nachhaltig innoviert, wenn nicht gar zur „Social Media-Kultur“ macht, die sich dann zur „Social Media-Haltung“ strukturiert [9].

3. Unternehmenskommunikation

Kommunikation gilt als zentrale Unternehmensaufgabe, als Erfolgsfaktor und als Werttreiber. Besonders bei elementaren Veränderungsprozessen des Unternehmens (etwa Fusionen oder Standortveränderungen) spricht man der Unternehmenskommunikation hohe Bedeutung zu. Diese ist unter den Vorzeichen der wachsenden Bedeutung des Social Web noch einmal wichtiger geworden, weil selbstbewusste(re) Stakeholder in neuen Dialogformen und -erwartungen über und mit Unternehmen kommunizieren. Sie erwarten in aller Regel weniger Information und mehr Austausch „auf Augenhöhe“, erwarten vertrauensvollen Austausch und die Akzeptanz ihrer Perspektiven und Interessen.

Die Dynamik der Netzkommunikation hat dafür gesorgt, dass es auch hierzulande unstrittig ist, dass „alle Konstituenten der Unternehmenskommunikation von dem Wandel der Kommunikationsbeziehungen im Web und ihren Auswirkungen auf das Kommunikationsmanagement betroffen sind“ [10, p. 473] oder gar von einem Paradigmenwechsel gesprochen werden muss, in dessen Folge Rahmenbedingungen,

Inputs und Mechanismen der Kommunikation sich tiefgreifend ändern. Diese neue Phase der Unternehmenskommunikation wird auch als „Cluetrain-PR“ bezeichnet, die ihren Bezugsrahmen in der „Google-Welt“ findet, dort, wo sich mehr und mehr relevante Stakeholder aufhalten [11].

Diesen Gegebenheiten strukturieren die Cluetrain-Kommunikation: Sie ist dialog- und netzwerkorientiert und beschäftigt sich in zweierlei Hinsicht mit Social Software: Sie hört den Gesprächen der digitalen Meinungsmärkte zu und macht Vorschläge für Strategien des Umgangs mit den sich hier abzeichnenden Chancen und Risiken. Entsprechend der im Netz üblichen Annahmewahrscheinlichkeiten von Kommunikationsofferten wandelt sich die Rolle des Öffentlichkeitsarbeiters vom Agenda Setter, der (im Verbund mit dem Journalisten) Themen lanciert, zum Enabler, der Unternehmensmitarbeiter befähigt, netzaffin zu kommunizieren. „Die PR-Abteilung erhält damit die Aufgabe, Kommunikation nicht mehr in jeder Hinsicht zu kanalisieren bzw. zu kontrollieren, sondern im Sinne der Organisation zu ermöglichen“ [11]. Mitarbeiter als Multiplikatoren im Netz zu qualifizieren, dazu soll PR befähigen.

Dieser Rollen- bzw. Funktionswechsel der Kommunikation der Unternehmen unter den Vorzeichen von Web 2.0 sorgt zugleich für eine verstärkte Kohärenz zwischen Unternehmenskommunikation und Unternehmenskultur: Sie wächst, wenn im Kommunikationsprozess die Eigenständigkeit und Legitimität der Position des Partners anerkannt, eine Vertrauensbasis hergestellt und Raum für Involvement und Interaktivität hergestellt wird [8].

4. Fazit

Ist Social Media ein Fitness-Programm für Struktur, Kultur und Kommunikation der Organisation? Die Frage kann nach einer knappen Sichtung bejaht werden: Die Instrumente der Wiki-Ökonomie sind Kinder der klassischen Ökonomie und offerieren den „Return of Investment“, indem Sie global verfügbare Techniken und Werte zur Verfügung stellen, die in hohem Maße mit unternehmerischen Zielen und Intentionen korellieren. Die Aussicht auf Realisierung von Innovierungspotenzialen in Produktion, Prozessen und Strukturen erscheint es wert, der Netzökonomie unter Hintanstellung entwicklungshemmender Organisationsstrukturen eine Chance zu geben – gerade unter den gegebenen Bedingungen der globalen Ökonomie.

Auch die Werte der Unternehmenskultur erfahren mit der Einführung der Wikinomics eine Stärkung. Gerade deren Basis-Werte „Offenheit“, „Gleichrangigkeit“ und „Teilen“ zahlen unmittelbar auf die unternehmenskulturellen Kernfunktionen „Motivation“ und „Integration“ ein; „Offenheit“ und „Teilen“ entwickeln und stabilisieren die positiven Emotionen, die ein Gutteil unternehmenskultureller Steuerungsfähigkeit ausmachen.

Schließlich aktiviert der Dialog mit und über soziale Medien die berufsprofessionellen Potenziale der Akteure der Unternehmenskommunikation. Sie sind angehalten, sich neue Kompetenzen im und für den Dialog mit der sprunghaft wachsenden Zahl netzaffiner Stakeholder anzueignen. Diese gemeinsam mit KollegInnen zur Entwicklung der digitalen Reputation des Unternehmens zu nutzen,

kann das Unternehmen in ungeahnter und businessrelevanter Weise im Bewusstsein des „Meinungsmarktes“ verankern.

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