A Systematic Success Factor Analysis in the Context of Enterprise 2.0: Results of an Exploratory Analysis Comprising Digital Immigrants and Digital Natives

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Abstract. Organizations are increasingly investing in social collaboration and communication platforms for integrated exchange of information within and between enterprises. These Enterprise 2.0 projects always have a deep impact on organizational and cultural changes and need a critical mass of user involvement across all different groups. Users that grew up in the digital age and use new forms of collaborative platforms within their daily activities are often more technologically adept and more willing to share information. This leads to a digital divide between Digital Natives and Digital Immigrants, which needs to be addressed within such projects. The main objective of this paper is to investigate the perceived differences in success factors for Enterprise 2.0 seen by Digital Natives and Digital Immigrants and its implications on the implementation of a process oriented methodology for Enterprise 2.0 projects.

Keywords: Success Factor Analysis, Process orientation, Innovation Management, Enterprise 2.0, Technology Experience, Digital Immigrants, Digital Natives.

1 Introduction

Effective collaboration of organizations cooperating in a flexible business network is one of the competitive advantages on the global market [12] and is especially important in today's challenging economic situation [11]. Globalization has caused a significant shift in business processes, from static solutions to flexible processes that can address rapidly changing business needs, also considering virtual supply chains, where business partners change seamlessly as new business opportunities arise [1]. The term "Enterprise 2.0" is defined in this context as the use of interactive and collaborative Web 2.0 concepts and technologies within and between enterprises [20]. The focus of this research lies on the shift of user paradigms of Web 2.0 concepts and technologies like blogs, wikis, tagging, rating, social networking, etc. which provide the foundation for user-generated content [25]. This offers great opportunities for

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more flexible ways of communication, loosely-coupled process integration, ad-hoc information exchange and improved possibilities in idea generation, when embedded and correctly executed within business process to guarantee the success of such a platform [28]. Especially social networks (i.e. one Enterprise 2.0 concept) focusing on research and development are able to drive an enterprise's success and innovation, as Web 2.0 based solutions offer better ways to make tacit knowledge transparent than traditional, standardized IT solutions, because they enable new means of communication and collaboration [24]. But the adoption of Enterprise 2.0 differs from common IT projects by their nature for the following reasons [4, 7, 17]: They always have a (i) *deep impact on organizational and cultural changes* by enabling employees to pro-actively enlarge their own role, (ii) mandatorily *need a critical mass of user involvement*, (iii) *have to face the fact of missing best practices and reputation*, (iv) are *not yet an established part of a company's state-of-the-art IT portfolio*, and (v) *confront the users with unused ways of working with IT systems* (e.g. the use of tagging, the syntax of enterprise wikis,...). This implies that Enterprise 2.0 needs to be user centered and needs to target at both technical (e.g. usability of the system) and organizational (e.g. support business processes) success factors.

As Enterprise 2.0 introduces new IT systems within organizations, technology acceptance is a crucial aspect to be considered. A previous study showed that there is a strong correlation with a factor called Previous Exposure to Technology (PET) [14]. From the users' perspective, it can be stated that users that grew up in the digital age and use new forms of collaborative IT systems within their daily work activities and private (internet) life are often more technologically adept (see the above mentioned study on PET, which provides a proof). Subsequently, these people have a wealth of virtual experience from visiting, using and interacting with the Web (2.0) [19]. This leads to a new form of the digital divide, which is also referred to as "social divide" or "Digital Divide 2.0" [30]. Applied to the organizational context this implies that (i) *younger employees have more affinity to such tools* whereas (ii) *older employees on the other hand tend to have more knowledge*. This results in a gap in knowledge sharing when those who are willing to share do not have the knowledge ("Digital Natives") and those who are experts are not willing to share this knowledge ("Digital Immigrants") in a (semi-)public forum or environment [22] such as an enterprise. Additionally, Hoberg and Gohlke identified the challenge for enterprises, that older employees tend to be less open to use new technologies (e.g. Why should I use these new Enterprise 2.0 tools?) and willing to learn how to use new technologies (e.g. How to use new Enterprise 2.0 tools?)[13]. To investigate into this willingness and ability to use Enterprise 2.0 from the users' perspective is therefore an important issue that is still in initial stages [9]. This is also underlined by Renken et al. by stating that further research regarding the influence of socio-demographic aspects like the users' age on acceptance of Enterprise 2.0 is needed [24].

The *objective* of this paper is to shade some light onto success factors when implementing Enterprise 2.0 projects and explore their perception from the viewpoint of Digital Natives and Digital Immigrants. The main research question addressed accordingly was: *What is the perceived difference in success factors for Enterprise 2.0 seen by Digital Natives and Digital Immigrants and what are the success factors to be addressed in conjunction with Enterprise 2.0 projects to match the different*

requirements of Digital Natives and Digital Immigrants? To answer this question this paper first briefly introduces a typical methodology for process oriented implementation of Enterprise 2.0 in companies in section 2. Section 3 shows a success factor analysis method for identifying critical success factors. Via literature research, critical success factors for the context of this paper are identified. An exploratory online survey was undertaken to answer the main research question. With it, insight into the findings that need to be addressed from the viewpoint of the two groups of Digital Natives and Digital Immigrants are given.

2 Process Oriented Methodology for Enterprise 2.0 Projects

Within a three years research project a participative, evolutionary approach for implementing Enterprise 2.0 platforms was created [2], which is a necessity for the success of such projects [17]. The methodology was practically evaluated it in pilot projects carried out with three Austrian mid-sized companies within their organizations and selected supply chain partners. The overall methodology in the Enterprise 2.0 projects included five phases, that are both common and well-established within IT projects: Assessment ("Whether to start the Enterprise 2.0 project"), Analysis ("What are the requirements?"), Design ("How can the requirements be realized?"), Realization ("Do the implementation and roll it out"), and Operation ("Support and evaluate the productive information system"). The activities within these phases are especially tailored for Enterprise 2.0 projects, as specific methods were used to address the success factors for Enterprise 2.0 and change projects [3]. This includes evaluating a company's organizational structure, its business processes and recent pains and needs, as well as its organizational experience (e.g. projects that failed in the past) [10, 21]. Having analyzed the key factors, an adequate approach addressing them from a process oriented view was developed. Within the overall approach the following specific methods are used in this context:

1. *Standardized questionnaires* were used to identify basic needs of the users regarding the current situation in communication, documentation, project and innovation management and collaboration with the supply chain partners;
2. A *stakeholder analysis* was carried out to find out the attitude of the involved employees towards the project;
3. *Workshops with semi-structured interviews* were undertaken to identify and document relevant information systems and involved business processes that could be supported by Enterprise 2.0;
4. An additional *success factor analysis* was carried out to identify issues of high priority that are supported insufficiently, which is on the main focus in the following. On this basis, concepts for Enterprise 2.0 tools addressing the mentioned issues were developed;
5. The Enterprise 2.0 platform was implemented using the concepts of *perpetual beta*;
6. Besides *training* of the end users at an early stage the IT department and admin users were trained to enable them to *maintain and further develop* the platform themselves;

7. *Usability evaluation* of the beta releases was conducted by *eye tracking* methodology and *heuristic evaluation*, and
8. Continuous *feedback* was collected using a project blog. The feedback, the usability and heuristic evaluation results were important inputs for the *continuous improvement* of the platform.

In the course of steps (1), (2), (3), (4), (6) and (7) the skills and demands of Digital Natives and Digital Immigrants may differ in highly challenging dimensions. Therefore, it is important to investigate their specific requirements and address the underlying success factors.

3 Success Factor Analysis in the Context of Enterprise 2.0

For the purpose of this paper, special attention is now drawn to the success factor analysis within the Analysis phase (cf. section 2), because within this phase the critical success factors regarding Digital Natives and Digital Immigrants shall be made transparent. The analysis' results are crucial for a tailored design and realization phase, as addressing the identified success factors for both user groups should ease the adoption of the solution.

3.1 Related Work and Methodology

Related work for this research can be found in studies for technology adoption as well as on the digital divide. Most related studies about the digital divide address the criterion of *access* to new information technologies, particularly as embodied in the Internet [26]. Robinson et al. show that those who have made it online are also unequal with respect to the ways they use the medium, especially the content they access from the Internet. Factors like education, income, age and marital status are also associated with more long-term technology use [26]. There is also already research in success factors for the adoption of Enterprise 2.0 [21], intra-organizational IT projects [29], change management [16], and knowledge management in organizations [18]. Because it proofed as suitable framework to assess the success of knowledge management and knowledge transfer in organizations analysis, KnowMetrix [18] was used as the prime basis for this research. Table 1 summarizes the success factors from this related work.

Franken et al. point out that organizations "have limited time and resources that they can devote to executing strategic change; hence, it is critical that change programs are prioritized. This requires an effective aligning and filtering process, as the number of suggested change programs is typically too great for an organization to pursue" [10]. This requirement especially can be met by a success factor analysis, as it allows arranging important factors according to their perceived importance. Beyond that, the authors intended to raise awareness and participation for the Enterprise 2.0 project among all users and to point out possible differences between the group of Digital Natives and Digital Immigrants. To distinguish the two groups we follow Palfrey and Gasser [22]: They characterize Digital Natives as born after

1980, when social digital technologies came online. They all have access to and the skills to use those technologies. And they are much more willing to share information over the Internet than Digital Immigrants. Digital Immigrants on the other side were born before 1980 and therefore have learned how to use email and other social technologies later in life.

Table 1. Success factors for project success and adoption

Success Factor	Source
Need for change and feasibility analysis of the new system	Sutanto et al. [29]
Top management support	Sutanto et al. [29]
Shared vision for system-related change	Sutanto et al. [29]
Systematic plan for project and change management	Sutanto et al. [29]
Institutionalization of system-related change	Sutanto et al. [29]
Energy for system-related change	Sutanto et al. [29]
Promote a balanced change culture	Ibbs et al. [16]
Recognize change	Ibbs et al. [16]
Evaluate change	Ibbs et al. [16]
Implement change	Ibbs et al. [16]
Continuously Improve from Lessons Learned	Ibbs et al. [16]
Determine desired results, then deploy appropriate emergent social software platforms	McAfee [21]
Prepare for the long haul	McAfee [21]
Communicate, educate, and evangelize	McAfee [21]
Move emergent social software platforms into the Flow	McAfee [21]
Measure progress, not ROI	McAfee [21]
Show that Enterprise 2.0 is valued	McAfee [21]
Knowledge management as service and cross-divisional function within organization (containing 12 specific items)	Lehner et al. [18]
Knowledge transfer (containing 13 specific items)	Lehner et al. [18]

Table 2. User anxiety and resulting metrics [15]

Question	Resulting Metric
Can I trust it?	How can passive technology be made more trustworthy?
Can I switch it off/on?	How can we make it more controllable?
Can I understand it?	How can we improve understanding of the principles and functionality, without too many confusing details?
Will it obey me?	Can we remove the Frankenstein element; turn it from “magic” to machine, thereby inspiring confidence?
Who can see me?	Can we counteract the Big Brother element; Replace the fear of being controlled with a feeling of being in control?
Do I really need this?	Explanation of benefits and purposes, appropriateness of the measures taken.

The question of why a certain technology is adopted by individuals often is based on the Technology Acceptance Model (TAM) by Davis [8]. TAM posits that “perceived usefulness” and “perceived ease of use” are the fundamental determinants of an individual's intention to use a system. Also in this context the usability metrics

found by Holzinger et al. [15] are here very important: They show that metrics for the evaluation of trustworthiness and acceptance of passive technology for the elderly must be approached from the viewpoint of the elderly. There is a strong analogy between user anxiety and metrics (cf. Table 2). To meet these demands questions addressing these aspects were integrated into the questionnaire.

3.2 Setting, Subjects and Instrument

To involve all necessary stakeholders in the analysis (cf. step (iv) mentioned in section 2), a questionnaire focusing on the priority of relevant processes and the recent satisfaction with its efficiency was issued. The authors conducted the success factor analysis within an Austrian enterprise in the energy sector. The company has grown since its foundation in the 1940s to a multinational organization with over 3200 employees situated across five production sites located in Austria, Czech Republic, and Ukraine. The R&D and related departments are mainly scattered around the production sites, working together on their three strategic business areas battery charging, welding, and solar. To emphasize on their strategy to foster employees' enthusiasm for customer-oriented activities and innovations, the top-management set up a project in the Enterprise 2.0 field.

To assure that all important factors were included in the questionnaire, the analysis was initially based on KnowMetrix, which contains success factors for knowledge management consistently identified in literature [18]. As indicated by KnowMetrix, the success factors were adjusted to the needs of the organization via workshops. The workshops especially helped to identify specific information systems and involved business processes (items in block 1 "software support") and to recognize the importance of Enterprise 2.0 for innovation management activities. The questionnaire was finally extended with factors from relevant literature and addressing user anxiety and the viewpoint of the elderly (cf. Table 1) in order to achieve perceived usefulness and ease of use in the following. The factors were clustered into the following five blocks:

1. *Software support and overall usability*: How would you rate the general software support of the following processes in your company?
   (b) Knowledge documentation
   (c) Social networking (within thematic networks)
   (d) Search and find knowledge carriers ("Who knows what…")
   (e) Idea management: generation, discussion, evaluation, and selection of creative new ideas (innovations)
   (f) Communication support across departments, divisions, teams and projects
   (g) Alternative communication channels: pull instead of push
   (h) FAQs: Documentation of frequently asked questions and solutions
   (i) Rapid decision-making support for a certain topic
   (j) Document management
2. *Organizational culture*: How would you rate the following cultural aspects in your company?

(a) Incorporation of all employees – regardless of hierarchy or function – in the innovation process
(b) Expression of feedback and criticism across hierarchies
(c) Quick and unfiltered information sharing across hierarchy levels
(d) Joint solutions for complex tasks, challenges and problems through direct communication, knowledge sharing and mutual support (no egoisms)
(e) Access to data across departments or projects (permissions)
(f) Open innovation culture in the sense of a clear commitment to new ideas
(g) Willingness to share and trust the knowledge shared ("Culture of trust")
(h) Possibility to make mistakes and learn from them ("Fault tolerance")
(i) Colleagues actively seek to solve your problem if asked for help
(j) Feel free to ask questions to colleagues

3. *General requirements for innovation*: How would you rate the following general conditions for innovation in your company?
   (a) Shared corporate vision, shared goals and values within the organization
   (b) Top management support of innovation projects
   (c) Availability of sufficient resources (time, money, personnel, tools) for innovation projects
   (d) Capability of the organization to realize own innovative ideas independently
   (e) Identify and evaluate trends and megatrends as the basis for competitiveness and strategic alignment
   (f) Speed and quality of decision-making within the organization
4. *Management of knowledge and innovation*: How would you rate the following aspects concerning the use of knowledge and innovation in your company?
   (a) Existence of awareness, motivation for knowledge sharing
   (b) Possibility to access new and exchange existing knowledge
   (c) Overview of knowledge and skills within the organization
   (d) Integration of the environment (eg. customers, suppliers, benchmarking, alternative industries, other sources such as literature, events and platforms, evaluation and feedback) into innovation projects
   (e) Cooperation with external partners in innovation process (especially in terms of establishing long-term, trust-based partnerships)
   (f) Use of all possibilities for identification of customer needs (eg. market research, customer surveys, direct involvement of customers in the development)
   (g) Existing possibilities for idea management to systematically collect, categorize, evaluate and select ideas of all employees
   (h) Spawning of radical innovations (in addition to the improvement or adaptation of existing products, processes, or services)
5. *Personal situation*: How would you rate the following aspects concerning the personal situation of employees in your company?
   (a) Availability of incentives for innovation (monetary / non-monetary)
   (b) Sufficient time to develop and carry out new ideas
   (c) Availability of sufficient know-how support from other departments for new ideas

(d) Employees have enough decision-making competencies (i.e. not hindered by rules, excessive control, or lack of trust)
(e) Existence of a trusting relationship between employees and supervisors

The factors were queried (in German language) in a standardized questionnaire according to their performance and priority in Austria's school grading system from 1 (best) to 5 (worst): The respondents had to rate the current performance of the factor in question and should provide a priority for that factor. As a result, a factor rated with a low performance is only a problem when the priority for this factor is high, and vice versa. Factors with high priority and low satisfaction are to be targeted first.

The questionnaire was undertaken online via Qualtrics (www.qualtrics.com). The link to the online survey was issued to a small group of beta-users (38 employees) via email. The probands who took part were from the R&D, IT and human resources departments. 33 people (23 "Digital Immigrants" and 10 "Digital Natives") responded to the survey representing a response rate of 87%. Besides demographic data (position within company, department, period of employment, usage of Web 2.0, Digital Immigrant or Digital Native) the identified relevant success factors were queried.

3.3 Survey Results and Discussion

As already mentioned, the success factors should include user anxiety and the viewpoint of the elderly (cf. Table 1). Addressing the perceived usefulness and ease of use right from the beginning of the project by involving the users should also help to increase the actual usage of the system according to TAM. Therefore each of the blocks considers different parts of them. For example block 2 (organizational culture) and block 5 (personal situation) contain questions addressing the mentioned user anxiety aspects "Can I trust it?" and "Who can see me?" by questions concerning the "Culture of Trust (2g)", "Feel free to ask questions (2j)", and "Trusting relationship between employees and supervisors (5e)" (cf. Figure 1). These questions target on the differences regarding Digital Immigrants and Digital Natives and their perceived level of trust and feeling of security. Block 1 (software support and overall usability) and block 4 (management of knowledge and innovation) include questions considering the anxiety aspect "Do I really need this?" as, amongst other things, they help to make gaps between existing software support and the users' demand transparent, which can be met by Enterprise 2.0 tools: e.g. "Knowledge documentation (1a)", and "Overview of knowledge and skills (4c)".

Figure 1 shows the evaluation of the relevant success factors both for Digital Immigrants and Digital Natives. In general, factors having a high priority need to be examined in relation to the measures and whose performance has to be improved. The main focus of the discussion is now on the similarities and differences in the rating of the factors between the two groups of Digital Immigrants and Digital Natives:

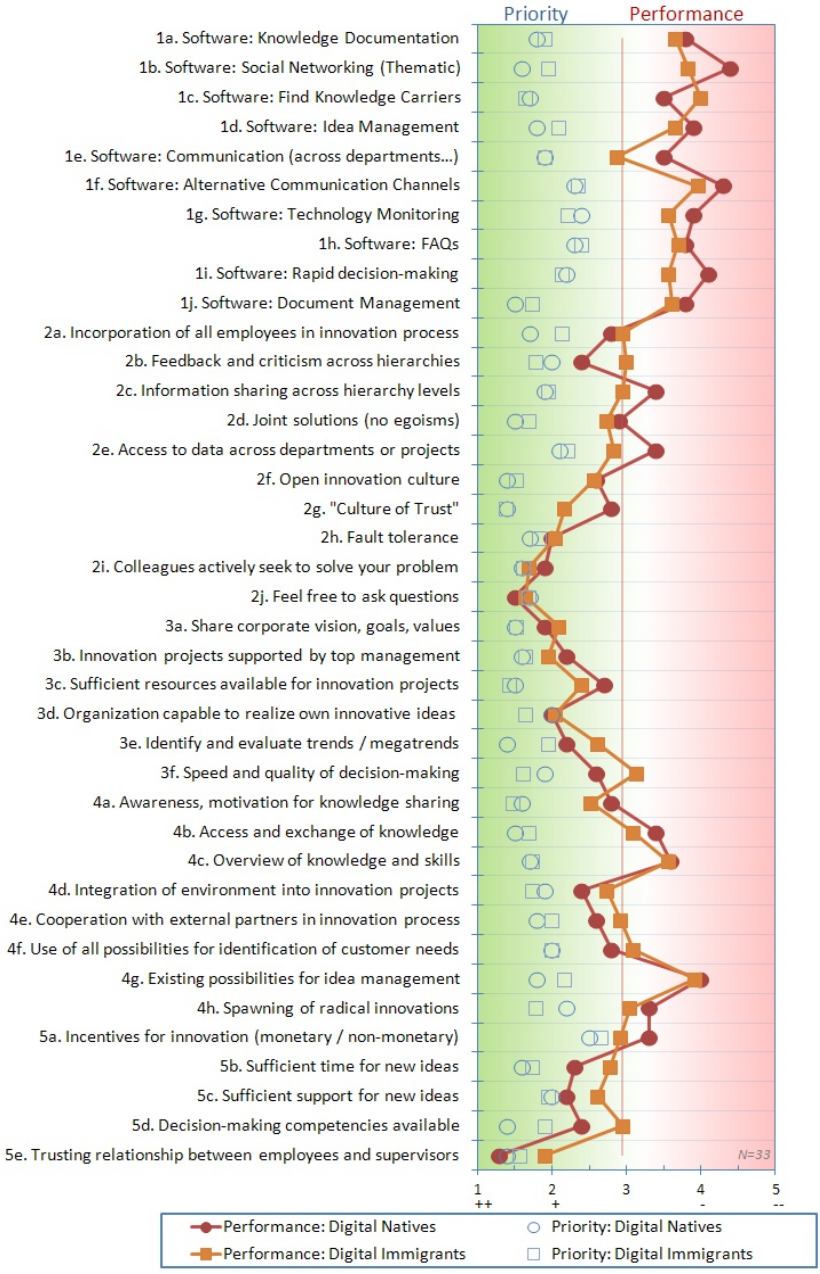

Fig. 1. Success factor analysis: Digital immigrants (blank squares = priority, filled squares = performance) and Digital Natives (blank circles = priority, filled circles = performance)

(i) Quite a lot of factors showed a consensus in both their performance and priority. This could be observed both for factors with rather good performance (e.g. 2h, 2i, 2j) and lower performance (e.g. 4g). Especially a lot of organizational or "soft" factors (block 2 to 5), that are vital for an Enterprise 2.0 project proved as important, regardless of the group. Most factors also had broad agreement in their priority within the two groups. But, ignoring these factors will lead to the Digital Divide 2.0, or "social divide", which is about the ability and the willingness to get involved in Enterprise 2.0.

(ii) Digital Natives tend to rate the software and usability support (block 1) lower than the Digital Immigrants: Although Web 2.0 tools are more and more accessible and easy to use this may be caused by a better knowledge of tools available by the Digital Natives. E.g. Digital Natives rated the software support for communication across departments (1e) lower than Digital Immigrants. One explanation could be that Digital Immigrants are not aware of other means for communication than email, telephone, or face-to-face conversation. These differences related to technology shows that especially usability issues need to be considered for both groups. This is in line to previous mentioned research on usability. Especially for Enterprise 2.0 this is very important. Prensky pointed out that "Digital Natives are used to receiving information really fast. They like to parallel process and multi-task. They prefer their graphics before their text rather than the opposite. They prefer random access (like hypertext). They function best when networked." [23]

(iii) Digital Natives tend to rate their personal situation (block 5) better than the other group. These factors may be more influenced by other types of attributes like their seniority level (e.g. 2b), gender, physical location in the foundation, or personal interests [9] . More investigation into this topic is needed, e.g. theories in IS research based on the adoption of technology on the organizational level like the Diffusion of Innovation theory [27].

4 Conclusion

The paper presents the success factor analysis as a suitable method in the context of Enterprise 2.0 to identify and prioritize needs for action in a transparent and participative way. It shades light on critical success factors from the users' and organizations' perspective and combines it with usability aspects for two groups of employees: the Digital Natives, and the Digital Immigrants.

The results show that Enterprise 2.0 projects are multi-faceted: Besides technological aspects, social factors of the different stakeholders need to be considered right from the beginning. This combination of the organizations' business-oriented view and usability aspects are seen as important factors for the success of such projects. Future research also needs to include factors like the gender, seniority level, physical location in the foundation, and personal interests. E.g. maybe the position within the company or amount of years in the company may weight more than the age or the gender of the employee.

Although the high response rate shows a general interest for this topic in the organization where it was carried out, the very low sample rate and amount of data could only serve as an exploratory analysis in this context. Some other factors were also queried for this research, but the low number of probands did not allow the authors to undertake additional statistical tests, like correlation analysis, or t-test, etc. Nevertheless, the paper should raise awareness for this topic and with the methodology shown and the success factors it may serve for future research in this field.

The implementation of Web 2.0 concepts and technologies in enterprises and supply chains opens the mind of both groups, Digital Natives and Digital Immigrants for new technologies. Matchmaking and intelligent reasoning [5] opens the opportunity to exploit Web 2.0 / Enterprise 2.0 collective knowledge (together with the individual knowledge of the employees) in order to achieve the vision of Web 3.0. Web 3.0, also called the Intelligent Web, refers to the provision of a more productive, personalized and intuitive environment through the integration of Semantic Web and in general Artificial Intelligence technologies emphasizing the information understanding. Semantics is a necessary part of the next generation of the Web [6] but seems also to be a precondition for handling the huge amounts of unstructured knowledge within and among enterprises for the future.

References

1. Ardagna, D., Baresi, L., Comai, S., Comuzzi, M.: A Service-Based Framework for Flexible Business Processes. IEEE Software (2011), doi:10.1109/MS.2011.28
2. Auinger, A., Nedbal, D.: Effective Supply Chain Information Management in Supply Networks using Enterprise 2.0. In: Proceedings of the 2009 International Conference on e-Learning, e-Business Enterprise Information Systems, and e-Government, EEE 2009 (2009)
3. Auinger, A., Hochmeier, A., Nedbal, D.: An Approach For Implementing Enterprise 2.0 Platforms: Methodology And Selected Results Of Pilot Projects. In: Proceedings of the IADIS International Conference on Information Systems 2011 (IS 2011), Avila, Spain, pp. 179–185 (2011)
4. Back, A., Gronau, N., Tochtermann, K.: Web 2.0 in der Unternehmenspraxis: Grundlagen, Fallstudien und Trends zum Einsatz von Social Software, 2nd edn. Oldenbourg, München (2009)
5. Benassi, M., Di Noia, T., Marino, A.: A Matchmaking Architecture to Support Innovation by Fostering Supply and Demand of Venture Capital. In: Psaila, G., Wagner, R. (eds.) EC-Web 2008. LNCS, vol. 5183, pp. 61–70. Springer, Heidelberg (2008)
6. Cena, F., Farzan, R.: & Lops, P. Web 3.0: merging semantic web with social web. In: Proceedings of the 20th ACM Conference on Hypertext and Hypermedia, HT 2009, pp. 385–386. ACM, New York (2009), doi:10.1145/1557914.1558002
7. Chui, M., Miller, A., Roberts, R.P.: Six ways to make Web 2.0 work. McKinsey Quarterly (2009)
8. Davis, F.D.: Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. MIS Quarterly (1989)

9. Ferron, M., Massa, P., Odella, F.: Analyzing collaborative networks emerging in Enterprise 2.0: the Taolin Platform. In: Procedia - Social and Behavioral Sciences (2011), doi:10.1016/j.sbspro.2011.01.010.
10. Franken, A., Edwards, C., Lambert, R.: Executing Strategic Change: Understanding the critical management elements that lead to success. California Management Review (2009)
11. Furdík, K., Mach, M., Sabol, T.: Towards Semantic Modelling of Business Processes for Networked Enterprises. In: Di Noia, T., Buccafurri, F. (eds.) EC-Web 2009. LNCS, vol. 5692, pp. 96–107. Springer, Heidelberg (2009)
12. Gong, R., Li, Q., Ning, K., Chen, Y., O'Sullivan, D.: Business Process Collaboration Using Semantic Interoperability: Review and Framework. In: Mizoguchi, R., Shi, Z., Giunchiglia, F. (eds.) ASWC 2006. LNCS, vol. 4185, pp. 191–204. Springer, Heidelberg (2006)
13. Hoberg, A., Gohlke, P.: Selbstorganisiertes Lernen 2.0: Ein neues Lernkonzept für die berufliche Weiterbildung. HMD - Praxis der Wirtschaftsinformatik (2011)
14. Holzinger, A., Searle, G., Wernbacher, M.: The effect of previous exposure to technology on acceptance and its importance in usability and accessibility engineering. Universal Access in the Information Society (2011)
15. Holzinger, A., Searle, G., Kleinberger, T., Seffah, A., Javahery, H.: Investigating Usability Metrics for the Design and Development of Applications for the Elderly. In: Miesenberger, K., Klaus, J., Zagler, W., Karshmer, A. (eds.) ICCHP 2008. LNCS, vol. 5105, pp. 98–105. Springer, Heidelberg (2008)
16. Ibbs, C.W., Wong, C.K., Kwak, Y.H.: Project Change Management System. Journal of Management in Engineering (2001)
17. Koch, M., Richter, A.: Enterprise 2.0: Planung, Einführung und erfolgreicher Einsatz von Social Software in Unternehmen, 2nd edn. Oldenbourg, München (2009)
18. Lehner, F., Amende, N., Wildner, S., Haas, N.: KnowMetrix - Erfahrungen mit der Erfolgsbewertung im Wissensmanagement in einem mittelständischen Unternehmen. In: Hinkelmann, K., Wache, H. (eds.) WM 2009: 5th Conference on Professional Knowledge Management, Solothurn, Switzerland, March 25–27, pp. 470–479 (2009)
19. Lorenzo, C., Constantinides, E., Geurts, P., Gómez, M.A.: Impact of Web Experience on e-Consumer Responses. In: Psaila, G., Wagner, R. (eds.) EC-Web 2007. LNCS, vol. 4655, pp. 191–200. Springer, Heidelberg (2007)
20. McAfee, A.P.: Enterprise 2.0: The Dawn Of Emergent Collaboration. MIT Sloan Management Review (2006)
21. McAfee, A.P.: Enterprise 2.0: New collaborative tools for your organization's toughest challenges. Harvard Business Press, Boston (2009)
22. Palfrey, J.G., Gasser, U.: Born digital: Understanding the first generation of digital natives. Basic Books, New York (2008)
23. Prensky, M.: Digital Natives, Digital Immigrants Part 1. On the Horizon (2001)
24. Renken, U., Bullinger, A.C., Möslein, K.M.: Webbasierte Werkzeuge für Wissensarbeiter. HMD - Praxis der Wirtschaftsinformatik (2011)
25. Rinner, C., Keßler, C., Andrulis, S.: The use of Web 2.0 concepts to support deliberation in spatial decision-making. In: Computers, Environment and Urban Systems (2008), doi:10.1016/j.compenvurbsys.2008.08.004.
26. Robinson, J.P., DiMaggio, P., Hargittai, E.: New social survey perspectives on the digital divide. It & Society (2003)
27. Rogers, E.M.: Diffusion of innovations, 5th edn. Free Press, New York (2003)

28. Rossi, G., Schmid, H., Lyardet, F.: Customizing Business Processes in Web Applications. In: Bauknecht, K., Min Tjoa, A., Quirchmayr, G. (eds.) EC-Web 2003. LNCS, vol. 2738, pp. 359–368. Springer, Heidelberg (2003)
29. Sutanto, J., Kankanhalli, A., Tay, J., Raman, K.S., Tan, B.C.Y.: Change Management in Interorganizational Systems for the Public. Journal of Management Information Systems (2008)
30. Vie, S.: Digital Divide 2.0: "Generation M" and Online Social Networking Sites in the Composition Classroom. Computers and Composition (2008), doi: 10.1016/j.compcom, 09.004