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ABSTRACT

Widely discussed in the media, Web 2.0 systems have drawn the attention of corporations, many of which now seek to adopt Web 2.0 technologies and transfer its benefits to their organizations. Organizations often struggle with the adoption of information systems, and Web 2.0 systems are certainly no exception. As an empirical foundation, we studied three organizations that successfully adopted Web 2.0 systems. We conducted a narrative analysis of the case study material to produce a process theory for Web 2.0 system adoption. Finally, we compare it to the enterprise system experience cycle of Markus and Tanis (2000). Our results indicate that the adoption of Web 2.0 systems differs from larger enterprise system adoption projects. This is rooted in the lower implementation and maintenance costs as well as lower technical complexity of Web 2.0 systems. Furthermore, its voluntary characteristics lead to an adoption process that focuses mainly on convincing users of its benefits.

Keywords

Social software, IS adoption, IS adoption success, process theory.

INTRODUCTION

As Web 2.0 technologies have developed from novel innovations to generally accepted tools, they have begun to shape the way we communicate and collaborate. In the public sphere, the impact of Web 2.0 systems has led many organizations to invest in them in order to facilitate interaction and knowledge work (Wagner and Majchrzak, 2007; Young, 2007). Yet, in spite of the growing interest, many firms report significant problems with the implementation and acceptance of Web 2.0 technologies (Bughin, Manyika and Miller, 2008).

The problems associated with the effective deployment of new technologies have long been a concern for information systems (IS) practitioners and researchers. Stories of technologies that had great potential, but ultimately failed to meet early expectations, are common. In response, researchers have studied areas such as the structure and challenges associated with organizational adoption (Hwang, 2005; Markus and Tanis, 2000; Thong, 1999), the role of organizational values in system adoption (Hong and Kim, 2002; Srite and Karahanna, 2006), and techniques for managing new technology adoption (Angst and Agarwal, 2009; Markus and Tanis, 2000; Tan and Teo, 2000). Hence, there is a wealth of practical knowledge and rigorous research on which enterprises can draw to inform their efforts to manage the deployment of information systems.

Prior work on the adoption and deployment of enterprise systems provides a potential framework for managing corporate Web 2.0 efforts. Like traditional enterprise systems, Web 2.0 systems are subject to fundamental pressures that favor widespread deployment. The larger the population of active users is, the greater are the benefits for both individual users and the organization as whole. Similarly, the larger the population of potential users, the more likely it is that a Web 2.0 system will achieve the critical mass needed for it to be sustainable. These network externalities, which are central to the functioning of Web 2.0 systems, imply that these technologies' benefits can be most effectively realized if they are deployed enterprise-

wide. This suggests that prior studies on and practices regarding enterprise system deployment are likely to be a useful foundation for managing Web 2.0 initiatives.

However, while Web 2.0 systems are in some ways comparable to existing enterprise systems, they differ significantly from traditional organizational systems in other ways. The adoption of large-scale enterprise systems, such as enterprise resource planning (ERP) or customer relationship management (CRM) infrastructures, is typically accompanied by disruptive changes in revenue-critical tasks and large investments in organizational resources. Enterprise system adoption often requires significant changes to business processes, structures, and formal roles. Process-oriented enterprise systems are typically implemented as the sole mechanisms for performing critical tasks and are consequently both officially and practically mandatory for users (Hong and Kim, 2002; Hwang, 2005; Markus and Tanis, 2000). In contrast, Web 2.0 technologies are subject to different requirements and are used in fundamentally different ways. The technologies underlying Web 2.0 systems tend to be less complex and more general; hence, the upfront investment required is lower. While they may have the potential to transform organizations, Web 2.0 technologies are more likely to be implemented as tools to complement existing work practices and structures. Unlike process-oriented enterprise systems (the use of which is often mandatory), the use of Web 2.0 systems – with their emphasis on supporting individual and groups' idiosyncratic communication and collaboration activities – is more likely to be either officially or practically voluntary. In addition, enterprise systems are single-sided. Such systems offer services and data, which users then consume to employ them in their work practices. Conversely, Web 2.0 is a two-sided *market*, where users both consume and offer data, leading to an entirely different dynamic. Web 2.0 applications are comparable to bazaar-style open source development (Raymond, 1999) in which many people incessantly and simultaneously work on different topics of interest while acting both as consumers and providers. Thus, while Web 2.0 initiatives are in some ways similar to enterprise systems, critical differences raise questions regarding whether (and how) existing organizational deployment frameworks apply. Some prior work has addressed these issues, as they relate to smaller-scale, less expensive groupware systems (Grudin, 1994; Palen and Grudin, 2003). However, while practitioners and researchers expect Web 2.0 to face similar challenges, few studies have examined the processes of Web 2.0 technologies' deployment in companies (Efimova and Grudin, 2007; Jackson, Yates and Orlikowski, 2007; Kosonen, Henttonen and Ellonen, 2007).

In this study, we consider how well concepts drawn from prior studies of organizational system deployment characterize the rollout of corporate wikis and weblog platforms. We use materials from three case studies to examine how well an existing framework, drawn from Markus and Tanis (2000), characterizes the objectives, challenges, and actions involved in the organizational adoption of these Web 2.0 systems. Particular attention is paid to identifying aspects of the deployment processes and the strategies for addressing them, which the previously developed model did not anticipate.

THE ENTERPRISE SYSTEM EXPERIENCE CYCLE

Markus and Tanis (2000) build on the framework by Soh and Markus (1995) by adding a fourth phase (Phase I), which illustrates the project initiation phase. They then apply the model to describe an approach for managing a cycle of enterprise system deployment (Figure 1).
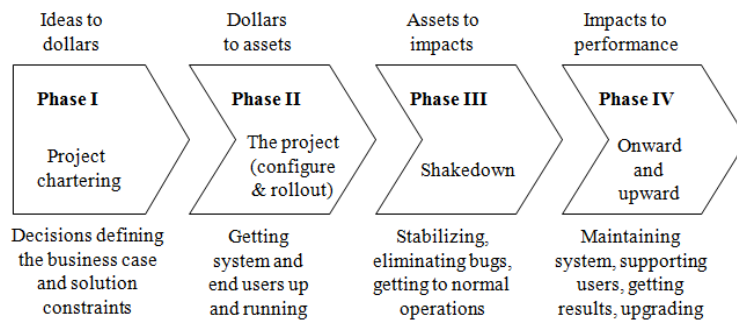
Figure 1. Enterprise System Experience Cycle (Markus and Tanis, 2000)

The four ideal phases in this model include:

I.   The *chartering phase*, which leads to the funding of the information system to be implemented. The major outcome of this phase is a decision on whether or not to proceed with system implementation.

II. The *project phase*, which focuses on having the selected information system implemented in the targeted organizational units.

III. The *shakedown phase* involves the organization "coming to grips" with the software. This phase ends when normal operations have been achieved.

IV. The *onward and upward phase*, in which the organization is finally able to ascertain the benefits of its investment. Finally, the organization can realize whether or not its investment has been a success.

In terms of scope and reach, Web 2.0 systems have much in common with traditional enterprise systems. However, the nature of Web 2.0 technologies, how their uses have emerged in the many prominent success cases, and the way they are used, suggest that they may differ from traditional enterprise systems in critical ways: voluntary (not mandatory) use, a practice and activity (not process) orientation, emergent, adaptive use (vs. planned, structured use), and their roles as complements or competing systems (vs. primary work platforms). In current characterizations of Web 2.0 technologies, these factors raise fundamental questions about the viability of using enterprise system deployment methods to manage the rollout of wikis and weblogs.

BULDING PROCESS THEORY WITH NARRATIVE

Narrative is a fundamental way in which humans express and interpret events that they experience in their environment. It is a way of expressing their cultural and sociological norms, interpreting their own actions and roles, and therefore is a form of self-presentation and expression (Bruner, 1990). In addition to these elements, narrative is also a way of making sense of things. Individuals confronted with changing norms, new environments, or other disruptions redefine their roles and interpretations according to these changes in story (Ramiller, 2001). The introduction of technology in an organization is such a disruption and therefore embraces the most basic elements of a story (Orlikowski, 2000). Following the definition of process theory, narratives may serve as the point of departure by representing a story containing an actor, an action, a goal accomplished by certain means, a specific setting, and with a particular outcome (Ramiller and Pentland, 2009). Narratives may stem from data such as raw text, interview transcripts, or even articles (Pentland, 1999). These narratives may contain up to four levels of depth: the text, the story, the fibula, and the generating mechanisms (Pentland, 1999). Raw text refers to the "particular telling of a story by a specific narrator" that reflects the story told from an individual's perspective (Pentland, 1999, p. 719). From this text, the researcher creates a story that represents the fabula[1] narrated from a specific point of view. In the next step, stories are merged to a generalized fabula built from the story, which represents a set of events and their relationships. Ultimately, one is able to discover the underlying mechanisms (Pentland, 1999; Van de Ven and Poole, 1995). Finally, each narrative must be distinguished, as different types of factual stories may be told: actual, typified, fictional, and hypothetical stories. Actual stories relate what took place in a historic setting. A typical story refers to a generalized form of such a historic event. A fictional story is about a specific event that did not take place, whereas hypothetical stories are generalizations of fictional stories (Reissman, 1993). Concurring with the above statements, we coded our interviews on the basis of a narrative's basic elements: actors, actions, goals accomplished by certain means, settings, and the particular outcomes. Our goal was to identify the underlying mechanisms as well as the organization's norms, culture, and environment.

EXPLORING THE WEB 2.0 EXPERIENCE CYCLE

We use a case-study approach (Bensabat and Goldstein, 1987; Dubé and Paré, 2003; Eisenhardt, 1989; Yin, 2003) to refine and evaluate a model of the Web 2.0 experience cycle. Case materials from three companies that have deployed and are currently using Web 2.0 systems (Table 1) enable us to compare the claims of the enterprise system deployment framework with the challenges faced when implementing Web 2.0 systems as well as suggest modifications to the framework. Our case study sample is conventional in that we did not concentrate on a specific industry. Our unit of analysis is the organization, as we are interested in the adoption process from the organizational perspective. We employed several instruments to gather evidence. Firstly, we used semi-structured interviews to interview the main characters (e.g., project leaders) involved in the adoption of Web 2.0. Secondly, we gathered other material, such as usage logs, presentations, promotion material, and – if possible – the content of the weblogs and wikis.

Upon returning from the field, each case was summarized, which helped us with the final cross-case analysis. Interview transcripts were coded on the basis of basic narrative elements (actors and events). We analyzed the interview transcripts, adapting the coding scheme by Sabherwal and Robey (1995). Four researchers coded the transcripts (as described in Section

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[1] A different set of events and their relationships. For example, how a person was hired: What happened? Who did what?

Three). In the final data analysis, we categorized the action and events in terms of the appropriate phase of the experience cycle (Figure 2), linked events to one another through causal chains, and identified within-case and cross-case patterns. This helped us triangulate our evidence.

	Alpha Corp.	Gamma Corp.	Zeta Corp.
Industry	International provider of power and automation technologies	International development organization	Airport company
Turnover [€]	24,328 m	1,224 m	2,106 m
Employees [FTEs]	120,000	14,000	23,078
System Type	Wiki	Weblog	Wiki

Table 1. Organizational Characteristics

CASE DESCRIPTION

Alpha Corporation

During a 2007 meeting within the communications department of Alpha Corp., a discussion emerged on how communication could be improved within the corporation. The group presented several ideas for the external and internal improvement of communication. One of these projects sought to introduce innovation as well as to attract prospective future employees.

> *"We wanted to become a trend-setter in our industry. Another aspect was the connectedness of our experts, who sometimes don't know one another … The second task of our team was therefore to network these experts."*

As a result, the team discussed several possible solutions and found that the wiki best matched their problem-solution description. It is easy to use and free of form, making it suitable for providing a space for best practice descriptions. Several measures were taken to promote the wiki among the communication department's employees. First and foremost, the project team set up a Web 2.0 conference for the whole corporation in order to raise awareness of these tools' importance for the Internet and for the corporate intranet. At that time, the organization had already started to deploy Web 2.0-like elements in their intranet. Article commentaries, for example, were a new feature that had just been introduced. Intense use was an indication that the deployment of an internal wiki in the communication department would be successful.

Along with the technical steps required to test the wiki, several measures were taken to ensure that it would be well supported. The most important task for the team was collecting information of interest to their target group. Consequently, the project team collected links to important websites and blogs, expert information, and other external sources of interest. Further, a weblog and a newsletter served as a way to discuss news in the wiki. The project team organized a wiki tour in all the German locations, setting up information desks for the wiki. In locations outside Germany, video conferences depicted the purpose and use of the new wiki. The result is that, at present, about 15% of the communication team actively contributes to the wiki, while the rest uses the content. The contributors use the wiki to collaborate on projects, but also employ it as a major repository for frequently used knowledge.

Gamma Corporation

Gamma Corp. is a publicly owned German development organization with branches all over the world. Its Egypt branch had some concerns – expressed through a survey – regarding the intranet's insufficiency. At that time, the content was only published in German, although the organization had a distributed network of sites in foreign countries. In 2004, an Egyptian branch employee, participating in a major innovation project in Egypt and maintaining an own weblog as a personal communication tool, proposed that a weblog should be tested to complement the Egypt branch's intranet. Its capabilities as a one-to-many communication tool with a commenting function seemed tailor-made for a distributed site such as that of Gamma in Egypt. The management agreed to this proposal for two reasons. First, it was involved in an innovation project and needed the contact with and support of all its employees. Second, at that time, all employees could not be easily reached

via e-mail or intranet, as all information had to trickle down to the last person in the information chain. The weblog supported rapid communication; as one interviewee noted:

> *"… the intranet is very much top down. It takes some time until information trickles down the hierarchy. Consequently, much is done via e-mail and we cannot be sure that this information reaches everyone. […] this is why we wanted a horizontal solution."*

In 2005, the Egypt branch therefore decided to implement a weblog as a many-to-many publishing tool, in which everyone had equal rights. The weblog started with five bloggers who populated it with content covering simple press releases, project reports, interesting articles, and announcements concerning Gamma Egypt without involving the whole organization. In late 2005, the weblog officially started a weblog post with the country manager presenting six simple guidelines for blogging with Gamma. One of the bloggers formulated their approach as follows:

> *"Most of the people weren't involved from the beginning … we introduced them step by step. We had several meetings on how we could use the weblog … I think the most important point was that there had been a small group of interested people … The most difficult issue is to achieve a critical mass of weblog entries. If you don't do this, you don't have an interesting story."*

However, when going live, the group encountered some difficulties. Not everyone agreed with the idea of flattening the hierarchy by creating a platform through which every employee could share knowledge. Especially the project managers refused to accept the new platform, complaining about the amount of extra work it involved, and doubting the legitimacy of such a tool's use in a corporation. The project team approached these critics by continuing their strategy of shifting information, such as important dates and announcements, which was usually distributed by e-mail, to the weblog platform.

> *"The country manager always said: 'We will shift from a push to a pull culture,' which means that important announcements are published on the platform and it is everyone's responsibility to check them. The project managers criticized us heavily by saying this is not knowledge management … Six months later, they slowly started to publish their own projects … They recognized that there was an internal public."*

Today, the weblog platform is a widely used tool for information exchange and social exchange. The homepage allows new readers to grasp the idea of blogging by linking to Wikipedia's definition of blogging, the blogging guidelines, and the outline of the weblog's purpose:

> *"This weblog is meant to be a virtual knowledge sharing forum for Gamma Egypt staff; it serves as a platform to discuss topics and present project activities."*

Zeta Corporation

Zeta Corp. is one of the largest international airport businesses, managing several airports worldwide. Founded in the beginning of the twentieth century, Zeta was state owned until 2001. Thereafter, the company went public, triggering its transformation to a global player. In 2006, the chief knowledge officer (CKO) presented new concepts for knowledge management to the vice president of human resources; one of these concepts was an enterprise-wide wiki. All the ideas were evaluated by the employees through an anonymous survey with an open question section. The representative group consisted of 1,100 employees, of whom 700 filled out the survey and wrote a few hundred commentaries. The wiki turned out to be the third most desired element. Six months later, someone in the IT department tasked with its installation.

> *"I had someone in the IT department who had been thinking about this topic for a while and was very keen on carrying it out. He was very exited about being able to say: The CKO has an assignment from the board. Usually such an idea would fail due to [the lack of support] of an IT manager."*

The project started with eight key members, who were chosen because they showed strong interest in the topic. These members, working for the IT, communication and human resources departments, were distributed across the organization. The marketing department was very interested in defining the correct branding for the wiki. Consequently, the IT department worked on a new design that would integrate the wiki into the intranet's corporate design. In order to start with content, the key group decided on a threshold of 500 articles before going live. When writing and collecting articles to populate the wiki, they discovered that some of these articles were identical with previously published intranet articles. After seriously discussing the topic, everyone agreed that the intranet articles should be clearly distinguishable from the contents of the wiki.

When they reached the 500 article threshold, the wiki went live, accompanied by a big promotional campaign, which included flyers, events, intranet news, and training. Users were able to register anonymously, as the project team feared that the organization's hierarchical structure would hinder employees who wanted to alter their seniors' contributions. Day after day, new users joined the wiki, collaborating on articles. Today, the wiki resembles Wikipedia in that it has become a Zeta encyclopedia. However, the wiki also includes articles about various other topics of interest to certain employees. In fact, employees use the wiki to internally publish external information and knowledge they consider of interest for the company. One further challenge at this stage is maintaining employee buy-in. The project team has faced this challenge by setting up two types of incentives. The first incentive are lotteries, of which their Christmas lottery has been the most successful one, reaching unprecedented page hits (as shown in Figure 2).
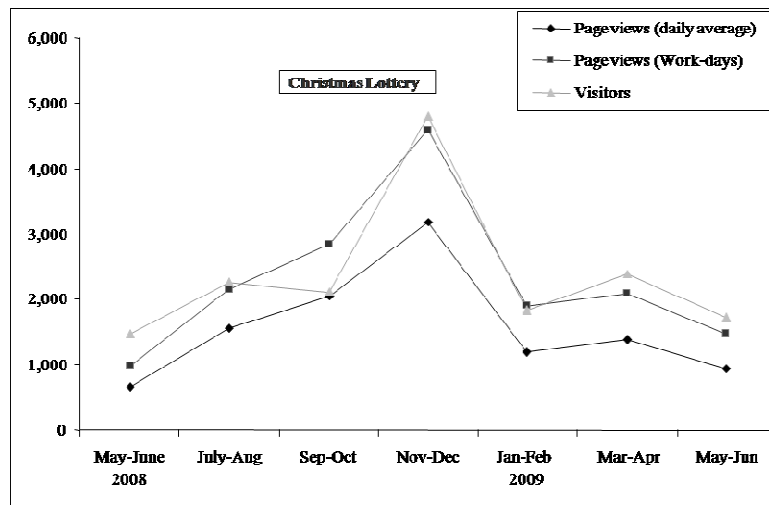

Figure 2. Page Views

A second way to incentivize employees has been to reward great articles. These awards are even added to the winners' personal files. Today, the wiki has become an important part of the intranet, with about 4% of the employees authoring articles, even contributions from executives:

> *"Even the IT vice president writes stuff at times. Somebody even had the courage to revise the article. I think that's just great."*

UNDERSTANDING WEB 2.0 ADOPTION

During the coding process and the subsequent discussions, we identified 212 actions by 43 actors across the three cases (42 actions and 16 actors for Gamma, 76 actions and 11 actors for Alpha, and 94 actions and 16 actors for Zeta). We classified these activities into a three-phase model (as shown in Figure 3). In all three organizations, most of the actions were associated with the *use and impact* phase (132), while the least were found to belong to the *idea* phase (30). This differs significantly from the enterprise system cycle, in which the project phase dominates the process.
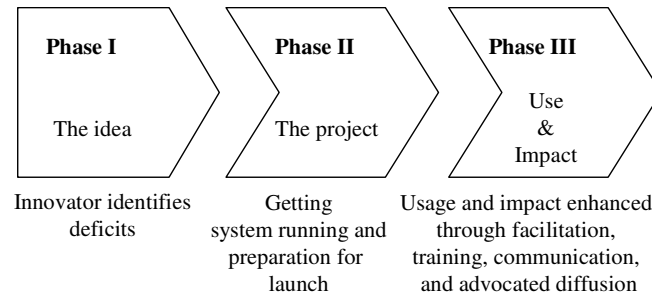
Figure 3. Web 2.0 Experience Cycle

As the three cases demonstrated, every company adopting Web 2.0 encounters different challenges. Various issues may go wrong in each phase, thus preventing progression to the next phase. Mohr (Mohr, 1982) calls this phenomenon the "lack of inevitability." In working towards a comprehensive understanding, we will therefore work backwards to the first phase in the model in pursuit of the ultimate outcome, namely continued diffusion and acceptance as well as improved communication and collaboration. This is necessary, because not achieving this goal (e.g., low diffusion and rejection) would imply a different process theory and suggest that other actions are required in the preceding phases (Mohr, 1982; Soh and Markus, 1995).

This article focuses on the corporate adoption of Web 2.0. The final outcome of the last process step (*use and impact phase*) results in widespread use and impacts that leverage the importance of the content and management acceptance. The necessary conditions for this phase are the development of success measures, management support, and a strong community. The corporate launch should be accompanied by the project team's communication via the intranet, e-mails, flyers, and other organization communication channels. In addition, the project team should demonstrate the new application by illustrating how the system can be used in the daily work environment. Finally, the impacts on and improvements in communication must become evident in order to demonstrate the need for Web 2.0. While these factors are necessary for success, they may not be sufficient, as other factors – such as economic conditions, cultural differences, and management decision processes in other business units – can also affect overall acceptance.

The *use and impact* phase is preceded by the official start and going live of the Web 2.0 system with a clearly communicated purpose and design (the *project* phase). The necessary conditions for the successful outcome are a system that works properly, that is filled with content, and gives users an impression of the software's purpose. Additionally, a group of early adopters needs to be identified to assists the project team in expanding the software's use. Finally, in general, training must be provided for early adopters and users. Factors that could hamper success include technical problems with the integration into the company's infrastructure, the reactions of the workers' union, and rival systems.

Succeeding in the *idea* phase of Web 2.0 adoption is about creating a project team that spreads the idea and properly initiates the project. The necessary conditions include the inclusion of management as well as a clear communication of the idea and goals behind the implementation of the Web 2.0 system. Furthermore, the project team has to make sure that either the employees or the business need Web 2.0. Probabilistic processes include the relationship with the workers' union, which might halt the project before it has even started. Finally, the initiator or the project team presenting the idea of using Web 2.0 also plays a role in illustrating the idea in a way that leads to a budgeted project. Some teams might do this perfectly, others badly. This might lead to starkly different outcomes in the end, only one of which is continued diffusion and acceptance, and improved communication and collaboration.

CONLCUSION

Our case results suggest that the adoption of Web 2.0 differs from other enterprise system adoption projects in important ways. Two notable differences relate to the roles of the business unit managers, upper management, and the IT function as well as the amount of attention paid to the users, data, and technology in the implementation process.

In contrast to the enterprise systems deployment literature, which states that the experience cycle's phases involve the IT department and/or the top executives (Markus and Tanis, 2000; Nah and Delgado, 2006), Gamma and Alpha largely included low-level management in the deployment processes. The IT department did not play a major role in any of the three cases. A possible explanation could be that the initiatives were not established through a top-down business need, but in response to a bottom-up need expressed by the employees. The main difference, however, concerns the involvement of the early adopters

and the project team with the employees. Adoption is a rather conversational process involving personal contact with prospective users in the online conversation. It is accompanied by organizational incentives, such as lotteries, and system incentives, such as building the wiki's reputation.

Furthermore, many activities and problems in the enterprise system experience cycle concern software and hardware configurations as well as data migration. Upon examination, the major activities and problems in our cases relate to the users, the content, and the consequences of use. Consequently, the project team's major task was interaction with employees (i.e. potential users) and did not involve hardware, software, or data. This has some implications for the management of such initiatives. Enterprise systems are implemented by means of a strict implementation plan, as business critical tasks have to be altered. As noted, Web 2.0 tools are a supplement to existing tasks. Consequently, the project teams had to follow a rather agile project management without strict hierarchies. While all the projects had a central project team, the adoption process was a cooperative effort with the community, in which the project team functioned as evangelists.

In these cases, we investigated Web 2.0 adoption in companies, focusing on identifying how and why Web 2.0 systems are deployed. Although preliminary, the results of these cases and the associated framework have the potential to provide practitioners with insights to manage a successful organizational adoption of Web 2.0.

REFERENCES

1. Angst, C. M. and Agarwal, R. (2009) Adoption of Electronic Health Records in the Presence of Privacy Concerns: The Elaboration Likelihood Model and Individual Persuasion, *MIS Quarterly*, 33, 2, 339-371.

2. Bensabat, I. and Goldstein, D. K. (1987) The Case Research Strategy in Studies of Information Systems, *MIS Quarterly*, September, 369-386.

3. Bruner, J. (1990) *Acts of Meaning*, Harvard University Press, Cambridge, MA.

4. Bughin, J., Manyika, J. and Miller, A. (2008) Building the Web 2.0 Enterprise, *McKinsey Quarterly*.

5. Dubé, L. and Paré, G. (2003) Rigor in Information Systems Positivist Case Research: Current Practices, Trends, and Recommendations, *MIS Quarterly*, 27, 4, 597-635.

6. Efimova, L. and Grudin, J. (2007) Crossing Boundaries: A Case Study of Employee Blogging, *Proceedings of the Hawaii International Conference on System Sciences*, Hawaii.

7. Eisenhardt, K. M. (1989) Building Theories from Case Study Research, *Academy of Management Review*, 14, 4, 532-550.

8. Grudin, J. (1994) Groupware and social dynamics: eight challenges for developers, *Communications of the ACM*, 37, 1, 92-106.

9. Hong, K.-K. and Kim, Y.-G. (2002) The Critical Success Factors of ERP Implementation: An Organizational Fit Perspective, *Information & Management* 40, 1, 25-41.

10. Hwang, Y. (2005) Investigating enterprise systems adoption: uncertainty avoidance, intrinsic motivation, and the technology acceptance model, *European Journal of Information Systems*, 14, 2, 151-162.

11. Jackson, A., Yates, J. and Orlikowski, W. (2007) Corporate Blogging: Building community through persistent digital talk, *Proceedings of the 40th Hawaii International Conference on System Sciences (HICSS-40)*, January 3-6, Big Island, Hawaii, USA.

12. Kosonen, M., Henttonen, K. and Ellonen, K.-H. (2007) Weblogs and Internal Communication in a Corporate Environment: A Case from the ICT Industry, *International Journal of Knowledge and Learning*, 3, 4/5, 437-449.

13. Markus, M. L. and Tanis, C. (2000) The Enterprise System Experience — From Adoption to Success, in: *Framing the Domains of IT Research: Glimpsing the Future Through the Past*, R.W. Zmud (ed.). Pinnaflex Educational Resources, Cincinnati, OH: pp. 173-207.

14. Mohr, L. B. (1982) *Explaining Organizational Behavior - The Limits and Possibilities of Theory and Research*, Jossey-Bass Publishers, San Francisco.

15. Nah, F. F.-H. and Delgado, S. (2006) Critical success factors for enterprise resource planning implementation and upgrade, *Journal of Computer Information Systems*, Summer, Special Issue, 99-114.

16. Orlikowski, W. J. (2000) Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organizations. *Organization Science*, 11, 4, 404-428.

17. Palen, L. and Grudin, J. (2003) Discretionary Adoption of Group Support Software: Lessons from Calendar Applications, in: *Implementing collaboration technologies in industry* B.E. Munkvold (ed.). Springer-Verlag, London, UK.

18. Pentland, B. T. (1999) Building Process Theory with narrative: From description to explanation, *Academy of Management Review*, 24, 4, 711-724.

19. Ramiller, N. C. (2001) "Airline Magazine Syndrome": Reading a myth of mismanagement, *Information Technology & People*, 14, 3, 287-304.

20. Ramiller, N. C. and Pentland, B. T. (2009) Management Implications in Information System Research: The Untold Story, *Journal of Management Information Systems*, 10, 6, 474-495.

21. Raymond, E. (1999) The cathedral and the bazaar, *Knowledge, Technology & Policy*, 12, 3, 23-49.

22. Reissman, C. K. (1993) *Narrative Analysis*, Sage, Newbury Park, CA.

23. Sabherwal, R. and Robey, D. (1995) Reconciling Variance and Process Strategies for Studying Information System Development, *Information Systems Research*, 6, 4, 303-327.

24. Soh, C. and Markus, M. L. (1995) How IT creates business value: A process theory synthesis, *Proceedings of the sixteenth International Conference on Information Systems*.

25. Srite, M. and Karahanna, E. (2006) The Role of Espoused National Cultural Values in Technology Acceptance, *MIS Quarterly*, 30, 3, 679-705.

26. Tan, M. and Teo, T. S. H. (2000) Factors influencing the adoption of Internet banking, *Journal of the AIS*, 1, 1.

27. Thong, J. Y. L. (1999) An integrated model of information systems adoption in small businesses, *Journal of Management Information Systems*, 15, 4, 187-214.

28. Van de Ven, A. H. and Poole, M. S. (1995) Explaining development and change in organizations, *Academy of Management Review*, 20, 3, 510-540.

29. Wagner, C. and Majchrzak, A. (2007) Enabling Customer-Centricity Using Wikis and the Wiki Way, *Journal of Management Information Systems*, 23, 3, 17-43.

30. Webster, J. and Watson, R. T. (2002) Analyzing the past to prepare for the future: Writing a literature review, *MIS Quarterly*, 26, 2, xiii-xviii.

31. Yin, R. K. (2003) *Case Study Research*, Sage Publications, Thousand Oaks, London, New Delhi.

32. Young, O. G. (2007) Global Enterprise Web 2.0 Market Forecast: 2007 To 2013, *Forrester Research.*