Understanding the different priorities of web 2.0 technologies for knowledge acquisition and assimilation for developing an organization's potential absorptive capacity

Completed Research Paper

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ABSTRACT

The aim of this paper is to explore the relative importance of web 2.0 tools for an organizations' ability to identify and assimilate valuable external information. Theoretically, we relate these knowledge processing abilities to organizational absorptive capacity. As the usage of Web 2.0 tools to manage knowledge in organizations is becoming common practice, we need to understand which tool supports what kind of knowledge processing activity best. For this purpose, we developed a research model linking a Web 2.0 taxonomy with multiple criteria feeding into Potential Absorptive Capacity (PACAP). Based on the Analytical Hierarchy Process (AHP), we allowed experts with different roles and backgrounds to assess the relative importance of different Web 2.0 tools in regard to their value for each assessment dimensions. Results show that while Wiki-based tools followed by Web conferences and Blogs are most important for external knowledge acquisition, E-mail based strategies become most important for assimilating knowledge internally. Our results offer valuable implications for conducting effective knowledge-acquisition and assimilation practices in organizations based on peer-driven networking and information sharing in the Web 2.0 world.

Keywords (Required)

Knowledge Management, Potential Absorptive Capacity, Web 2.0 technologies, Analytical Hierarchy Process

INTRODUCTION

As organizations face intense competition, globalization and demand for constant innovation, the effective acquisition and assimilation of external information and subsequent exploitation is considered to be crucial for organizational success (Nonaka et al. 1995). Whilst knowledge is regularly considered the primary intangible resource that creates competitive advantage (Nonaka et al. 2003), mangers find it difficult to provide the right technical infrastructure and levels of support for knowledge acquisition and assimilation processes. These processes generate an important dynamic capability associated with exploratory learning (Auguste et al. 2010) known as potential absorptive capacity (ACAP). Zahra and George (2002) have proposed a two-tier construct of ACAP, where potential absorptive capacity (PACAP) is the first dimension dealing with an organisational capacity to identify and acquire external information. The second dimension is named realised absorptive capacity (RACAP) and refers to applying information in business routines to gain business level value.

IS research has only begun to recognize the importance of contemporary information technologies (IT) in the development and maintenance of an organization's potential absorptive capacity (Roberts et al. 2012). Being able to appreciate the value of IT in particular with regard to individually (peer) - driven communication and collaboration processes is essential for understanding sources of innovation and how knowledge can be assimilated to generate business-level benefits. Moreover, the peer-driven concept allows managers to exploit the properties of relationships and leverage expertise when needed (Cross

et al. 2000). Organizational practice seems to gain considerable advantages from linking individuals through the use of Web 2.0 (Wilson et al. 2011). A recent survey suggests that 69 percent of the survey firms have gained more innovative products and services, and better access to knowledge among other benefits from the use of such Web 2.0 technologies (McKinsey 2009).

As the IT shift into the Web 2.0 environment has become a reality (Wilson et al. 2011), we intend to look close at the properties of specific Web 2.0 strategies and their effect on different knowledge processing stages when compared to one another. More specifically, we link specific knowledge processing stages as suggested by PACAP with Web 2.0 tools. Thereby, we seek to explain which tools support which stages of potential absorptive capacity best, and discuss properties of these tools to facilitate collaboration and manage information. The methodology is a literature review followed by the application of a Analytical Hierarchy Process (AHP) (Saaty 1987) to systematically investigate the relative preferences of four experts with different roles when comes to using different Web 2.0 tools. The used goal hierarchy is based on the theoretical foundations provided by the PACAP concept. The assessment results of the model were analyzed and interpreted in the context of the two distinct stages of PACAP, namely knowledge acquisition and absorption (Zahra et al. 2002).

THEORETICAL BACKGROUND

Absorptive Capacity as key organizational learning capability

Knowledge has been acknowledged as arguably the most important resource to achieve competitive advantage of a firm. As a consequence, a knowledge-based perspective of the firm has been widely considered in the literature of organization science and strategic management (Grant 1996; Nonaka 1994; Nonaka et al. 1995). One of the core theories within the knowledge-based perspective is absorptive capacity, which is *"ability to recognize the value of new information, assimilate it, and apply it to commercial ends"* (Cohen et al. 1990). The concept was reformulated and expanded to capture two distinct forms: potential absorptive capacity and realized absorptive capacity (Zahra et al. 2002). As a set of organizational routines and processes, ACAP allows firms to acquire, assimilate, transform, and exploit knowledge to produce a dynamic organizational capability. While potential absorptive capacity (PACAP) deals with an organisational ability to identify and acquire external information, and to analyse and interpret these information to support decision making, realised absorptive capacity (RACAP) is concerned with the ability in applying the acquired information in business processes to achieve business performance. PACAP comprises knowledge acquisition and assimilation capabilities of the firm. RACAP is a function of the related organizational transformation and exploitation capabilities. The concept defines ACAP as a set of organizational routines and processes, by which firms acquire, assimilate, transform, and exploit knowledge to produce a dynamic organizational capability (see Figure 1).

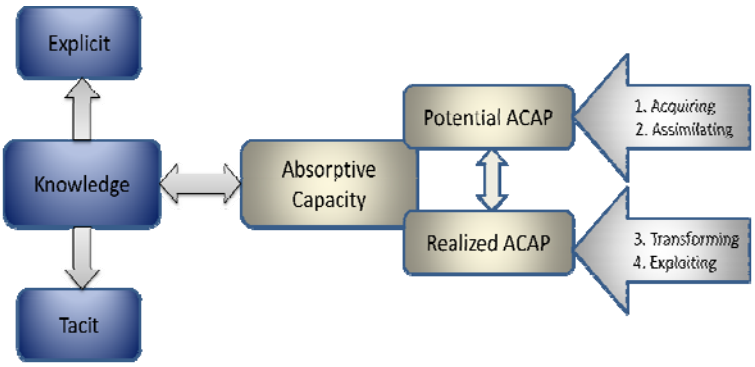

Figure 1: Theoretical framework

Existing research distinguishes between two dimensions of knowledge, tacit knowledge and explicit knowledge. Tacit knowledge represents internalized knowledge, such as speaking a foreign language or accomplishing a particular task. It is hard to encode and communicate, and makes knowledge transfer difficult. It is mostly specific to the organizational context; therefore it is an important source of competitive advantage. Explicit knowledge on the other side represents knowledge that is hold in a form that can easily be communicated to others such as databases (Montazemi et al. 2012). In this context, tacit knowledge is considered an idea-based form of knowledge, and explicit knowledge is considered an evidence-based form of knowledge (Auguste et al. 2010). It was suggested that face-to-face interaction and verbal conversation (Non-IT) are often more efficient in sharing and transferring tacit knowledge, while IT is more useful for the transmission of explicit knowledge

and information (O.Egbu et al. 2002). Most of the current knowledge management practices try to capture, acquire, leverage, retain, codify, store, transfer and share explicit knowledge, (Hey 2004).

It was suggested to actively develop and measure ACAP. As intangible and hard to imitate resource, this process is in most of the cases very difficult but promises important rewards for an organization (Jimenez-Barrionuevo et al. 2011). In particular, effective communications processes and information flows which drive knowledge transfer in organizations are hard to achieve not the least due to the complexity and requirements of a technical infra-structure. As a consequence, organizations regularly do not know what they know (Huber 1991). Prior research suggested four factors that influence the transfer of new knowledge between units of a multi-national corporation, which are: (i) the PACAP of the receiving unit, (ii) the existence of transmission channels in form of social capital, (iii) willingness to acquire knowledge from the receiving unit, and (iv) willingness to share knowledge from the source (Montazemi et al. 2012). In this work we seek to focus on the first point, the development of PACAP from a technical perspective. IT plays a critical role for a firm to develop and maintain ACAP (Roberts et al. 2012).

Social interaction with Web 2.0 tools

Social interactions seem to be paramount importance when it comes to information retrieval and mediation of these interactions with typical phases of information seeking as part of PACAP (Hecker et al. 2009). Essential is social interaction in the "information-pooling" process. Teams favor information that is shared over information that is unshared, and team members preferences are shaped more by more frequently discussed information (Gardner et al. 2012). It was suggested efficient and collaborative communication within a team is the starting point to build a capability for knowledge integration. This can be fostered relational resources (based on the "sum of history" covering current and past relations between users) to further improve knowledge integration capabilities. Adapting and including the Web 2.0 communication tools which are designed for such social interaction can be considered a valuable support for organizations that seek to develop PACAP. Consequently, the following definition of the term Web 2.0 from Wilson et al. (2011) can be proposed and used as an umbrella for tool selection:

"*Web 2.0 refers to the second generation of the Web, wherein interoperable, user-centered web applications and services promote social connectedness, media and information sharing, user-created content, and collaboration among individuals and organizations."*

While the list of Web 2.0 based technologies that fall under this definition can vary, we considered the tools listed in Table 1.

	Short description	**Supporting reference**
Wikis	Generally open and accessible tools used to collaboratively build a collective body of knowledge.	(Leuf et al. 2001)
Blogs	An informational site dynamically updated and maintained. Blogs can provide current information on organization's products and services.	(Kelleher et al. 2006)
E-mails	Easy to use communication tool that enables the user to share or transfer text, documents or personal knowledge.	(Whittaker et al. 1996)
Corporate Social Networks	A collection of social networks, among which employees and other corporate constitutes may interact through their own, individual profiles.	(Sena et al. 2008)
RSS	Facilitating the monitoring of a large number of sources, these tools offer an easy way to publish and subscribe to frequently updated content.	(Leuf et al. 2001)
Mashups	Tools that enable the intelligent and lightweight consolidation of data and information from a range of discrete Web services.	(Leuf et al. 2001)
Social Bookmarks	Tools that offer central online services which enable users to add, modify, and delete bookmarks of web documents with additional metadata.	(Noll et al. 2007)
Web Conferencing	Enables people from different geographic locations to connect virtually and share between them discussion, documents, experiences, ideas and personal knowledge.	(Suduc et al. 2009)

Table 1. Considered Web 2.0 technologies

RESEARCH MODEL AND METHDOLOGY

This study focuses on PACAP as this is the stage where information needs to be identified, processed and distributed within the organization and can be best supported with Web 2.0 strategies (see Figure 1). RACAP in contrast deals with the organizational exploitation of knowledge, which can result in improved organizational capabilities, e.g. related to processes, services or products (Zahra et al. 2002). The whole ACAP construct is a hierarchical (Wetzels et al. 2009), multi-level and trans-disciplinary (Van den Bosch et al. 2003) and consists of latent factors (Law et al. 1998). More specifically, as shown in Figure 2, ACAP is further decomposed into two 1st order constructs (PACAP and RACAP).

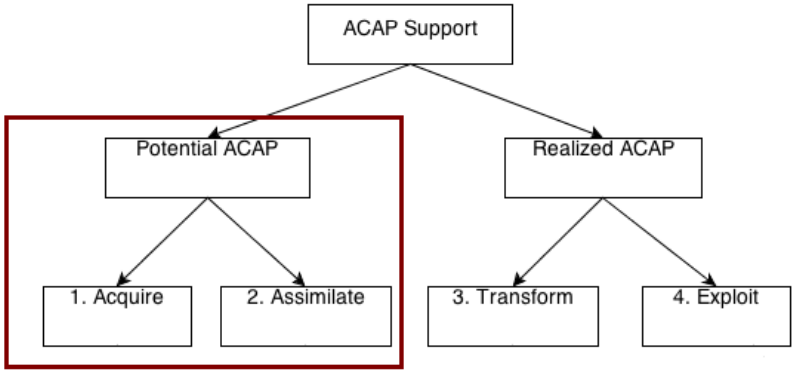

Figure 2: Model to measure ACAP constructs and focus of study (PCAP)

Having defined the principle ACAP structure in Figure 2, we can now transform it into an AHP Hierarchy model to include the considered Web 2.0 tools (see Figure 3). The analytical hierarchy process (AHP) is used to derive a preference profile for each of the considered Web 2.0 tools (Saaty 1991), which is a common method to study comparatively assess the importance weightings of tools (Bernroider et al. 2008). The AHP process is composed of four stages (Tummala et al. 1994). First, the evaluation problem is structured. Second, the assessment is conducted, which may result in incomplete information (Bernroider et al. 2010). Third, the aggregation is calculated. Fourth, the problem is analyzed. Our goal is to identify which tool(s) should be selected to best support PACAP at which stages. Therefore, we seek to find out which tool best supports knowledge acquisition (1st phase of PACAP) and knowledge assimilation (2nd phase of PACAP). The goal is placed on level 1. The criteria's that compose PACAP are placed on level 2. The alternatives (which are the web 2.0 tools) are placed on level 3. The local weights (L) and global weight (G) are included for each level.

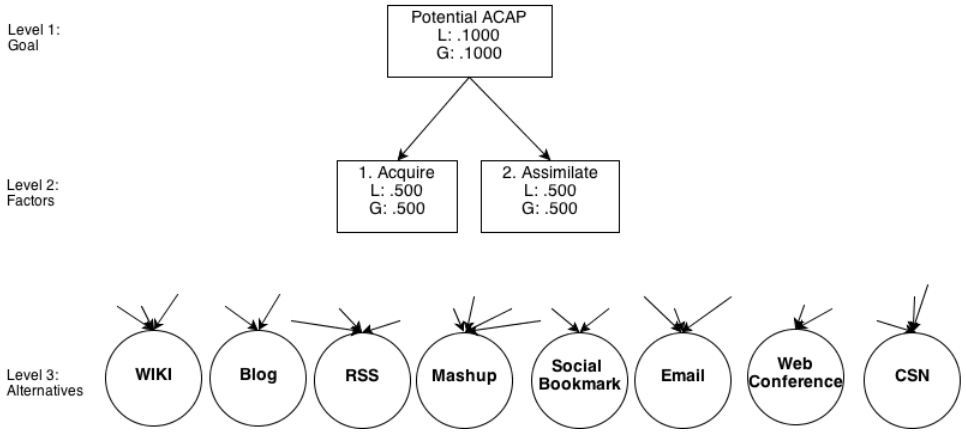

Figure 3: AHP goal model of Web 2.0 tool support for PACAP

DATA COLLECTION AND ANALYSIS

With having established the AHP goal model, we were now able to conduct the exploratory study which involved pairwise comparisons of the Web 2.0 tools for acquiring knowledge (part I) and assimilating knowledge (part II). Data collection followed a three-stage process followed by data analysis, which are shortly described below.

Within the *pre-data collection stage*, we identified the experts to engage into pair-wise comparisons of the tools on level 3 of the AHP hierarchy (see Figure 3). Consequently, four experts with different roles have been asked to assess the use of Web 2.0 tools with regard to the acquiring and assimilating knowledge within PACAP. Two criteria have been used when choosing the experts. First, the experts' areas of expertise had to include Web 2.0 and knowledge management. Second, we sought to identify one person per distinct role to capture a wide range of purposes. In the end, we were able to collect data from a project manager, a service manager, a researcher, and a web engineer. All the experts were from the same geographic location, namely from Austria; two members were from the same organization and the other two members were from different organizations. It was made clear that participating in this study is strictly voluntary and identities will remain anonymous.

With regard to the *collection stage*, we firstly contacted all four experts to explain the purpose and theoretical context of the study. We developed and explained an annotated questionnaire as an instrument with all specific relative assessments to guide the experts in their evaluation task. Every expert was introduced to the process of filling out a structured questionnaire and in particular to the AHP assessment method and scales. Three illustrative examples were provided to explain the procedure. The four expert assessments resulted in four fully completed data sets with regard to the AHP hierarchy. Each dataset consisted of two square 8x8 comparison matrices from each expert. We only asked for completing the relative assessments on level 3 of the AHP goal hierarchy and assumed an equal importance for the two sub-phases of PACAP. Therefore, the two phases of PACAP were given same priority weights, that means both acquiring and assimilating capacities are considered equally important (50% weighting) when it comes to support potential absorptive capacity.

Next, we analyzed the data and estimated response quality to advise *follow-up data collection*. We firstly applied consistency checks as the analysis of priorities with Saaty's Eigenvector method to calculate the according weight profiles (Saaty 1991; Saaty 1994) only makes sense, if consistent or near consistent matrices can be gained from the experts. Saaty (1991) has proposed a consistency index (CI) related to the Eigenvalue method:

$$\mathrm{CI} = \frac{\lambda\mathrm{max}-\mathrm{n}}{\mathrm{n}-1} \quad (1)$$

where λ_{max} = maximal Eigenvalue

and n = number of tools being compared (8)

The consistency ratio (CR), the ratio of CI and RI, is given by:

$$\mathrm{CR} = \frac{\mathrm{CI}}{\mathrm{RI}} \quad (2)$$

where RI is the random index (1.41 for n=8) according to (Saaty 1991).

For each matrix, based on the outcome of the CR, it was decided whether the judgment for the matrix needs to be revised. If CR < 10%, then the matrix can be considered as having an acceptable consistency. For three matrices the consistency was not acceptable. Therefore, we applied the root mean square deviation method (Saaty 1991) and allowed the experts to revise their judgments for the row with the largest value. This procedure was repeated until all the matrices showed a CR below 10%. We then identified the Eigenvector belonging to the maximal Eigenvalue (λ_{max}) for each matrix following Saaty's Eigenvector method. Table A1 in the Appendix shows these intermediate values for each expert role and PACAP stage. The normalized eigenvector represents the resulting local priority vector for each of the 8 tables (2 for each expert). The 8 local priority vectors are displayed in Figures 4 and 5 for each dimension of PACAP.

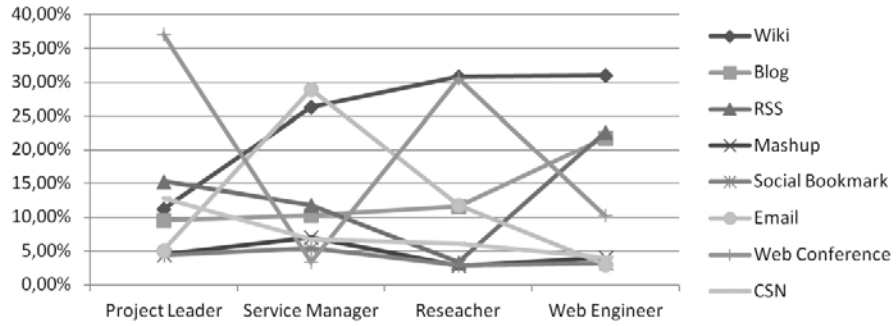

Figure 4: AHP priority vectors for the *Knowledge Acquisition* within PACAP over all four experts

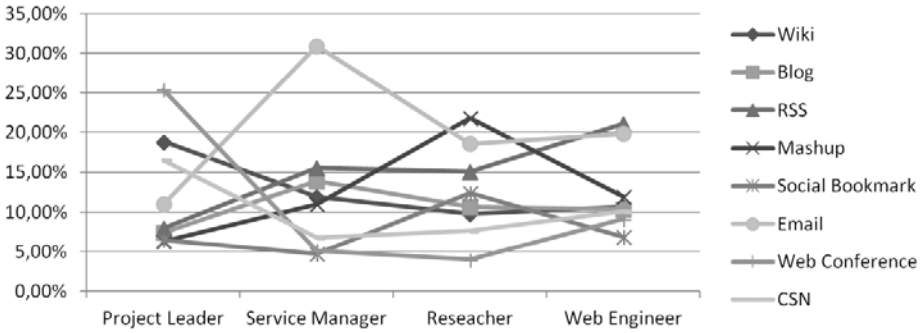

Figure 5: AHP priority vectors for the *Knowledge Assimilation* within PACAP over all four experts

Finally, we aggregated the four individual judgments per PCAP dimension into a single representative judgment for the entire group, using the geographic mean approach as instructed by (Saaty 1987; Saaty 2008). The final step was to synthesize the local priorities (Stage 1 and Stage 2 of PACAP) into in order to determine the global priority (PCAP). These three priority weights are seen in Table 2. These results show the relative importance of Web 2.0 tools for knowledge acquisition and knowledge assimilation in the context of potential absorptive capacity.

DISCUSSION OF RESULTS

In this section we will shortly discuss our main findings for each main dimension of potential absorptive capacity (see Table 2) followed by elaborations on the limitations before we conclude the article.

In terms of *knowledge acquisition* to support PACAP, the results show that Wikis are clearly leading the list of Web 2.0 technologies with a relative importance weighting of 27.55%. These tools allow organizations to collect and access explicit expert knowledge (Buhse et al. 2008) on certain topics from several users on a single platform, while making this knowledge readily accessible for all platform members. Wikis support the specific informational problems well that can arise when collaborative information seeking activities are triggered by organizational information needs (Reddy et al. 2008). When it comes to different roles, the data indicates varying priorities. For example, the project manager equally relies on a broader set of tools with the exception of Web Conferences, which were seen as most important (see Figure 4). The researcher role also relies on Web Conferences most, in addition to Wikis, which achieve high levels across the expert panel. Web Conferences rely on tacit knowledge and therefore ideally complement Wikis (O.Egbu et al. 2002).

In terms of *knowledge assimilation* to support PACAP, the result show an E-mails (19%) are pre-dominant but closely followed by Wikis (18.64%) and, lagging more behind, by Web-Conferencing technologies (15.64%). Asynchronous E-Mail communication promises practical, fast and direct delivery and assimilation of information, but also experiences problems, such as E-mail overload (Whittaker et al. 1996). It is a highly ranked solution for all roles except the project manager, who still relies more on synchronous Web-Conferencing. Wikis are also considered to be very important in terms of internally assimilating knowledge. Web conferencing maintains its top rank also for knowledge assimilation. Apparently the ability of this tool to make everyone, everywhere accessible and virtually present does make a difference when it comes to gain and share knowledge. The possibility to combine multiple sources of information with Mashups appeals to the researcher most.

Furthermore, the results show that blogs offer an important contribution to both dimensions and PCAP as indicted by Hsu (2008). RSS are about equally important and can be configured to grab Blogs and notify the user when a certain web page updates. Factors such as ease of use and enjoyment appear to be the incentives that motivate blog users to contribute knowledge to others. Especially in line with the ideas of Levy (2007) that Web 2.0 applications and tools (primarily wikis but also blogs) affect knowledge management, the result show that organizations should be encouraged in exploiting these tools to improve their PACAPs.

Considering the increasing trends of organizations, especially global corporations (such as IBM Corp., Accenture Ltd., and SAP AG (Richter 2009)), to implement corporate social networks (CSN) to mostly access tacit knowledge, it is surprising that the results indicate that CSN tools are not among the favorites to support knowledge processing. Clearly a CSN is much more complex and offers additional features that facilitate the user's working dynamics. However, this does not ultimately include that CSN are not appropriate for the matter. Richter (2009) suggested that one key motive to stimulate the users to engage with CSN is their need to effectively identify knowledge bearers and experts. In the context of PACAP, these individuals can be seen as gatekeepers, who are needed to help transferring knowledge across external and internal borders (Bernroider et al. 2011; Cohen et al. 1990). Technologies considered by the experts uniformly as least important are Social Bookmarks and Mashups when it comes to support both dimension of PACAP.

Knowledge Acquisition		**Knowledge Assimilation**		**Potential ACAP**	
1.Wiki	27.45%	1.Email	19.00%	1.Wiki	22.93%
2.Web Conference	16.72%	2.Wiki	18.64%	2.Web Conference	16.16%
3.Blog	14.94%	3.Web Conference	15.64%	3.Email	14.69%
4.RSS	12.85%	4.Blog	11.94%	4.Blog	13.40%
5.Email	10.15%	5.RSS	10.95%	5.RSS	11.88%
6.CSN	8.12%	6.CSN	10.33%	6.CSN	9.25%
7.Mashup	5.17%	7.Mashup	7.86%	7.Mashup	6.55%
8.Social Bookmark	4.60%	8.Social Bookmark	5.64%	8.Social Bookmark	5.14%

Table 2: Relative priorities of Web 2.0 tool support for knowledge acquisition and assimilation within PACAP

Finally, it is important to note some limitations and possible extensions to this study. First, the collected data only allows for indicative insights and reflect individual expert views on the relative suitability of Web 2.0 tools for organizational PCAP. Hence, findings can therefore not be generalized. Second, the model proposed has been limited to the consideration of the potential absorptive capacity construct only. To give an extended view of how Web 2.0 tools improve the way how business is conducted, we suggest that a larger model should be created including realized absorptive capacity. However, realized absorptive capacity is considered as a difficult concept to quantify and organizational level effects of knowledge sharing are hard to isolate. Future work could focus on identifying, respectively creating accurate formative items for measuring the role of technology, in particular in the context of Web 2.0, for developing ACAP in more general terms.

CONCLUSION REMARKS

The established use and increasing popularity of the Web 2.0 in organizations (Bughin et al. 2010; Jaokar et al. 2010; Kisselburgh et al. 2010) justifies inquiry about the impact and significance that associated technologies have to support the dynamic process of knowledge sharing in an organizational environment. This paper presents new evidence about the relative importance of Web 2.0 tools for developing potential absorptive capacity in organizations. As most academic articles focused on one technology at a time when examining Web 2.0 in the area of collaboration and knowledge management (Wilson et al. 2011), we engages in a comparative view of such tools and considers different priorities of individual roles in the organizational context. This paper offers valuable insights with regard to which Web 2.0 technologies or mixes thereof may most effectively develop potential ACAP in organizations. In particular, it was shown that our experts rely most on tools that focus on tacit (codified) knowledge (Wikis), which are complemented with tacit knowledge exchange mechanisms (Web Conferences). However, different technology related priority levels are observable across roles and ACAP stages.

APPENDIX

PACAP Dimension	Role/Variable	n	λ_{max}	CI	RI	CR
1. Acquisition	Project Manager	8	8.595	0.085	1.41	0.060
	Service Manager	8	8.879	0.125	1.41	0.089
	Researcher	8	8.728	0.104	1.41	0.073
	Web Engineer	8	8.486	0.069	1.41	0.049
2. Assimilation	Project Manager	8	8.955	0.136	1.41	0.096
	Service Manager	8	8.475	0.067	1.41	0.048
	Researcher	8	8.937	0.133	1.41	0.095
	Web Engineer	8	8.930	0.132	1.41	0.094

Table A1: Eigenvalues, consistency indices, random indices and consistency ratios

REFERENCES

1. Auguste, M.S.C., Jashapara, A., and Bernroider, E. "Exploring the perceived influence of new knowledge on absorptive capacity in a public sector organisation," in: *The OR Society,* J.-R. Córdoba and N. Gulpinar (eds.), Royal Holloway University of London, 2010.
2. Bernroider, E.W.N., and Bernroider, M. "A comparative study of business process management tools based on open source software and a commercial reference," 5th International Conference on Cybernetics and Information Technologies, Systems and Applications (CITSA 2008), Orlando, FL, USA, 2008, pp. 225-230.
3. Bernroider, E.W.N., Maier, K., and Stix, V. "Incomplete Information within Relative Pairwise Comparisons as Utilized by the AHP," *Lecture Notes in Business Information Processing* (LNBIP 57) 2010, pp 39-50.
4. Bernroider, E.W.N., Sudzina, F., and Pucihar, A. "Contrasting ERP absorption between transition and developed economies from Central and Eastern Europe (CEE)," *Information Systems Management* (28:3) 2011, pp 240-257.
5. Bughin, J., and Chui, M. "The rise of the networked enterprise: Web 2.0 finds its payday," *McKinsey Quarterly* (4) 2010, pp 3-8.
6. Buhse, W., and Stammer, S. *Enterprise 2.0 - The art of letting go.* Bloomington: Iuniverse Star, USA, 2008.
7. Cohen, W.M., and Levinthal, D.A. "Absorptive capacity: A new perspective on learning and innovation," *Administrative Science Quarterly* (35:1) 1990, pp 128-152.
8. Cross, R., Parker, A., and Borgatti, S. "A bird's-eye view: Using social network analysis to improve knowledge creation and sharing," *Knowledge Directions* (2:1) 2000, pp 48-61.
9. Gardner, H.K., Gino, F., and Staats, B.R. "Dynamically Integrating Knowledge in teams: Transforming Resources Into Performance," *Academy of Management Journal* (55:4) 2012, pp 998-1022.
10. Grant, R.M. "Toward a knowledge-based theory of the firm," *Strategic Management Journal* (17:Winter Special Issue) 1996, pp 109-122.
11. Hecker, M., and Wolff, C. "Towards Social Information Seeking and Interaction on the Web," Proc. 11. Internationales Symposium für Informationswissenschaft, Verlag Werner Hülsbusch, Boizenburg,, 2009, pp. 235-241.
12. Hey, J. "The Data, Information, Knowledge, Wisdom Chain: The Metaphorical link," 2004, p. 18 pages.
13. Hsu, C.-L., and Lin, J.C.-C. "Acceptance of blog usage: The roles of technology acceptance, social influence and knowledge sharing motivation," *Information & Management* (45:1) 2008, pp 65-74.
14. Huber, G.P. "Organizational Learning: The contributing processes and the literatures," *Organization Science* (2:1) 1991, pp 88-115.
15. Jaokar, A., and Sharma, C. "Mobile VoIP – approaching the tripping point," 2010.
16. Jimenez-Barrionuevo, M.M., Garcia-Morales, V.J., and Molina, L.M. "Validation of an instrument to measure absorptive capacity," *Technovation* (31:5-6) 2011, pp 190-202.
17. Kelleher, T., and Miller, B.M. "Organizational Blogs and the Human Voice: Relational Strategies and Relational Outcomes," *Journal of Computer-Mediated Communication* (11) 2006, pp 395-414.
18. Kisselburgh, L., Spafford, E., and Vorvoreanu, M. "Web 2.0: a complex balancing act," *McAfee White Papers* (4) 2010, pp 2-13.
19. Law, K.S., Wong, C.-S., and Mobley, W.H. "Toward a Taxonomy of Multidimensional Constructs," *The Academy of Management Review* (23:4) 1998, pp 741-755.

20. Leuf, B., and Cunningham, W. *The Wiki Way: Quick Collaboration on the Web* Addison-Wesley Longman, Amsterdam, 2001.
21. Levy, M. "Web 2.0 implications on knowledge management," *Journal of Knowledge Management* (13:1) 2007, pp 120-134.
22. McKinsey "How companies are benefiting from Web 2.0: McKinsey Global Survey results ".
23. Montazemi, A.R., Pittaway, J.J., Saremi, H.Q., and Wei, Y. "Factors of stickinss in treansfers of know-how between MNC units," *Journal of Strategic Information Systems* (21:1) 2012, pp 31-57.
24. Noll, M.G., and Meinel, C. "Web Search Personalization Via Social Bookmarking and Tagging," in: *The Semantic Web,* K.A.e. al. (ed.), Springer-Verlag, Berlin Heidelberg, 2007, pp. 367–380.
25. Nonaka, I. "A Dynamic Theory of Organizational Knowledge Creation," *Organization Science* (5:1) 1994, pp 14-37.
26. Nonaka, I., and Takeuchi, H. *The Knowledge-Creating Company: How Japonase Companies Create the Dynamics of Innovation* Oxford University Press, Inc, Madison Avenue, New york, 1995.
27. Nonaka, I., and Toyama, R. "The knowledge-creation theory revisited: knowledge creation as a syntehesizing process," *Knowledge Management Research & Practice* (1:1) 2003, pp 2-10.
28. O.Egbu, C., and Botterill, K. "Information technologies for knowledge management: their usage and effectiveness," *Journal of Information Technology in Construction* (7:Special Issue ICT for Knowledge Management in Construction) 2002, pp 125-137.
29. Reddy, M.C., and Spence, P.R. "Collaborative information seeking: A field study of a multidisciplinary patient care team," *Information Processing & Management* (44:1) 2008, pp 242-255.
30. Richter, A. "Corporate Social Networking Sites - Modes of Use and Appropiate through Co-Evolution," in: *Proc ACIS international conference on computer and information science.*, Melbourne, 2009, pp. 722-732.
31. Roberts, N., Galluch, P.S., Dinger, M., and Grover, V. "Absorptive Capacity and Information Systems Research: Review, Synthesis, and Directions for Future Research," *MIS Quarterly* (36:2) 2012, pp 625-648.
32. Saaty, R.W. "The Analytic Hierarchy Process - What it is and how it is used," *Mathl Modelling* (9:3-5) 1987, pp 161-176.
33. Saaty, T.L. *The Analytic Hierarchy Process* The Wharton School University of Pensilvania, United States of America, 1991, p. 287.
34. Saaty, T.L. *Analytical Planning: The Organization of Systems: The Analytical Hierarchy Process Series* RWS Publication, Vol. 4, Pittsburg, 1994.
35. Saaty, T.L. "Decision making with the analytic hierarchy process," *Int. J. Services Sciences* (1:1) 2008, pp 83-98.
36. Sena, J., and Sena, M. "Corporate Social Networking," *Issues in Information Systems* (9:2) 2008, pp 227-231.
37. Suduc, A.-M., Bizoi, M., and Filip, F.G. "Exploring Multimedia Web Conferencing," *Informatica Economică* (13:3) 2009, pp 5-17.
38. Tummala, V.R.M., and Wan, Y.M. "Analytic Hierarchy Process (AHP) in practice: a survey of applications and recent developments. ," *Journal of Mathematical Modelling and Scientific Computing* (3:1) 1994, pp 1-38.
39. Van den Bosch, F., Van Wijk, R., and Volberda, H. "Absorptive Capacity: Antecedents, Models and Outcomes," in: *The Blackwell handbook of organizational learning and knowledge management*, In: Easterby-Smith Mark; Lyles Majorie (editors), Malden:Blackwell, 2003, pp. 278-301.
40. Wetzels, M., Odekerken-Schröder, G., and Oppen, C.V. "Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration," *MIS Quarterly* (33:1) 2009, pp 177-195.
41. Whittaker, S., and Sinder, C. "Email overload: exploring personal information management of email," Proceedings of the SIGCHI Conference on Human Factors in Computing Systems ACM, Vancouver, British Columbia, Canada 1996, pp. 276-283
42. Wilson, D.W., Lin, X., Longstreet, P., and Sarker, S. "Web 2.0: A Definition, Literature Review, and Directions for Future Research," AMCIS, Paper 368, 2011.
43. Zahra, S.A., and George, G. "Absorptive Capacity: A Review, Reconceptualization, And Extension," *Academy of management review* (27:2) 2002, pp 185-203.