The Open Source Marketing Experiment: Using Wikis to Revolutionize Marketing Practice on the Web

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Abstract

This paper explores creation and development of a computer-mediated environment using emerging collaborative applications e.g. Wikis to support the business-to-business creation of knowledge products and services. An Open-Source Collaborative Creation Model (OCCM) is proposed highlighting contributions to collaboration from:

1. information technology platforms, Web-based applications and content

2. Collaborative philosophies including "creative destruction", productive friction, co-production, and varieties of open-source philosophy with reference to a new open-source marketing concept

The model takes account of collaborative outputs including created knowledge, products and services, and contributions to developing creative infrastructure. The research method employed is a discourse analysis of the discursive material generated during the implementation and usage of a Wiki. A project based on developing a Wiki environment for defining and developing a "Marketing Ontology" is discussed and illustrates a marketing application for this form of collaboration. Findings highlight the significant challenges for businesses and individuals using emerging collaborative technologies.

Introduction

This paper aims to explore trends in collaboration using Wiki technology within business and marketing contexts to create a model for the creation of knowledge products and services. The model derives from the systematic development of concepts associated with collaboration including the open source philosophy, emerging Web-based technologies, software applications that encourage collaborative knowledge creation and sharing. These concepts form an Open-Source Collaborative Creation Model (OCCM). The Marketing Ontology Project illustrates the model usage with a marketing application of this form of collaboration providing recommendations on further model development and testing.

Traditionally, the marketing community creates knowledge focusing on transactions or relationships centric around the organisation albeit in a master-slave relationship or network. Today, the collaborative environments e.g. Wikis or blogs encourage interactive customer to customer knowledge development.

Collaboration through Productive Friction

In an increasingly complex interconnected world, businesses need to adapt, improvise and remain agile in developing new products, services and markets. Relatively quick changes in geopolitical entities such as the expansion of the European Union, regionalization of decision-making in the United Kingdom, and the rise of creative communities throughout the world require rapid and collaborative responses. New and emerging computer mediated environments (Hoffman, 1996) and the Semantic Web facilitate advanced, creative and collaborative activity literally in a hitherto unknown real-time paradigm.

Large firms driven by a philosophy of growing large through conducting all activities in-house and outsourcing activities where they can be performed cheaply are confronting a reality where Coase's Law (1937) of the Nature of the Firm can no longer apply.

New e-business technologies assist with productivity improvements and lower transaction costs, GigaEstimates (Association of Online Publishers, 2005) puts savings through using e-commerce in business at USD1.25 trillion BusinessWeek reported in 2003 (Mullaney, Green, Arndt, Hof & Himelstein 2003; Mullaney, Park, Elgin, Rosenbush & Hamm 2004), and the Economist (Markillie 2004) highlight industries and firms facing high levels of change and restructuring through facing and/or using e-business technologies. According to Lumpkin & Dess (2004), value has been created mainly through cost improvements in search, evaluation, problem-solving and transaction activities.

The emerging world of collaborative business focuses on devising ways of creating ideas and value across firm boundaries rather than parceling out transaction costs from one company to another. Hagel & Brown (2005) argue interactions across firms can offer more than transaction costs benefits and that interactions are friction that drives the creation of innovation and new ideas for products, processes and services. "Productive friction" is difficult and will very likely be tagged with conflicts, disagreements but if such emotional commitment can be channeled toward solving specific problems with breakthrough results, the innovation and knowledge gains can be greater for both or all companies in such collaboration. Hagel & Brown (2005) believe those who master productive friction will increasingly differentiate those who create value over those who destroy value in the global economy. "Productive friction" is not only highly relevant for large Business-To-Business interactions but also benefits businesses and individuals interacting within a defined community of interest (Wenger 1999; Kollock and Smith 1996).

"Productive friction occurs when people with diverse and appropriate specializations creatively resolve difficult business issues. But to gain its full benefit, companies must also establish processes (supported by new generations of information technology) to help them reflect on the practices emerging from these collaborations, recognize patterns, and increase awareness of high-impact solutions across related groups of practitioners" (Hagel & Brown, 2005). Productive friction comprises the four Ps (Hagel & Brown 2005, 88) performance requirements, people, prototypes and pattern recognition.

The Web Changes everything especially Collaboration

Linus Torvalds developed the first "open-source" operating system, Linux. A key feature of this work is Torvalds' collaborative use of the Internet to speed up development of the operating system. Torvalds placed the code of the fledgling operating system into an Internet News Group – and other interested people looked at the code and sent back recommendations, including updated software code, back to Torvalds through the News Group comp.os.linux (Torvalds & Diamond, 2001). Open-source community development of Linux using the Internet highlighted the tremendous potential for faster, global and online collaborative knowledge development and issues associated with managing such development.

Open-source development has become a recognised form of innovation with an emphasis on heavy community and third-party involvement in near real-time product design, development and delivery (Von Hippel 2001; Chesbrough 2003; Von Krogh 2003). Tuomi (2003) discusses open-source communities as networks of innovation with the Internet linking regional cultural resources to global technological development. Raymond (2001) noted two groups within the open-source developer community: The *Cathedral model* in which source code is available with each formal software release,

but code developed between releases is restricted to an exclusive group of developers. The *Bazaar model* in which the code e.g. Linux is developed over the Internet in view of the public". Torvalds envisions an open-source world extending into business and society (Rivlin 2003). Goetz (2003) also extended open-source philosophy to the creation of information for business and society.

Recently developed Internet-based collaborative technologies and approaches include Podcasting, Weblogs (Baker & Green 2005), and Wiki technology. Collectively these technologies harnessed with collaboration underpin a better, faster and cheaper marketing hitherto not seen. Hof (2005) highlights rapid changes in a range of industries through collaboration using the Internet and new forms of innovation emerging out of such collaborative endeavour. The Schumpeterian perspective of innovation through creative destruction to provide marketing differentiation transforms to "creative creation" encouraging the development of new knowledge and innovation and new markets through creative friction in communities. New knowledge leads to new networks and new products and services.

Pattinson (2005) notes an open-source marketing concept highlighting satisfying products and knowledge that is developed and consumed by open-source communities. This approach may change marketing from a focus on distinct exchange between buyers and sellers to collaborative co-production and co-creation by all those in an open-source community. This approach is drawn from Prahalad & Ramaswamy (2004) and applies to open-source product and knowledge development. This is consistent with shifts in power away from larger institutional power toward these different community forms "The net result: Individuals will increasingly take cues from one another rather than from institutional sources like corporations, media outlets, religions, and political bodies. Companies will need to respond to the social computing movement — in their marketing, product development, and innovation efforts" (Forrester, 2006).

Companies may indeed have to restructure to be more organized like the Internet itself. Hamel (2006) points to Google's relatively flat, collaborational team structure, and the processes that Google has in place to support internal collaboration, "Google is organized like the Internet itself: tightly connected, flat and meritocratic." The emerging Internet-based collaborative environment is part of a new and creative infrastructure that enables mobility of creativity, knowledge and resources around the globe linking real and virtual creative precincts (see Sood & Pattinson 2005a, 2006).

Concepts discussed thus far are integrated into an *Open-Source Collaborative Creation Model (OCCM)* presented in Figure 1 which highlights the overall platform and knowledge creation elements of open-source collaboration.

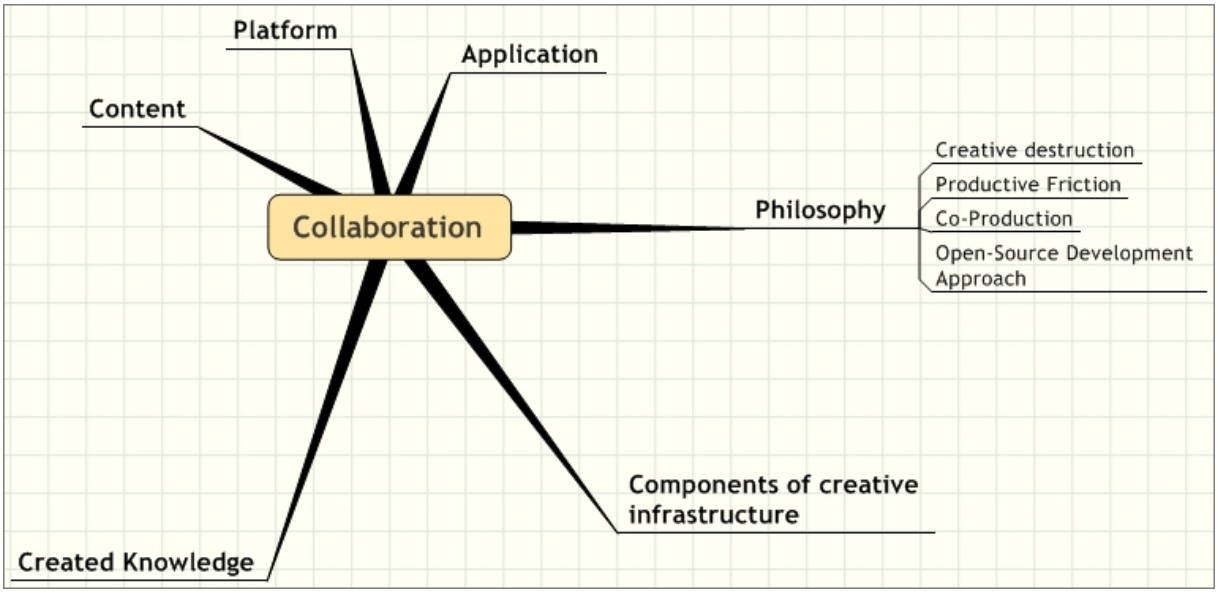


Figure 1: Open Source Collaborative Creation Model (OCCM)

The OCCM platform provides a means for exploring definitions and semantics (contexts) of new ideas. This supports the notion of a Bricoleur wherein ideas are explored using a do-it-yourself approach that brings together artifacts and supporting materials. This is useful in defining or clarifying a new idea or concept e.g. Sood & Pattinson (2005a, 2006) defines and clarifies “Brainports” and extends the idea into the relevant semantics and taxonomy.

Components of the creative infrastructure highlight E-Business technologies working symbiotically with a collaborative philosophy. The platform is developed using an open-source approach by groups or networks within the open-source community. Software applications using the platform are developed in the same manner but the output is new information or knowledge and innovation rather than software programs. The model highlights different aspects of collaboration which taken together represent the overall form of collaboration.

The technologies together with collaboration result in knowledge creation that from a managerial perspective is better, faster and cheaper to create than existing methods of knowledge creation. Such Knowledge creation can be viewed as contributing within and to the development of an overall creative development infrastructure (Sood & Pattinson 2005a, 2006).

Marketing Ontology Wiki Project

The authors apply OCCM to explore the development and use of a Web-based collaboration application to assist in the collaborative creation of marketing knowledge in the Marketing Ontology (MO) Project. This project applies collaborative technology to support the development of business-to-business marketing knowledge and practice using open-source marketing (based on the concept of “open-source” software application development). From a managerial perspective, this project highlights the revolution in knowledge creation and sharing that heralds the next great stage in the evolution of the Web for business and marketing - Web 2.0 (for more discussion on Web 2.0 see Peek 2005, Pope 2005).

Wikis are an open collaboration medium where all participants (authors) can add to, change or even delete work not authored by them. To overcome any issues this level of freedom provides including cybervandalism & graffiti Wikis support a “diff” capability that is a mechanism for comparing two states of a page to allow revisions to be viewed and most importantly the ability to roll-back so unwanted changes can be removed.

The authors of this paper recognize that Wiki technology and the supporting open group processes and philosophy revolutionizes marketing knowledge development and practice. Wikis can be used to foster the co-creation (Prahalad & Ramaswamy 2004) of knowledge and share both academic and practitioner marketing knowledge. Wiki technology is deployable in Business-to-Business marketing collaborative activities to create and share knowledge amongst and within businesses. To date, there is no evidence of the widespread application of Wikis to facilitate the generation of marketing knowledge or co-creation of new marketing products, services and knowledge sharing.

In light of the above, the authors set about creating an experiment using Wikis to contribute directly to marketing knowledge as well as allow an opportunity to document first hand experiences, processes and events over the first nine months of implementing a Wiki technology environment for marketing usage. The authors explored existing literature on developing and using Wiki’s (see Aronsson 2002; Buckler 2005; Ebersbach & Glaser 2005; Fernando 2005; Fichter 2005; Frenk 2005; Kooser 2005; Lueg & Fisher 2005; Oser & Kerwin 2005; Spencer 2005; Taylor & Masters 2005; Wagner 2006; Wreden 2004).

The authors build upon existing research into the development of a new marketing ontology as well as open-source marketing concepts. Sood and Pattinson (2005b) outlines the overall concepts and framework for creating a marketing ontology as a requirement for developing marketing activities in an emerging semantic Web environment (W3C 2006), or “semantic marketspace”. Wiki technology based on an “open” approach also provides a strong platform for enablement of Pattinson’s (2005) “open-source” marketing concept.

The core idea of the experiment is to create an open marketing ontology arrived at better, faster and cheaper than traditional means. The importance of this cannot be understated with the explosive growth of e-business and the relevance of using controlled vocabularies to achieve a high ranking within Google and other search engines. These search engines are the single most important source for locating purchasing information by business decision makers (Association of Online Publishers 2005).

The experiment sets up a Wiki with a copy of the Sood and Pattinson (2005) paper to represent the themes and benefits of a marketing ontology. Subsequently, the Wiki helps to collect ideas around the theme, brainstorm and develop co-operative writing. The final outcome is a marketing ontology to help describe marketing activities in any type of business. The ontology is created by consensus with a global community of users comprising academics and practitioners.

Research Approach - Discourse Analysis

The primary research approach during the initial phase of implementing the Wiki and beyond is discourse analysis using discursive material generated from email communication. This involves all relevant social actors including authors, research assistant and service providers as well as both potential internal (UTS information technology department) and external service providers. All email communication was coded using text analysis software (MaxQDA) tagging all social actors as well as organisations, type of text e.g. comments, experience or opinion, key themes and the speech acts (Hardy, 2001) e.g. justification, criticism, accusation, empathy, correction, threaten or an explanation.

The primary research questions addressed by the discourse analysis include (but are not limited to):

- Is collaboration taking place between all parties?
- What is the best approach to implement the platform?
- Are there patterns of collaboration that are productive?
- What new knowledge is created?

The discourse analysis reveals and focuses on a distinct set of phases:

1. Project definition and platform Selection
2. Wiki content development
3. Marketing Ontology Wiki launch
4. Initial feedback and fine tuning
5. Ongoing monitoring of Wiki

Phase 1: Project Definition and Platform Selection

In early 2006, the authors agreed that the project would focus around defining Marketing Ontology through collaboration with marketing academics, practitioners and students.

An application of Wiki technology and tools bestows upon the community of users the following capabilities:

- Open network of users or businesses
- Open database
- Open edit
- Open access
- Open text
- Open source
- Open culture

The initial phase of the project involves selecting the actual Wiki technology and how it is to be hosted e.g. installed on a University of Technology, Sydney (UTS) server or an external service provider. Analysing the tags within the discursive material a clear shift in power is seen to take place away from the larger institutional power (UTS) toward a community (author's et al) endeavouring to establish the

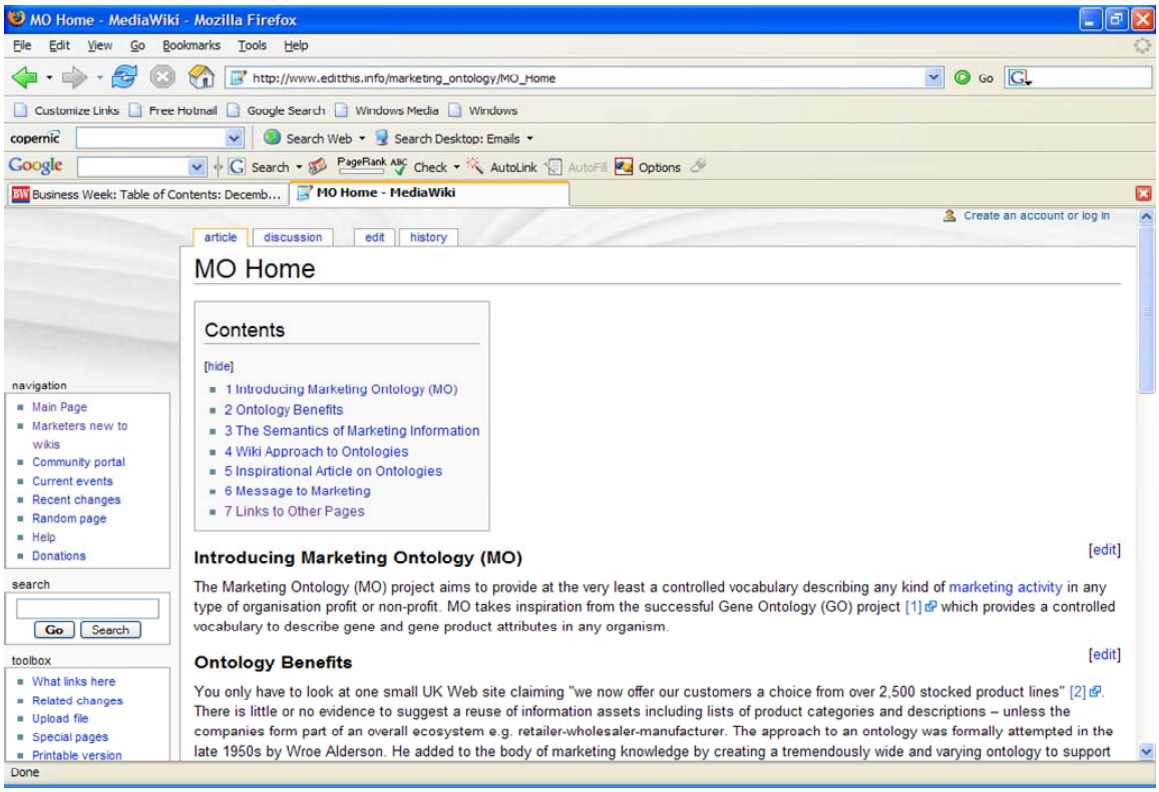
Wiki and drive collaboration. Furthermore, this shift in power reinforces the need to find a service provider independent of the institution.

The team took about six weeks over a series of email and face-to-face correspondence to learn about Wiki technology and to search for relevant Wiki providers. Three to five Wiki providers were suggested. The solution chosen was amongst the external service providers that adopt a “free” approach supported by advertising based on intelligently searching and inserting marketing messages relevant to the Wiki page topics. The initial Wiki was found to be slow in performance and the Marketing Ontology Wiki was finally located at www.editthis.info/marketing_ontology

Phase 2: Wiki Content Development

The team members discussed the development of the MO Project Wiki pages over several meetings, telephone and email correspondence. There was some productive friction over how much content would be put up on the Wiki pages defining Marketing Ontology. One view was to provide substantial amounts of existing taxonomies, vocabularies, glossaries and lists of marketing terms. The alternate view was to provide a more open “terms of reference” for the project and encourage a more open-source direct contribution of Marketing Ontology material from Wiki contributors. The latter view prevailed and an introduction – Marketing Ontology (MO) Page. Exhibit 1 shows the Main Page for the Marketing Ontology Project Wiki.

Exhibit 1: Marketing Ontology Wiki: Main Page



Phase 3: Marketing Ontology Wiki launch

With the Wiki established the communications strategy to promote the project included two invitations:

1. An invitation to participate in the Marketing Ontology Project Wiki was posted in the ELMAR system managed for the American Marketing Association (AMA) where marketing academics, consultants and practitioners share communications and information at www.elmar.org.

2. The same invitation was posted on the University of Technology, Sydney's online teaching system UTSONLINE to students in undergraduate and postgraduate E-Business classes. The Invitation is presented in Exhibit 2. The MO Project invitation was posted on ELMAR on 1 May 2006, which is the effective official launch date for the project.

Problems were encountered after the invitation was published on ELMAR as the authors believe that very high traffic crashed the Wiki for several days over 12 days in May 2006.The message posted during the impacted period was: "***EditThis.info has temporarily been suspended due to high traffic volume. I am currently in the process of moving to a new server. Expect the site to be up by Thursday (probably earlier) of next week. Thank you, Robert Kohr".***

Further to feedback from a handful of initial users additional pages and sidebars were added with an orientation for people new to using Wiki technology. Additional pages were added for specific marketing orientation topics in much the same way as open-source community developers "fork" to add new features and ideas to applications independently.

Exhibit 2: Invitation Participate in Marketing Ontology Project (posted on ELMAR And University of Technology's E-Learning System for Selected Marketing Classes)

Invitation to Contribute to Marketing Ontology (MO) Project

The Marketing Ontology (MO) project aims to provide at the very least a controlled vocabulary describing any kind of marketing activity in any type of organisation profit or non-profit. MO takes inspiration from the successful Gene Ontology (GO) project which provides a controlled vocabulary to describe gene and gene product attributes in any organism.

An experiment has been set up using an open-source collaboration and development approach where marketing academics, practitioners and interested parties can directly contribute the development of Marketing Ontology using Wiki technology.

A Marketing Ontology (MO) Wiki was created by ***Mr. Suresh Sood and Doctor Hugh Pattinson from the School of Marketing at the University of Technology, Sydney***, with the objective of creating and refining a marketing ontology using a Wikipedia approach in a relatively short space of time.

Marketing academics, practitioners, students, consultants and those who are interested in future directions for marketing are invited to contribute to the Marketing Ontology (MO) located at:

http://www.editthis.info/marketing_ontology/index.php/Main_Page

Suresh Sood at suresh.sood@uts.edu.au
Hugh Pattinson at hugh.pattinson@uts.edu.au

Phase 4: Initial feedback and fine tuning

In spite of the MO Wiki suffering downtime new collaborators including marketing institutions keen on both developing knowledge on Marketing Ontology and on using Wiki technology to support the ongoing development of marketing knowledge are attempting to use the Wiki put in place.

In terms of productive friction an analogous measure relating to the pattern recognition of components are "diff" changes on Wikis which act as a proxy for the new knowledge created out of collaboration. The diff changes for each day are available and we assume diff >5 represents high productive friction with diff < 2 as low (see fig 3. to determine days of high and low productive friction).

Exhibit 3 – productive friction analogy - diff changes on Wiki

Updates in the last 30 days

1 day | 3 days | 7 days | 30 days | 90 days
List new changes starting from May 21, 2006 11:41 pm EasternTimeUSA

May 21, 2006

- (diff) OpenSpaceTechnology/InPictures 11:41 pm EasternTimeUSA (4 changes) . . . . . Suresh Sood
- (diff) OpenSpaceTechnology/PracticeRetreat 11:26 pm EasternTimeUSA (2 changes) adsl-66-72-96-11.dsl.chcgil.ameritech.net
- (diff) PracticeHistory 11:24 pm EasternTimeUSA adsl-66-72-96-11.dsl.chcgil.ameritech.net
- (diff) Suresh SoodAssociates 9:17 pm EasternTimeUSA . . . . . Suresh Sood
- (diff) MakingPostersForOpenSpace 9:16 pm EasternTimeUSA . . . . . Suresh Sood
- (diff) SingaporeWorkshopPhotos 9:15 pm EasternTimeUSA (2 changes) . . . . . Suresh Sood

May 19, 2006

- (diff) MarketingOntology/QuotesOtherCollected 2:17 am EasternTimeUSA . . . . . Suresh Sood
- (diff) MarketingOntology/ContentsList 2:16 am EasternTimeUSA (6 changes) . . . . . Suresh Sood

May 10, 2006

- (diff) MarketingOntology/CorriganInviting 1:37 am EasternTimeUSA (7 changes) . . . . . Suresh Sood

May 9, 2006

- (diff) MarketingOntology/MarketingOntologyIntro 11:44 am EasternTimeUSA (7 changes) . . . . . Suresh Sood

May 8, 2006

- (diff) MarketingOntology 11:46 am EasternTimeUSA (54 changes) . . . . . Suresh Sood
- (diff) MarketingOntology/NotesToPartner 11:44 am EasternTimeUSA (12 changes) . . . . . Suresh Sood
- (diff) MarketingOntology/AppreciatingDraft 9:57 am EasternTimeUSA (9 changes) . . . . . Suresh Sood
- (diff) MarketingOntology/ThoughtsOnVoiceAndVisibility 2:01 am EasternTimeUSA **[*third person, narrating each other's experiences together is the solution]** adsl-75-2-129-225.dsl.pltn13.sbcglobal.net

May 7, 2006

- (diff) MarketingOntology/MarketingOntologyCOM 4:50 pm EasternTimeUSA (6 changes) . . . . . Suresh Sood
- (diff) MarketingOntology/EmergingIntoPracticeDraft 1:10 pm EasternTimeUSA (2 changes) . . . . . Suresh Sood

May 6, 2006

- (diff) MarketingOntology/InvitingDraft 6:59 am EasternTimeUSA (14 changes) adsl-68-22-196-182.dsl.chcgil.ameritech.net
- (diff) MarketingOntology/MakingDraft 6:50 am EasternTimeUSA (5 changes) adsl-68-22-196-182.dsl.chcgil.ameritech.net

Page generated May 22, 2006 7:01 am EasternTimeUSA

Phase 5: Ongoing monitoring and feedback

The project is expected to run for about 9 months and analysis, findings and results from this phase will be presented at the IMP conference in September 2006. The authors are also planning to conduct a complete Critical Discourse Analysis (CDA) using a variation of hermeneutic analysis (Pattinson 2005: Woodside, Pattinson & Miller 2005) supported by a range of software applications to analyse and map unstructured information from the project.

Findings, Recommendations and Future Potential

Overall the use of collaborative technology in the form of Wikis helps to achieve better, faster and cheaper than conventional means new knowledge. However, there are some challenges and possible preconditions that enable more effective selection and deployment of Wikis.

The authors' experiences with the MO Wiki Project have prompted a formal project driven approach to setting up and monitoring Wikis. This supports Hagel & Brown's (2005) contention - that , "to gain its (productive friction) full benefit, companies must also establish processes (supported by new generations of information technology) to help them reflect on the practices emerging from these collaborations, recognize patterns, and increase awareness of high-impact solutions across related groups of practitioners..".

The MO Project highlights how critical it is for people to "immerse" themselves in collaborative environments and use that as the modus operandi for business and social communication. Marketers and those involved in marketing activities will not be able to reach an effective threshold for productive friction and collaboration using Web-based collaboration applications without such "immersion". There appears to be an important precondition here that the authors intend to analyze further as the project progresses to see if it should be incorporated into the OCCM Model.

The authors found contrary to the popular belief that a reasonable level of technical knowledge is required to support and troubleshoot Wikis. This was first understood in the project through actions by the project team to upgrade and relocate the MO Wiki, and to add options to the Wiki to assist contributors with creating and editing Wiki pages.

The MO Wiki Project is expected to run for about 9 months and the project team will be collecting more data and subjecting it to a complete Critical Discourse Analysis. CDA will address issues associated with the whole MO Wiki project, but further research will be conducted on the actual content within the MO Wiki, that is, to develop new Marketing Ontology.

Overall, the experience has shown Wikis can help to attain productive friction amongst new groups of collaborators and it is therefore a natural step for Wikis to be used in organisations to support evolving lightweight business processes driven by content and marketing staff rather than programming and technology specialists. Further, the new developments in Wiki technology include using the framework to create sharable quantitative data using a spreadsheet metaphor (Bricklin 2006) is ideally suited to underpin the immense productivity gains expected between business partners arising from collaborative planning, forecasting and replenishment (CPFR) .

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