

Association for Information Systems AIS Electronic Library (AISeL)

AMCIS 2010 Proceedings

Americas Conference on Information Systems
(AMCIS)

8-2010

An Intermediary's Perspective on Co-creation: Mechanisms for Knowledge Management

Stephen R. Diasio

ESADE Business School-URL, stephen.diasio@esade.edu

Follow this and additional works at: <http://aisel.aisnet.org/amcis2010>

Recommended Citation

Diasio, Stephen R., "An Intermediary's Perspective on Co-creation: Mechanisms for Knowledge Management" (2010). *AMCIS 2010 Proceedings*. 332.

<http://aisel.aisnet.org/amcis2010/332>

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2010 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

An Intermediary's Perspective on Co-creation: Mechanisms for Knowledge Management

Stephen R. Diasio

ESADE Business School-URL
stephen.diasio@esade.edu

Nuria Agell

ESADE Business School-URL
nuria.agell@esade.edu

ABSTRACT

This paper focuses on the mechanisms for knowledge generation and sharing in the co-creation process. Using a case study of an innovation intermediary we describe in detail the technical and non-technical mechanisms employed in the co-creation process. From this, the study suggests that co-creation is a pragmatic and iterative process for knowledge management to occur. Next, it highlights how the adoption of open standards and a mind shift in sharing ideas provides a new way in creating value and circumvents the traditional models of intellectual property.

Keywords

Knowledge Management, Open Innovation, Co-creation.

INTRODUCTION

IT departments and professionals are regularly given the responsibility for implementing knowledge management projects. Organizations employ different technologies to capture, parse, reconstruct, and deliver information from one person or business unit to another and subscribe to the widely accepted distinctions (Drucker, 1988; Prusak, 2001; Winter, 1989) that knowledge is a critical asset of a firm and its management strategy. Others within the field of knowledge management have turned to a less mechanical perspective of knowledge by incorporating how knowledge is held on various collective levels (Spender, 1993) or a shift from physical to intellectual labor (Reich, 1992). As the focus on knowledge has changed (Firestone and McElroy, 2003), so has technology. New modes of collaboration and the technology that support them continue to stretch the existing boundaries of knowledge management (Alavi and Leidner, 2001) and workplace collaboration. This could not be more evident than in field of Open Innovation where knowledge, skills, and expertise are accepted to lie outside the traditional organizational structure and if allowed to permeate through, organizations can reap the benefits of the external knowledge and its collaborators (Chesbrough, 2003). Thus, open innovation can be seen as a logical component of an organization's strategy to knowledge management.

The focal concepts of intermediaries (Chesbrough, 2006) in the open innovation literature, where their value proposition is to connect organizational clients to external knowledge for innovative products, ideas, and services, provide an ideal phenomena to research the generation of new knowledge and workplace collaboration. Intermediaries are classified (Millien and Laurie, 2008) into agents, brokers, marketplaces, and living labs (Almirall and Wareham, 2008) which help act as conduits for external users and knowledge in the innovation process. Research into the value of clients knowledge into the innovation process is widely cited (Sivula et al., 2001; De Brentani, 2001; Von Hippel, 1988), along with the tools and principles needed for knowledge sharing to occur (Von Krogh et al., 2000).

Researchers have linked the knowledge management field to open innovation practices through inquiries into communities of practice (CoPs) (Brown and Duguid, 1998, 2001; Lave and Wenger, 1991) and have emphasized that knowledge is both shared and created in these environments. Other researchers have focused on collective knowledge production and dissemination (Von Hippel, 2001) or the notion of communities of creation (Sawhney and Prandelli, 2000) in volatile markets. It was Prahalad and Venkatram Ramaswamy (2000) who introduced co-creation, which positioned customers as having competences valuable to an organization. This began a shift in perspective using an outward-in approach to research and development and innovation. From here, the term open innovation was coined (Chesbrough, 2003) and research continued to emphasize the importance of external knowledge in offering innovation as a strategy for organizations (Vanhaverbeke and Peeters, 2005). Given the rich setting innovation intermediaries offer in understanding the expanding boundaries of workplace collaboration in knowledge management, this research aims to address the mechanisms for knowledge sharing and generation of new knowledge in the co-creation process. Thus, this research proposes the following questions:

- 1) What mechanisms support knowledge generation and knowledge sharing in the co-creation process?
- 2) How is knowledge managed through co-creation?
- 3) How can existing inhibitors of knowledge generation and sharing be circumvented?

The paper is organized as follows. First, we present background information on our case- Sense Worldwide and introduce the concept of co-creation. This will help link the co-creation process to the field of knowledge management. Then we describe the methodologies and data collection being employed. Next, we discuss the mechanisms for knowledge management in the co-creation process. Lastly, the paper highlights the intellectual property challenges in the co-creation process and concluding remarks.

BACKGROUND ON SENSE WORLDWIDE

“What I’m trying to do is make something happen by throwing a pebble into the water creating ripples... I don’t want to control the ripples.”-Yoko Ono, SFMOMA

Jeremy Brown read the caption above as he gazed at Yoko Ono’s art at the San Francisco Museum of Modern Art (SFMOMA). What ensued was a moment of inspiration and the founding of Sense Worldwide (Sense). For the past 10 years, Sense a Creative Strategic Innovation intermediary (figure 1), has grown to incorporate this caption into its culture. Based on the principle that the best ideas come from the outside, Sense aids organizations in innovating by relinquishing control and letting factors other than itself influence the discovery of new markets and end points.

For Sense, it is through the practice of letting go of control that organizations can begin to harness ideas and knowledge that resides outside the organization. Sense focuses on helping organizations to open up, collaborate and look outside itself for inspiration and expertise to inspire truly valuable innovation (Brown, 2009a).

Essential to helping organizations in accessing these valuable innovations that occur externally, is the co-creation process. Co-creation, or collaborative creation, is the process of creating value through collective creativity, knowledge, experience, skills, and enthusiasm of people from both inside and outside of an organization (Brown, 2009b). Because organizations can not co-create alone, they must engage and collaborate with those outside its traditional boundaries.

Through Sense’s approach and experience with the co-creation and innovation process over the years, engaging external and internal people is a central practice to them. Sense provides a formalized process in facilitating co-creation between its organizational clients and its 1800+ global network of creative thinkers and doers around the world. By harnessing the creative ability of this global network, Sense is able to act as an intermediary linking great ideas outside an organization to relevant application of these ideas.

Though co-creation is a novel term in the management literature lacking precise definition, a number of researchers have touched on co-creation examples in the form of user-driven innovation (von Hippel, 2005) or co-developers of radical innovation (Lett et al., 2006). These have been useful in technology driven industries; however have left others to be self taught in co-creating. Co-creation as a concept developed as result of organizations turning from the traditional company-centric view of value creation to a more integral customer-centric perspective. Since then, co-creation has continued to push existing beliefs on value creation and for Sense co-creation is the key in moving forward and innovating in today’s competitive marketplace. *“... co-creation suggests a bigger picture approach where a variety of collaborators with differing motivations take a more proactive role. Co-creation also adds another dimension by focusing on using insight to inspire new business thinking and ideas rather than just validate that which exists already”* (Brown, 2009a). By embracing a co-creation approach, Sense has created a platform to search for and connect to external creative people, allowing organizations to harness their creative ideas into valuable business opportunities. Identifying and fostering creativity through co-creation remains critical for innovation to occur according to Sense, but being able to spot new opportunities and in implementing these ideas for business value makes co-creation a journey that follows different stages.



Figure 1. Sense Worldwide Co-creation Model

METHODOLOGY AND DATA ANALYSIS

Innovation intermediaries have gained some attention as a result of their use of technology to harness external collaborators (Jeppesen and Lakhani, 2010), however their existence is fairly recent. In part of their novelty, innovation intermediaries can be found in diverse forms using technology and set of practices with varying levels of maturity. As a result, we have focused our investigation on Sense Worldwide (Sense) because of their history as an innovation intermediary and their continuous use of collaboration technologies for external and internal knowledge synthesis and integration. Founded in 1999, Sense's approach and experience with the co-creation and innovation process over the years, engaging external and internal people is a central practice to them. Sense provides a formalized process in facilitating co-creation between its organizational clients and its global network.

This investigation is one part of a larger project on open and collaborative innovation throughout Europe supported by the Spanish Ministry. This positivistic case study (Dube and Pare, 2004; Yin, 1989) uses multiple sources of data on Sense Worldwide. Using Yin's (1994) suggested technique, quotes and other details reflecting the mechanisms for knowledge sharing and generations are provided to utilize rich description in narrating our findings and in contextualizing it for our readers. A semi-structured in-depth interview was carried out with the Director of Development, who has overseen the management, development, and implementation of the collaborative tools, platforms, and projects that Sense participates in. A transcription was made and confirmed for authenticity by the interviewee, then contrasted with secondary data such as project documentation, the Sense Worldwide website, and public and private presentation to enhance validity and data credibility (Patton, 1990, Yin, 1994). The authors feel these methods are appropriate in theory building for new topics and emerging technologies (Eisenhardt, 1989).

MECHANISMS FOR CO-CREATION

Investigation so far has offered toolkits for self-tailoring of products (von Hippel, 2001) and in scope (Franke and Schreier, 2002), but few studies exist suggesting anything outside of a technology based approach. Though Sense uses collaborative technologies in co-creation, Sense first drives co-creation pragmatically, that when implemented iteratively throughout a project, yields successful outcomes for all stakeholders (Brown, 2009a). For co-creation to happen, Sense begins with three axioms (figure 2), consisting of *asking the right questions, of the right people, and in the right way*.

Before beginning the co-creation process, Sense employs a Master Planning approach. Within the Master Planning approach, a Research Amnesty process ensues, lasting about six weeks to synthesize existing knowledge while providing structure and highlighting opportunities and information areas. This creates an understanding of the existing knowledge of the organization to help pinpoint gaps in its knowledge on the problem area. Consisting of cross-functional collaboration, resulting in deliverables such as a Book of Insights and Opportunity Maps, the Research Amnesty process aligns and inspires internal teams first so the co-creation journey can begin. Used to frame and crystallize the dynamics that are around an organization's challenge, they offer tactical perspectives across different organizational concerns. *"It helps people be focused and acknowledge that these are the key areas that we need to focus on. So by helping to focus people, it helps to direct the*

energy, so the process can become more efficient” (Heron, 2009). These deliverables are often described as simple, accessible and decisive. They provide clarity and confidence in the planning and corporate decision making process so the co-creation journey can deliver relevant results to the organization.

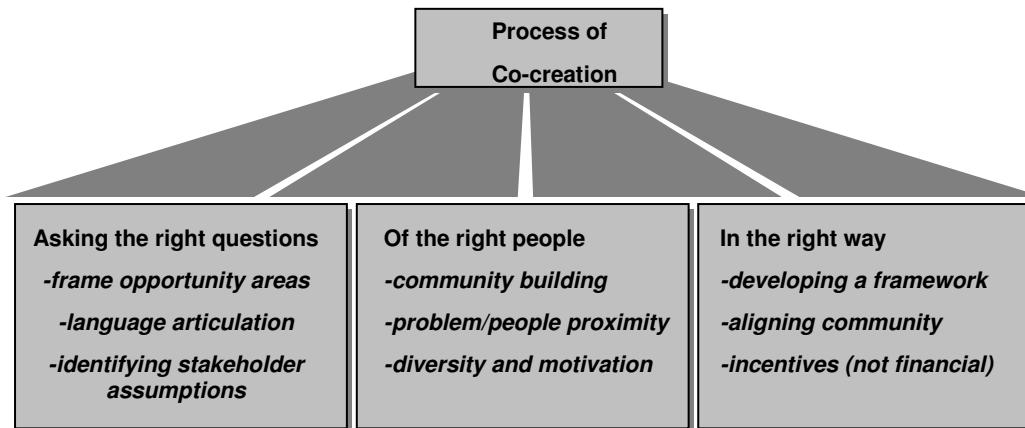


Figure 2. Process of Co-creation at Sense Worldwide

Generally viewed as a mechanism for idea generation and inline with current research, co-creation’s value also lies in the step before by identifying the questions for idea generation to occur. First, by understanding how to identify and ask **‘the right questions’** helps to frame the “opportunity areas” as Sense calls them. It is through the right questions that are posed that dictate the quality of your answers. *“Or co-creation it has to start with identifying the right questions. This is the hardest part. To figure out what the right questions are and then you begin to have people aligned behind those questions and engaged in the co-creation network... .. if you don’t get people aligned innovation doesn’t happen and it appears to be very expensive”* (Heron, 2009).

Finding the right questions includes a thorough look at the landscape around the business challenge, while constructing the right language that articulates the problem to stimulate the curiosity and creativity of those willing to participate to co-create. By formulating the questions appropriately, ensures engagement with collaborators by making the problem easy to understand. This is also an initial step to aligning internal and external participants. All perspectives are taken into account and only through the successive axioms phases will narrowing down of ideas occur.

Sense manages this phase through what is called a Research Amnesty process which highlights the existing internal knowledge around the business challenge. Next, a Scoping session is made that challenges the underlying assumptions of the stakeholders involved through physical or virtual meetings. Then Sense harnesses its network to bridge the organization to the external environment. This is where the external sources of knowledge further challenges the closely held assumptions of the organizations challenge and provides ideas, thoughts, opinions, and fresh perspectives. When Sense brings in its network, this is where the second axiom begins or the engaging **of the right people**.

The second axiom is moving to understand who **‘the right people’** are and motivating them to engage with the organizational challenge presented through the right questions. This is done by building a community of people who are involved in a journey to build a collective narrative for co-creation. *“By inviting opinions from other people outside and by allowing them to become part of the team you constantly stretch the thinking [of the organization] (Heron, 2009).”*

Through this collective narrative, continuity both physically and emotionally is bonded for even greater alignment of purpose for the collaborators. Collaborators at this phase consist of both external people and internal business stakeholders. This community is made up of collaborators with varying proximity to the organizations challenge. This may not consist of all the collaborators from the first axiom; however continued transparency must occur to encourage engagement in the iterative co-creation process. A mix of collaborators should be included such as representatives from the target audience, subject matter experts, and those with applying creative and visualization skills. *“While experts are very good at fuelling thinking, consumers bring value by grounding that thinking”* (Brown, 2009a). The mix of collaborators may change depending on the organizations challenge, but a variety of skills, abilities, and diversity of perspectives are critical for co-creation sustainability. Moreover, even having a motivated community of collaborators in the co-creation process is essential but all

work is conducted with empathy and respect. From this, trust and alignment builds so the co-creation process can flourish without unneeded friction.

Sense believes two attributes must be possessed by collaborators in order for co-creation to work. Collaborators must have the desire to make a difference and be comfortable with ambiguity. Having the desire to make a difference is a motivating factor for contributors because of its holistic nature and is a driver for engagement that no financial incentive may achieve. Collaborators that are comfortable with ambiguity can contribute by applying creative thinking outside the existing assumptions of the challenge and tend to spot the opportunity areas in this area of uncertainty.

The third axiom deals with exploring *'the right way'* or structure around an organizations challenge. By understanding the conditions and focusing on the specific nuances related to the challenge a framework can be created. By establishing a framework around the conditions, specific tools to address the organizations challenge can be tailored. Within the framework transparency must continue by articulating the goals of each stakeholder helping to create the right tone for co-creation. Each stakeholder needs to be given clear reasoning why they are involved and what role they will play. This aligns each stakeholder to a common purpose and continues to build a trust in the co-creation process. When stakeholders understand the challenge and role in the co-creation process, they can see the value in sharing ideas and opinions for the short and long term. It is here where intellectual property concerns can be dealt with and managed.

The structure from the third axiom ensures the challenge objective remains focused and at the forefront of the co-creation process for the funneling of creativity and in maximizing productivity. *"Co-creation isn't about happy-clapper brainstorming and blank sheets of paper, it's about well-channeled creative energy and structured tasks that meet a business challenge in a smart and structured way"* (Brown, 2009a). Essential to providing structure and motivating collaborators is by providing incentives. Traditional thought, focuses on financial rewards however, Sense has learned deep engagement and lasting collaboration comes from the intellectual stimulation that motivates the creative and talented collaborators. This includes self-reflective rewards that are inherent to Sense's approach to co-creation. The acts of sharing and receiving, of ideas or contributions, connect collaborators in the co-creation process, while establishing an atmosphere where these emotional buy-ins help to create the right frame of mind to contribute. Aiding to this process are the specific tools that Sense has developed.

Sense has developed several tailor-made platforms and tools to engage stakeholders to collaborate, communicate, and co-create insights and ideas. These mechanisms connect and aggregate internal and external collaborators contributions developing a shared language, aligning each for a common purpose, inspire creativity, and in socializing fresh information in a digestible form. Each harnesses the collective wisdom of the collaborators in one place and in one shared direction for co-creation.

One overarching mechanism Sense incorporates is the value of inspiration. Inspiration can be seen as a catalyst that perpetuates and accelerates the co-creation process throughout its network, projects, and clients. *"... we are looking for those sparks of inspiration because we want to be on the forefront of idea generation. ... [It is] not just a foundation but evidence of what people are thinking, so that is why inspiration is very important and is what keeps you moving forward"* (Heron, 2009). From Sense's inception, inspiration has played a fundamental role at Sense and in the co-creation process. Inspiration could be seen as complement or non-technical approach to toolkits and technology. Its value derives from providing a means for knowledge generation. At each step of the co-creation process inspiration can happen and is a goal for Sense. This could be in the form of inspiring clients by creating an understanding and excitement about co-creation. Inspiration provides a starting point to tap into the creative powers, creative knowledge, and passion of each collaborator in the co-creation process.

Also fundamental to co-creation are the tools and technologies needed for knowledge generation and sharing to occur. These tools, which have evolved over time are continuously being developed so users can participate and share knowledge how they want to and when they want to.

Community Network Conversation Tools (CNCT)

The CNCT is an on-line platform to tap into the power of Sense's network. CNCT employs blogs, media sharing and webcams. Virtual tools such as these allow asynchronous collaboration while still maintaining the continuity throughout the project. This allows people to contribute in their own time and at their own pace. *"[It] is a very powerful tool and can be very visual tool as well. It goes beyond just the words, they can send us images, captions, download movies and is a fantastic way of collecting information, which we then synthesis and refine and contribute to our clients"* (Heron, 2009).

By using CNCT Sense is able to build, manage and engage with many diverse communities of online respondents via a range of literal and lateral assignments. These can range from simple diaries and blogs to creative activities and reconnaissance

tasks. With this tool collaborative communities can be built quickly and cost effectively managed in multiple languages for many markets.

For Your Inspiration (FYI)

FYI is collaborative platform for socializing dynamic information and knowledge on an organization (like del.icio.us for business). It enables internal and external collaborators to collectively build market information with fresh perspectives that keep knowledge on an organization alive. Sense has used this tool extensively for the rebranding or positioning of products.

This web application is designed to engage a range of users including researchers, strategists, brand managers and creative's. Through a unique combination of social bookmarking and data expression tools, knowledge can be turned from a static form into a constantly evolving source of inspiration and conversation (figure 3). Collaborators can see who has tagged the most items on a particular theme or a particular nugget of inspiration first and whose thoughts and ideas are being most widely read. In turn, organizations can see which of the collaborators is the most engaged and who is most engaging, highlighting the flexibility of the FYI platform.



Figure 3. The FYI platform in use

Sense Network

Sense provides access to a network or community of practices (CoP) (Lave and Wenger, 1991; Wenger and Snyder, 2000) that helps in lowering the relationship barriers between an organization and customers or opportunities. Sense's network has developed over time and is a main source of knowledge generation and sharing in the co-creation process. "... we engage these people and from time to time and they do become a very integral part of the project team, whether it's taking part of co-creation, innovation, or creative workshops, being interviewed or perhaps being an ambassador and they themselves recruit people from within their own countries to give feedback to our research. It's a very tangible way of delivering results. I think that is very powerful and goes beyond just being connected on the internet" (Heron, 2009). These individuals are motivated by intellectual challenges and the opportunity to engage with like minded individuals on creative projects.

INTELLECTUAL PROPERTY AND RISK MANAGEMENT

Any organization that chooses to collaborate with an external network for co-creation must deal with intellectual property concerns. Existing copyright laws, which currently govern today's advancing collaborative driven methods, have been a source of friction, hindering the adoption of co-creation and inhibiting greater knowledge generation and sharing. The

Internet and the ecosystem of people collaborating in an open network are challenging the existing boundaries of collaboration while creating new frontiers on intellectual property. Sense continues to push these boundaries by confronting the traditional thought on intellectual property and its application in co-creating.

Sense has taken the lead by challenging the traditional models of intellectual property and has adopted several approaches that help to circumvent inadequacies of today's copyright laws. First, Sense engages its clients by pushing for a mindset shift in new ways of sharing ideas. This means that organizations not only need to recognize that intelligence exists outside their current knowledge sources, but they must also have the right mindset, processes and tools in order to tap into, accept, and act upon the collective knowledge of its organizational network. *"Unless an idea goes into production it's meaningless. Ideas are for free. We can sit here and come up with potentially great ideas but unless you put them into practice they are worthless. I think they are very valuable if you share them and the currency of ideas. When you are sharing they become valuable because people can build off them. When you don't share them they have no value. That is the point, sharing has value in it and is not about giving things away. It's a different way of looking at it"* (Heron, 2009). Sense uses its workshops and scoping sessions to break down existing notions of sharing intellectual property with collaborators focusing on from 'what' to 'whom' has the answers.

Next, Sense has begun leveraging open legal standards such as Creative Commons. These new open legal standards are helping Sense's clients in lowering costs of development, idea sharing, collaboration, and the delivery of products and services. By adapting open legal standards organizations all over the world can increasingly share data outside of traditional corporate silos, enabling collaboration on an unprecedented scale. This new way of collaborating, Sense believes is a needed ingredient and foundation for future collaboration that will have a positive impact on organizations brands, services, and markets.

Finally, Sense builds a bottom-up approach to ensure all those participating in co-creation are aligned for sharing ideas. This is by developing trust in the co-creation process and working with Sense's network and the project team. By being transparent using Sense's three axioms of asking the right questions, of the right people, and in the right way, collaborators know what to expect, making them comfortable with the co-creation process. This should be considered an ongoing and iterative process which must be regularly emphasized to its employees and clients when engaging in co-creation. *"Trust is very important. ...anything with collaboration and co-creation builds confidence. I think when your clients come here [Sense's Workshop] you build confidence, they feel comfortable in here as the project team is going through their work"* (Heron, 2009).

CONCLUSIONS

Using a positivistic case study approach for theory building, this paper has presented technical and non-technical mechanisms in the co-creation process for knowledge generation and sharing in an innovation intermediary. By incorporating these mechanisms, the study suggests co-creation is a pragmatic and iterative process for knowledge management to occur. From here, knowledge management can be seen as a fluid like process. Next, the study shows how adoption of open standards for sharing ideas provides a new way in creating value. These standards pave new ways in collaborating where all parties can benefit from generating and sharing of knowledge that stretches existing legal boundaries. Finally, this case study presents co-creation having real commercial advantages in aiding organizations in collaborating outside its boundaries for sources of new ideas and knowledge.

REFERENCES

1. Alavi, M. and Leidner, D. (2001) Knowledge Management and Knowledge Management Systems: Conceptual Foundation and An Agenda for Research. *MIS Quarterly*, 25, 1, 107-136.
2. Almirall, E. and Wareham, J. (2008) Living Labs and Open Innovation: Roles and Applicability. *The Electronic Journal for Virtual Organizations and Networks*, 10, 21-46.
3. Brown, J. (2009a) The Spirit of Co-Creation Risk-Managed Creativity for Business. *Sense Worldwide Report*, London, UK. September.
4. Brown, J. (2009b) Got to get a master plan! *Sense Worldwide Report*, London, UK. January.
5. Brown, J. and Duguid, P. (1998) Organizing knowledge. *California Management Review*, 40, 3, 90-111.
6. Brown, J. and Duguid, P. (2001) Knowledge and organization: a social-practice perspective. *Organization Science*, 12, 2 198-213.

7. Chesbrough, H. (2006) *Open Business Models: How to Thrive in the New Innovation Landscape*, ed. Boston, Massachusetts: Harvard Business School Press.
8. Chesbrough, H. (2003) *Open innovation: the new imperative for creating and profiting from technology*. Boston, MA: Harvard Business School Press.
9. Davenport, T. and Prusak, L. (2000) *Working Knowledge– How Organizations Manage What They Know*, 2nd ed., Harvard Business School Press, Boston, MA.
10. De Brentani, U. (2001) Innovative versus incremental new business services: different keys for achieving success. *Journal of Product Innovation Management*, 18, 3, 169-87.
11. Dennison, R. (2006) Using wikis for collaboration and KM at BT, *Knowledge Management Review*, 9, 5, 5-10.
12. Drucker, P. (1988) The Coming of the New Organization. *Harvard Business Review*. 66, 1, 45–53.
13. Dube, L. and Pare, G. (2003) Rigor in IS positivist case research: Current practices, trends, and recommendations. *M-IS Quarterly*, 27, 4, 597-635.
14. Eisenhardt, K. (1989) Building theories from case study research. *Academy of Management Review*, 14, 4, 532-550.
15. Firestone, J. and McElroy, M. (2003) *Key Issues in the New Knowledge Management*, Butterworth-Heinemann, Woburn, MA.
16. Franke, N. and Schreier M. (2002). Entrepreneurial opportunities with toolkits for user innovation and design. *The International Journal on New Media Management*, 4, 4, 225–234.
17. Heron, S. (2009) Personal Interview.
18. Jeppesen, L. and Lakhani, L. (2010) Marginality and Problem Solving Effectiveness in Broadcast Search. *Organization Science*, (forthcoming).
19. Lave, J. and Wenger, E. (1991) *Situated learning: Legitimate Peripheral Participation*, Cambridge University Press, Cambridge.
20. Lett, C., Herstatt, C., and Gemuenden, H. (2006) Users' contributions to radical innovation: evidence from four cases in the field of medical equipment technology. *R&D Management*, 36, 3, 251-272.
21. McAfee, A. (2006) Enterprise 2.0: The Dawn of Emergent Collaboration, *MIT Sloan Management Review*, 47, 3, Spring, 21-8.
22. Millien, R. and Laurie, R. (2008) Meet the middlemen. *Intellectual Asset Management*, 53-58.
23. Musser, J. and O'Reilly, T. (2006) Web2.0 principles and best practices, O'Reilly Radar, Fall.
24. Patton, M. (1990) *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage.
25. Prahalda, C. and Ramaswamy, V. (2000) Co-Opting Customer Competence. *Harvard Business Review*, January. 78, 1, 79.
26. Prusak, L. (2001) Where Did Knowledge Management Come From? *IBM Systems Journal*, 40, 4, 1002–6.
27. Reich, R. (1992) *The Work of Nations: Preparing Ourselves for 21st Century Capitalism*. New York, NY: Vintage Books.
28. Sawhney, M. and Prandelli, E. (2000) Communities of Creation: Managing Distributed Innovation In Turbulent Markets. *California Management Review*, 42, 4, 24-54.
29. Sivula, P. Van den Bosch, F.A.J. and Elfring, T. (2001) Competence-based competition: gaining knowledge from client relationships, in Sanchez (Ed.), *Knowledge Management and Organizational Competence*, Oxford University Press, Oxford.
30. Spender, J. (1993) Competitive Advantage from Tacit Knowledge? Unpacking the Concept and its Strategic Implications', *Academy of Management Best Paper Proceedings*, 37–41.
31. Vanhaverbeke, W. and Peeters, N. (2005) Embracing Innovation as Strategy: Corporate Venturing, Competence Building and Corporate Strategy Making. *Creativity and Innovation Management*, 14, 3, 246–257.
32. von Hippel, E. (1988) *The Sources of Innovation*, Oxford University Press, Oxford, New York, NY.
33. von Hippel, E. (2001) Perspective: user toolkits for innovation. *Journal of Product Innovation Management*, 18, 4, 247–257.
34. von Hippel, E. (2005) *Democratizing Innovation: Users Take Center Stage*. Boston, MA: MIT Press.

35. Von Krogh, G., Ichijo, K. and Nonaka, I. (2000), *Enabling Knowledge Creation*, Oxford University Press, New York, NY.
36. Wenger, E. and Snyder, W. (2000) Communities of practice: the organizational frontier, *Harvard Business Review*, 78, 1,139-44.
37. Winter, S. (1987) *Knowledge and Competence as Strategic Assets*. in D. J. Teece (ed.) *The Competitive Challenge*, 159–84. Cambridge, MA: Ballinger.
38. Yin, R. (1989) Research design issues in using the case study method to study management IS. In J.I.a.L. Cash (Ed.), *The IS research challenge: Qualitative research methods*, 1-6. Boston MA: Harvard Business School Press.
39. Yin, R. (1994) *Case study research, design and methods*. (2nd ed.). Newbury Park: Sage Publications.