

Value added Identification and implementation of the Web 2.0 in metal-mechanic sector companies in Spain: the metal 2.0* research Project

Gil Pechuán, I.¹; Albarracín Guillem, J.M.¹; Conesa García, Pilar²

¹ Dpto. de Organización de Empresas (7D). Universidad Politécnica de Valencia. C/Vera s/n, 46022. Valencia. igil@doe.upv.es, jmalbarr@doe.upv.es

² mconesa1@omp.upv.es

Palabras clave: Web 2.0, Social Network, SME Innovation

1. Introduction

The daily lives of many of the world's population continue to be influenced by the Internet, first from a singular connection model to a more collaborative one. This is evident in the exponential growth of Web 2.0 technologies and the corresponding growth of social networking as a means for people to create, collaborate and gain knowledge from each other (Bernoff & Li, 2008). Collaboration at the social level is also leading to disruptive innovation in how enterprise software is created, sold, used and serviced over the long term. Corresponding to the widespread collaboration based on Web 2.0 technologies, Software-as-a-Service (SaaS) also continues to be the catalyst of change for enterprise software, according to Orr (2006) and Waters (2005). When these innovations are analyzed in the context of Drucker's seven opportunities of innovation (2002), the process needs (p. 98) are the most dominant in terms of explaining the effects of social networking and the growth of SaaS-based software. The catalyst of these process innovations is the need for both individuals amongst themselves and in collaborating with organizations to have fewer constraints in communicating and accomplishing tasks. On this latter point, the majority of tasks completed in organizations prior to the development of SaaS-based software was primarily manual or partially managed through large-scale enterprise software systems. The process need innovation of SaaS is built on the foundation of collaboration (Waters, 2005) and is re-ordering the enterprise software landscape by significantly changing processes by which individuals and organizations interact with one another.

2. Process Need Innovation and Social Networking

The foundation of process change occurring in social networking and SaaS is collaboration, with the Web 2.0 technologies serving as their foundation (Bernoff & Li, 2008). In order to put the impact of Web 2.0 in general and social networking specifically into perspective from a societal standpoint, it must first be seen from the context of how the second generation of services that are available online, specifically designed for ensuring a high degree of collaboration, information sharing, and support for knowledge-based and financially-based transactions. The distinction many researchers make is that the first generation of the Web is by nature passive, often relying on a publish-and-subscribe model. Despite the highly interactive nature of Web 2.0 there are critics, mostly from the ranks of CIOs who by nature

* This work stems from the participation of the authors in a research project funded by GVA-IMPIVA, reference IMIDIN/2008/2, title Metal 2.0: viabilidad de las herramientas Web 2.0 en el sector del Metal

are risk averse to new technological developments that have not proven to be effective in aligning with business strategies (Kirsner 2007, et.al). Skeptical of the new technologies that together comprise Web 2.0 in general with specific skepticism directed at social networking specifically, CIOs have been slow to adopt these new collaborative platforms.

Taken together these applications form the collaboration platform that social networking applications and their variations including mash-ups and blogs rely on in order to accomplish high levels of collaboration. In keeping with unbounded systems thinking, the proliferation of the series of Web 2.0 applications and their growth are defined more by communication patterns than adherence to taxonomies and architectures. This is one of the factors that were taken into account in defining unbounded systems thinking as the method of enquiry. Taken together the applications in Table 1 are evidence of the dynamics of the industry. Industry leaders Tim O'Reilly, founder and publisher of O'Reilly Books, and John Battelle, author and former design engineer lead at Google, summarized their definition of the market and user dynamics driving the next generation of web services called Web 2.0.

3. Collaboration and Social Networking

Inherent in the user dynamics of the map completed by O'Reilly and Battelle are the theoretical foundations of social networking. Specifically the architecture of participation, remixable data sources and data transformations (also known as mash-ups in Web 2.0 vernacular), and the harnessing of collective intelligence are the user-defined taxonomies are factors that have collectively served as the catalyst for the growth of social networking.

Social networking is bringing an entirely new level of participation and interactive feedback to nearly every task completed online. With the growth in social networking participation through the variety of websites and applications, the impacts to society are starting to be seen, mostly from gaps in the existing collaborative platform that supports these applications. First, there is the issue of authenticity and validating the true identity of someone within a social networking context. Facebook and MySpace both do not today have a highly reliable identity authentication process in place (Poynter, 2008, p. 11); hence the concern of many parents regarding their children participating on these sites and the risk of interacting with strangers who may or may not be who they present themselves as online. Second, social networking is bringing an entirely new level of immediate transparency to the online communication process, inviting thousands if not millions of people to communicate with one another (Jones, 2008, p. 10, 11). Blogs and Wikis were the precursor to this aspect of social networking's impact on society today. These three factors of blogs, Wikis and the emerging set of social networking applications are forcing transparency to the forefront of what is considered credible online behavior; to be oblique or not forthcoming about ones' true intentions online is to not be trusted at the least and ostracized at the worst. Third, the complex issue of how relationships are created sustained and how trust is eventually created is one of the main issues that are impacting the adoption of social networking globally. Fourth, there are the concerns within organizations that their proprietary and confidential information will be either intentionally or accidentally shared through social networking sites. There are also the concerns over what is said about an organization by its employees on blogs, Wikis and through sessions on social networking sites. Google, IBM, Intel, Oracle, Microsoft and many other technology-related companies have been quick to define standards for their employees to follow for blogging specifically and social networking in general. These guidelines look to both protect valuable intellectual property and proprietary data, yet also give employees the flexibility of promoting the company and their contributions. The potential for conflicts of interest and the ethical dichotomy of having employees participate in social networking and media, known to be the new framework of global free speech, yet monitoring them either

loosely through policies or rigorously by filtering, is one of the emerging paradoxes society is going to have to deal with well into the future as well (Hauser, Tappeiner, Walde, 2007, p. 13, 14).

Contrary to these limitations that the gaps in the collaborative platform that social networking is based on are the many advantages and advances in collaboration within and between organizations and companies of all types (Gloor & Cooper, 2007, et.al.) While the initial direction of social networking vendors and sites was to seek balkanization of the global social networking user base by segmenting using their own technologies and processes for communicating, there's an increasing pressure to make all forms of social networking communicate with one another. As has been referenced, Google's API to unify all social networking sites and applications is a case in point, as are the emerging group of start-up companies that seek to create a more unified collaborative architecture where all social networking applications and processes can be integrated together. On a small scale this is already happening mostly within the four walls of companies, protected by firewalls to ensure proprietary and highly confidential data is not leaked or hacked from the outside. The use of Wikis, a form of social networking where the needs of users for content define the taxonomy of the data, including its depth versus dearth by subject area and the tertiary subject areas, are widely in use throughout many corporations where knowledge management is critical to their competitive advantage (Hauser, Tappeiner, Walde, 2007). The use of Wikis as knowledge and content management systems has become more pervasive as enterprise software vendors have worked to create product strategies that allow for the content in these social networking applications to be repurposed throughout the organization as well (Hedgebeth, 2007, p. 49). The development of enterprise content management systems and the integration of social networking applications as repositories of knowledge that can be queried depending on the business strategies needs has been defined by Harvard University Professor Andrew McAfee as Enterprise 2.0, and reflects the commercialization of social networking (McAfee, 2006, pp. 21 – 28). The future of social networking is evident from the attempts within organizations to create enterprise-wide knowledge and content management systems on the one hand, and the evolution of responses to unmet needs of social networking users globally for greater validation of identity, security, and collaborative integration.

4. About the Metal 2.0 Research Project

Metal 2.0 is more than just tools, it also includes interface/interaction design for ease of use, sociality, and encouragement of use. The two biggest factors that are needed inside an organization that can receive less attention on the web are the sociality and encouragement of use.

Understanding sociality is incredibly important inside an organization as people are used to working in groups (often vertical in their hierarchy) that have been dictated to them for use. When the walls are broken down and people are self-finding others with similar interests and working horizontally and diagonally connecting and sharing with others and consuming the collective flows of information their comfortable walls of understanding are gone. This fear inside the enterprise is real. Much of the fear is driven by lacking conceptual models and understanding the value they will derive from using the tools and services. People need to know who the other people are that they are sharing with and what their motivations are (to some degree) before they have comfort in sharing themselves.

Encouraging use is also central to increased adoption inside organizations. Many organizations initial believe that Web 2.0 tools will take off and have great adoption inside an organization. But, this is not a "build it and they will come" scenario, even for the younger

workers who are believed to love these tools and services and will not stay in a company that does not have them. The reality is the tools need selling their use, value derived from them, the conceptual models around what they do, and easing fears. Adoption rates grow far beyond the teen percentages in organizations that take time guiding people about the use of the tools and services. Those organizations that take the opportunity to continually sell the value and use for these tools they have in place get much higher adoption and continued engagement with the tools than those who do nothing and see what happens.

The original concept of the web consisted of static HTML pages that were not frequently updated. In a first approximation, firms began to use dynamic HTML pages created off the cuff from an updated database. In both cases, the objective was to merely inform and provide a sound image for the firm. The aim of this project is to study how to lead firms toward the Web 2.0 paradigm, where use of the Web is aimed at interaction and social networks that can provide content to exploit the effects of networks by creating interactive and visual webs. In other words, Web 2.0 sites act more as meeting points or dependent webs of firms than as traditional webs.

In order to do so, the project undergoes new forms of relationship of the firm with its environment (collaborators, customers, administration, employees etc.) as well as obtaining benefits from Web 2.0 techniques (semantic web) applied to optimize and better use existing information in a social network platform based on common interests such as the metal-mechanic sector (<http://www.metal20.org>).

Infometal.com is already a collaborative Web platform in the sense of what is known today as Web 2.0, as it is the users of the platform themselves that maintain, bullish and consult information.

However, a multitude of strategies have arisen within the Web 2.0 that, when adequately applied to the metal-mechanic sector, can improve the way in which a firm communicates with any of its agents, be they customers, suppliers, administration or employees at a much higher level than that currently offered by [infometal.com](http://www.infometal.com). The web 2.0 is not only a set of technologies but a concept that indicates a new form of collaboration. Consequently, to make this project come to fruition, it is necessary to join various parts; on the one hand there is a large technological component, as the Web 2.0 is based on emerging technologies that must be adapted to the needs of firms. On the other hand, the project requires a component of analysis for description, definition, characterization, contextualization and identification of functionalities that a social web applied to firms must have.

Currently, almost all Web 2.0 based projects are aimed at the final user, not at firms. In the area of the end user, Web 2.0 projects are having enormous success, some of the most notable of which are Wikipedia, flickr, blogspot, etc. With regard to firms, this is pioneering project, as it analyzes the way in which these paradigms can improve their competitiveness.

The general objectives of this research were defined as the creation of a strategy aimed at the management of more useful information as a result of the relationship promoted and maintained among 180 firms from the metal-mechanic sector via a variety of collaboration tools thereby leading to the analysis and assessment of collaborative based on social technologies as support tools from internal processes of the generation of firm communication and content, an analysis of the value contributed by indicators of innovation, complementarity, loyalty and efficiency of the technologies used. This involved using practices such as benchmarking and carrying out pilot schemes with several firms in order to experience and develop capabilities that allow the application of Web 2.0 technologies in the different firm processes.

To Identify and analyze information on relationships as a consequence of the more common practices in handling technologies that generate social networks in the metal-mechanic sector. To identify the existence of habits, behaviour, and role models as a result as using social network technologies.

To identify the procedures of creation, maintenance and development of the different contents of social networks as well as their influence on the personal social network of each CEO.

To produce a diagnosis of the level of influence of the use of network technologies and the application of collaboration models among different SMEs and between them and their agents (advisors, suppliers, etc.)

And finally, to transport these results, starting up an experimental platform for a social network for the metal-mechanic sector with the idea of identifying specific contents and indicators of maximum interest (following the methods of analysis of the social network) for creating value in mutual collaboration and adapting the infometal page (infometal.com) to the new Web 2.0 services.

Lots of knowledge workers spend lots of their time on two activities: keeping their colleagues apprised of what they're doing, what progress has been made, what they've learned/concluded, etc. and trying to locate resources within their own organizations — facts, references, work that's already been done, people with relevant smarts or experience, etc. Blogs (like the other Enterprise 2.0 tools) can help with the first of these tasks, and in doing so also help with the second. It's not too farfetched to envision companies in which people use web 2.0 tools to report progress, collaborate, and share the outputs of these collaborations. These same people would probably also search the company's internal 'collabosphere11' — the collection of blogs, wikis, group-level instant messages, tags, etc. — early and often in any effort.

5. Is Web 2.0 enterprise ready?

The collaboration technologies collectively know as Web 2.0 - blogs, wikis, tags, RSS and the like - are the latest to be promoted as powerful tools for automating corporate knowledge management. But will they share the same fate as their predecessors: heavily hyped, widely installed, then abandoned? Andrew McAfee doesn't think so¹². McAfee first explains why past knowledge management "solutions" rarely solved anything. He then explains what makes Web 2.0 technologies different. "The good news," he writes, is that the new Technologies "focus not on capturing knowledge itself, but rather on the practices and output of knowledge workers."

By providing both a platform for collaboration and a means of recording the details of the collaboration, the technologies create a public record of previously private knowledge-sharing conversations, a record that's permanent and easily searched. Knowledge is captured, in other words, as it's created, without requiring any additional work. As people search and use that knowledge, moreover, they refine it - through commenting, linking, syndicating and tagging, for instance - which makes it even more valuable.

"This suggests an intriguing possibility," writes McAfee: It has historically been the case that as organizations grow it becomes more and more difficult for people within them to find a

¹¹ Andrew McAfee's, Associate Professor of Business Administration, Harvard Business School (<http://andrewmcafee.org/blog/?p=52>)

¹² Andrew McAfee , "Enterprise 2.0: The Dawn of Emergent Collaboration", MIT-Sloan Management Review, April 1, 2006

particular information resource - a person, a fact, a piece of knowledge or expertise. Enterprise 2.0 technologies, however, can be a force in the opposite direction. They can make large organizations in some ways more searchable, analyzable and navigable than smaller ones, and make it easier for people to find precisely what they're looking for.

6. Disruptive Innovation Factors by SaaS¹³ Approach

Companies are beginning to create shared workgroups on SaaS platforms like infometal.com, enabling global collaboration as well. The initial disruption of SaaS as a disruptive technology that significantly changed how software has utility, was sold and serviced is now having a significant impact on how entire workgroups collaborate and communicate online. The following table explains the benefits that we have been detecting in the project and are driving the adoption of SaaS applications and architectures. Table 1, Disruptive Innovation Factors by SaaS Approach, illustrate why this approach to selling and using software is becoming more pervasive than any other.


SaaS Approach	Customer Benefits	Vendor Benefits	Market Direction 
Subscription	<ul style="list-style-type: none"> • Time-to-value • Lower risk • Lower switching costs • Funded by lines of business 	<ul style="list-style-type: none"> • Annuity revenue recognition • Proof of accountability 	
Hosted	<ul style="list-style-type: none"> • Avoids IT expenses • Ability to scale • Capable of supporting external or mobile users 	<ul style="list-style-type: none"> • More control over customer success • System strategy entry point to on-premises application hosting 	
Software as a Service (SaaS)	<ul style="list-style-type: none"> • Automatic free updates • Pay only what you use • No maintenance fees 	<ul style="list-style-type: none"> • Constant feedback on usage of applications and platform • No shelf-ware or applications that aren't used • Higher gross margins per new subscriber 	

Table 2: Disruptive Innovation Factors by SaaS Approach

The evolution of SaaS from subscription, to hosted and finally to SaaS-based platforms capable of both single- and multi-tenancy also underscores the dynamic nature of process needs-based innovation. With each of these successive changes in the delivery platform there has been a correspondingly greater alignment to the unmet needs of individuals to collaborate, which has in turn driven significant change into the processes organizations rely on to collaborate as well. Initial efforts to deliver process needs innovation with subscription-based models became encumbered with only partial efforts on the part of software developers to deliver applications that met unmet process needs (probably led by the industrial institutes). The progression to hosted applications fulfilled the fundamental need of being able to have sufficient software application functionality, thereby enabling the lower levels of collaboration within an organization and between individuals. It was only after the launch of the SaaS platform, supported by applications specifically created for its unique strengths, did process needs innovation flourish. The iterative effects of these development efforts actually

¹³ SaaS: Software as a Service

fine-tuned the SaaS models more precisely to the unmet needs of those individuals and organizations who were not finding solutions in current alternatives.

Gartner, a research consultancy, has completed a Hype Cycle for SaaS and it is shown in Figure 2, Gartner Hype Cycle for SaaS, 2006 (Margulius, et.al.). As can be seen from the graphic, SaaS is now pervading every segment of the enterprise software industry. SaaS's disruptive effects as defined above on traditional software segments, is forcing companies to re-think and re-evaluate their business models taking into account business collaboration services providers like AIMME¹⁴ (Informetal.com).

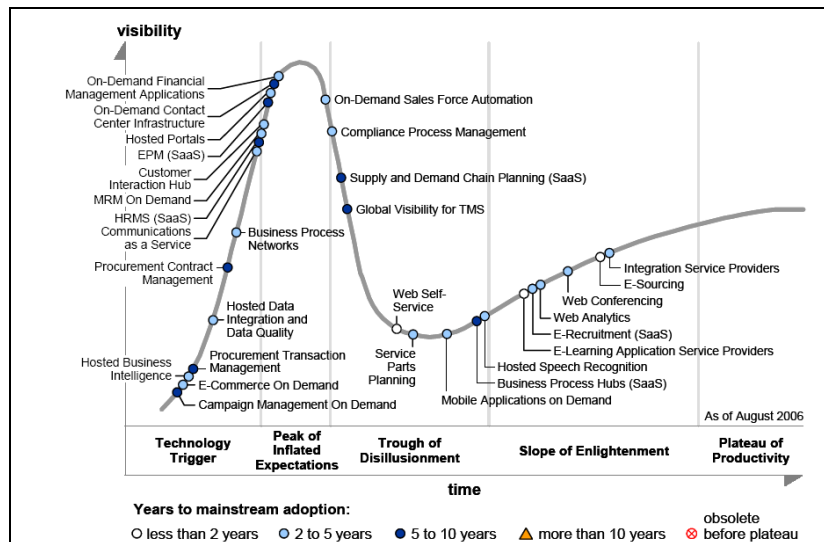


Figure 2: Gartner Hype Cycle for SaaS, 2006 - Source: (Margulius, et.al.)

This progression of SaaS went also largely ignored by many industrial institutes and enterprise software companies; hence, the significant pressure on them to change their approaches to developing, delivering, selling and servicing applications as has been discussed in this research. The evolution of SaaS process needs innovation in SaaS specifically and collaboration in general (social networking).

7. Innovation from Process Needs Improvement

The initially unforeseen collaborative and communicative benefits of SaaS which include being able to complete projects with team members located at widely divergent geographic areas, the development of new strategies and programs using insights from team members located on different continents, and the ability to share documents. Virtual teams have been made possible with SaaS applications, sharing designs, drawings, and documents within secured interactive forums, all hosted on a SaaS platform. There is also the use of SaaS applications for capturing greater knowledge and insights about customers. This is the most pervasively used application of SaaS today due to the success of Salesforce.com. Taken together all these factors contribute to the strength and adoption of this disruptive technology. All of these factors taken together have in fact lead analysts to call SaaS is the most disruptive technology in the software business today (McNee, 209, 210)

SaaS exemplifies many of the concepts and lessons learned from Clayton Christensen in writings on the subject including the book *The Innovator's Dilemma*, many of which he has discussed in subsequent papers and interviews (Christensen, Raynor, et.al) (Knight, et.al.)

¹⁴ AIMME: Instituto tecnológico Metal-Mecánico – <http://www.aimme.es>

(Christensen, et.al). Specifically looking at SaaS from the standpoint of Christensen's theories of disruptive frameworks, Figure 4 illustrates the SaaS Disruptive Technology Framework, created based on analysis from cited sources (McNee, et.al)(Margulius, et.al)(Knight, et.al) (Christensen, et.al). The emerging leaders in the SaaS software industry have found initial success in the Customer Relationship Management (CRM) industry. As Dr. Christensen has discussed in his book and writings, the characteristics or attributes of disruptive innovation center on defining feature sets and functionality that existing customers' aren't necessarily looking for, yet serve as the catalyst for larger, uncontested and often more profitable market segments (Kim & Mauborgne, 2004). Christensen also has noted that disruptive innovation often is oriented to the fringe of an existing market, therefore interviewing customers for their insights into future product directions often leads to product line extensions rather than entirely new markets being created (Christensen, Raynor, et.al).

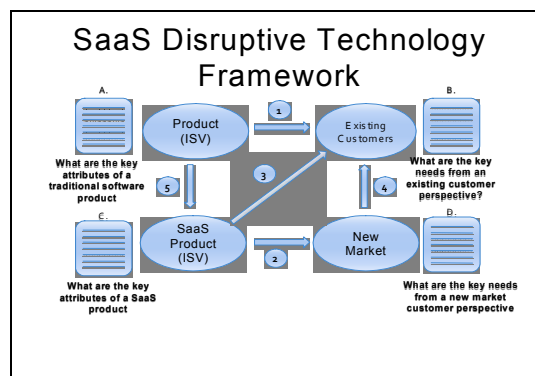


Figure 4. SaaS Disruptive Technology Framework (Based on analysis provided by following sources: (McNee) (Margulius)(Knight) (Christensen))

8. Conclusions

Process needs as an opportunity for innovation as defined by Drucker (2002, p.98) in conjunction with the theories of innovation from Christensen (Christensen, Kaufman, Shih, 2008), (Christensen, Baumann, Ruggles, Sadtler, 2006), and (Christensen, Schmidt, Larsen, 2003) provide a solid theoretical foundation to evaluate how Web 2.0 technologies are aligning to the needs of individuals and organizations to collaborate with each other. The current popularity of social networking speaks to a more fundamental process need, and that is one of collaboration. SaaS as a software delivery platform specifically capitalizes on this process needs and delivers significant innovation to licensed-based approaches to delivering software. Underscoring this process need for greater collaboration is the research completed by Kim & Mauborgne (2004) which illustrates how discovering process-related needs through observation and insightful analysis can create entirely new markets.

However, the theories of innovation do not provide insights into how the symbiotic relationships between communication and collaboration trends impact emerging and nascent technologies, and vice versa. This is certainly the case when one considers the interaction of social networking, collaboration, Web 2.0 technologies and the rise of SaaS as a viable platform. The process needs opportunity as defined by Drucker (2002, p. 98) speaks to the end result of a process paradigm shift, yet does not delve into the interrelationships and interactions of factors that contribute to the speed and veracity of change a process can produce. When one considers the rapid ascension of social networking as a collaborative platform, so rapid in fact, that business models to monetize it are still elusive, it's clear that existing theories of innovation do not scale for this velocity of social and technological change occurring at the same time. Innovation frameworks then must become more agile and

capable of taking into account the intersection of economic, social and technological change if they are to reflect accurately the current state of innovation.

Bibliography

Bernoff, J.; Charlene Li. (2008). "Harnessing the Power of the Oh-So-Social Web". MIT Sloan Management Review 49, no. 3 pp:36-42. (Proquest accessed May 7, 2009).

Blair, Roger D, Esquible, Amanda K.(1995) "The Microsoft muddle: A caveat." Antitrust Bulletin; 40; no. 2; pp:257.

Clayton, M. C.; Stephen, P.; Kaufman, W. CS. (2008). "Innovation Killers". Harvard Business Review. Special HBS Centennial Issue 86, no. 1 pp: 98-105.

Christensen, M.C; Baumann,H.; Ruggles,R.; Sadtler,T.S. (2006). "Disruptive Innovation for Social Change". Harvard Business Review , no. 12. pp: 94-101.

Christensen, J.F.; Schmidt,M.L.; Larsen, M.R.(2003). "Turbulence and competitive dynamics in the Internet services industry". Industry and Innovation, no. 2. pp.:117-143

Cooke, M.; Buckley, N.(2008) "Web 2.0, social networks and the future of market research". International Journal of Market Research; no. 2

Corso,M.; Pellegrini,L.(2007) "Continuous and Discontinuous Innovation: Overcoming the Innovator Dilemma". Creativity and Innovation Management 16.4: 333.

Dibrell, C.; Davis, P.S.; Craig, J. (2008). "Fueling Innovation through Information Technology in SMEs". Journal of Small Business Management, 46,no. 2; pp: 203-218.

Drucker, P.F. (2002). "The discipline of innovation". Harvard Business Review, 80, no. 8 pp: 95-102.

Drucker, P-F.(1999). "Change leaders". Inc, June, 1, pp: 64-72..

Eijkman, H. (2008). "Web 2.0 as a non-foundational network-centric learning spacer". Campus Wide Information Systems, 25, no.2; pp: 93-104.

Gloor, P; Cooper, S. (2007). "The New Principles of a Swarm Business". MIT Sloan Management Review; 48; no.3; pp: 81.

Hauser,C.; Happeiner,T.; Walde, J. (2007). "The Learning Region: The Impact of Social Capital and Weak Ties on Innovation". Regional Studies; 41; no.1; pp:75.

Hedgebeth, D.; (2007). "Making use of knowledge sharing technologies". VINE 37; no.1; pp:4

Jones, A. (2008). "Let's Give Them Something to Talk About". EContent, March 1: pp:10-11.

Kim,W.C.; Mauborgne,R. (2004). "Blue ocean strategy". Harvard Business Review, 82, no.10; pp:76-84.

Kirsner,S. (2007). "Web 1.0 vs. Web 2.0; A critical look back at the hype surrounding Web 2.0 and how it compares to the dotcom boom". CIO, July 1, 1.

Knight,D.J. (2005). "Three trips around the innovation track: an interview with Clayton Christensen"; Strategy & Leadership; 33.; no. 4; pp:13-19.

McAfee, A.P. (2006). "Enterprise 2.0: The Dawn of Emergent Collaboration". MIT Sloan Management Review; 47; no.3; pp: 21-28.

McNee, W.S. (2007) "SaaS 2.0." Journal of Digital Asset Management; 3; no 4; pp:209-214.

- Neves, M.F. (2007). "Strategic marketing plans and collaborative networks". *Marketing Intelligence & Planning*; 25; no.2; pp:175.
- Orr, B. (2006). "SaaS just may be the end of software as we know it". *American Bankers Association. ABA Banking Journal*; 98; no.8; pp:51-52.
- O'Reilly,T. (2006). "Web 2.0: Stuck on a Name or Hooked on Value?"; *Dr. Dobb's Journal*; July 1;10.
- Poynter, R. (2008). "Facebook: the future of networking with customers".*International Journal of Market Research*; 50;no.1; pp:11.
- Roxanne E., Jeanne, S.B.,Shannon, C.T. (2007). "Social Networking Sites: To Monitor or Not to Monitor Users and Their Content". *Intellectual Property & Technology Law Journal* 19, no. 7 pp: 13-17.
- Waters,B. (2005). "Software as a service: A look at the customer benefits". *Journal of Digital Asset Management*; 1,no.1; pp:32-39.
- Webb, G. (2007). "A new future for brand marketing". *The British Journal of Administrative Management*; pp::13-15.