Capturing Knowledge via an "Intrapedia": A Case Study

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Abstract

This paper presents a case study showing how wiki technology was applied in a high-tech organization to develop an "intrapedia" for the capture of corporate knowledge. The descriptive case study follows the Wired intrapedia from conception, through the grass-roots development, and emergence as an enterprise-level resource. Results suggest that (1) under certain conditions, executive sponsorship is **not** *a pre-requisite for knowledge system success and (2) that natural relationships between Gen Y and Baby Boomer employees could be leveraged for knowledge capture.*

1. Introduction

Wikis, defined as "sets of dynamically created web pages with content contributed directly by users in a web browser" [Yates, Wagner & Majchrzak, 2010] are now routinely used to capture and share knowledge in the general public, as exemplified by Wikipedia. As knowledge capture and sharing efforts using wikis have become an integral part of the general public's Web 2.0 experience, wikis are also surfacing behind company firewalls. A significant body of research is emerging focused on the use of "corporate wikis" to support areas such as e-learning, project management, scheduling, ad hoc collaboration, customer relationship management [2][19][22][32] and as informal communications tools (e.g., to capture meeting minutes, c.f., [3]). Used in this way, wikis are an integral part of work processes and can be viewed as another information and communication technology (ICT) available to aid organizations in collaborating and coordinating work.

While research on corporate wiki use has focused primarily on their use in collaborative or interactive work (c.f., [30]), less attention has been paid to the potential of wiki technology to support knowledge capture internal to organizations (c.f., [12]). Arguably the most studied wiki for knowledge capture to date is Wikipedia, which is a "free, web-based, collaborative, multilingual encyclopedia project" with over 3.3 million articles in English" [31]. One application of wiki technology in corporations is to create Wikipedia-like resources for capturing organizational knowledge. In a homage to Wikipedia, we refer to this specific type of intra-net hosted wiki as an "intrapedia", which we define as a *wiki-based knowledge resource, accessible behind organizational firewalls via corporate intranet, that enable the collective capture, refinement, and sharing of knowledge relevant to the organization in article format*.

Intrapedias represent a new way to accomplish classic goals of knowledge management: capture corporate knowledge, preserve endangered capabilities, promote sharing of best practices, enable organizational learning, and facilitate innovation. In the following sections we first present a brief overview of relevant research on wikis and knowledge management. We then present a case study, which describes the lifecycle to date of such an intrapedia, from conception to early growth, showing how it emerged from a shared need among newer employees and, through a grass-roots effort, evolved into an enterprise resource. We conclude with a discussion of the implications from this case for theory and practice.

2. Background

KMS have been used successfully in organizations to codify and share best practices, create knowledge networks, support organizational learning, develop knowledge directories, and facilitate innovation [1][11][21]. KMS, however, face many challenges including motivating personnel to share their knowledge, keeping captured knowledge current, and providing effective delivery mechanisms [18].

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Additional challenges exist in applying knowledge for a class of work activities referred to as emergent knowledge processes (EKP) such as new product development, organization design, and strategic planning. EKPs are "organizational activity patterns that exhibit three characteristics in combination: an emergent process of deliberations with no best structure or sequence; requirements for knowledge that are complex (both general and situational), distributed across people, and evolving dynamically; and an actor set that is unpredictable in terms of job roles or prior knowledge" [20: p.179]. To fully support EKPs, knowledge needs to be purposefully integrated into the flow of work in the organization.

Corporate wikis have significant potential as knowledge management tools [28] to support both organizational knowledge capture and emergent knowledge processes. Wagner [28] describes a wiki as a "set of linked web pages (and the application enabling its development), created through the incremental development by a group of collaborating users" (p.268). He places wikis in the category of "conversational technologies" used in knowledge management systems. These conversational technologies are best suited for ad-hoc tasks where the sources of knowledge are distributed.

Similarly Hester [9] focuses on the ability of wiki technology to improve work processes, communication and collaboration, and knowledge sharing. The corporate wiki is seen as an "emerging collaborative knowledge management system featuring the unique characteristics of open editing and an environment of social computing and sharing of collective wisdom" [9: p.1].

A growing body of research investigates the use of corporate wikis as collaboration tools [2][3][9][19] [22][28][32]. This research can be characterized as investigating wikis as tools to perform work, and artifacts resulting from work being done. It does not, however, specifically look at corporate wikis as intentional products of internal knowledge capture efforts.

The defining characteristics of wikis, (e.g., no single owner, community editing rights) [16] have been characterized as "promoting knowledge management by anarchy" [28: p.282], requiring a paradigm shift in organizations for knowledge creation and sharing. The continued usefulness of Wikipedia despite well-publicized limitations [31][34] is generally credited to the large, distributed community of contributors. In organizations where the population of potential users is significantly smaller, content reliability issues are likely to be a significant concern. The potential benefits, however, for organizations that can harness the collected wisdom of their personnel are huge. The use of wiki technology internal to organizations to create intrapedias is therefore deserving of additional attention.

Due to limited research on intrapedia-type corporate wikis, the questions addressed by this research are exploratory in nature: *How are organizational intrapedias created? How do they evolve over time? What factors contribute to their success?* In the following descriptive case study [33], we present the lifecycle to date of one such intrapedia, from conception to early growth, showing how it emerged from a shared need among newer employees and, through a grass-roots effort, evolved into an enterprise resource.

As full-time employees of the JPL, both authors conducted this research as participant observers [14]; the lead author championed the creation of JPL Wired and the second author was part of the extended community for using JPL Wired. We followed a reflexive narrative approach [17] to construct the case study as a story, aided by work artifacts such as emails, meeting calendars, meeting notes, presentation packages, archival versions of JPL Wired, and usage statistics.

3. Case study: JPL Wired

This section describes the creation process of *JPL Wired*, an intrapedia developed at the Jet Propulsion Laboratory (JPL), a US national research laboratory with approximately 5000 employees co-located on a 57-acre campus. JPL's mission of planetary exploration is to "do what no one has done before." JPL projects require the collected efforts of multi-disciplinary teams in a broad range of scientific, technical, professional, business, and support areas. Work is inherently innovative, technologically challenging, and conducted under significant cost and schedule pressure. Therefore, project success relies on the effective application of existing knowledge to reduce risk, improve performance, shorten schedules and reduce cost [4].

Like many other organizations, JPL is facing significant knowledge losses as experienced personnel reach retirement age. This "brain drain" [5][6] is further exacerbated by several factors:

- Compared to industry, JPL missions are R&D Projects. When JPL and NASA launch a mission, it is generally one of a kind. Our products never enter "production" in a manufacturing sense. Even when there are two copies, as in the Voyager 1 and 2 spacecraft, or the two Mars Exploration Rovers (MER) Spirit

and Opportunity, each system has slight implementation differences, and the systems continue to diverge as they experience different space environments. Therefore, the knowledge associated with these projects is unique, cumulative, and experienced by small numbers of employees.

- Extremely long project times. The Voyager spacecraft, for example began operation in 1977, after a multi-year development project, and is still operational as of this publication.
- Relatively few projects. Opportunities to work on space exploration projects are limited. During the 1960s, missions were shorter and happened more often. That generation of JPL employees were therefore able to work on many missions and gain a variety of unique experiences during a their early careers. It is this generation, with both breadth and depth of experience that is reaching retirement age. For current employees, it is possible to spend 5-10 years working on the same project.
- JPL has a very low turnover rate. Knowledge, therefore, accumulates with key individuals.
- Critical skills depend on the nature of the current mission set. For example, JPL has developed deep expertise in the area of Entry, Descent, and Landing (EDL) on Mars. This expertise, however, may diffuse because there are currently no US missions to Mars requiring EDL after the 2011 launch of the Mars Science Laboratory.

JPL therefore has deep knowledge in many different areas, gained over the course of decades, and vulnerable to loss due to retirement and lack of use.

The laboratory has instituted multiple knowledge capture efforts to codify the knowledge gained from over 40 years of deep space exploration [13], resulting in formalized principles and practices for areas such as design, testing, risk management, operations. Efforts to capture knowledge more informally have been initially successful [4], but faced declining use as management attention moved to other areas.

JPL Wired is an intrapedia for JPL-relevant knowledge analogous to Wikipedia. It uses wiki technology to enable personnel to dynamically capture and share information with other JPL personnel. JPL Wired is not a replacement for JPL's official, formal document repositories. Rather, it compliments those repositories by providing context for the information found there and then links to the official documentation. In the same way that a person having a general question on a topic turns to Wikipedia to gain context and get started on a more in-depth examination, JPL Wired provides that starting point with information that is not publicly available due to government restrictions or it's proprietary nature. Users search Wired first to get an overview of the subject; from there, they follow provided links to all the various official information resources on lab that relate to the subject as well as applicable external resources. Users also find information on internal points of contact relating to the subject matter.

JPL Wired is an evolving resource. It is in its first year of operation, following a grass-roots effort to create, populate, and establish critical mass. In the following sections, we describe the creation and growth of JPL Wired.

3.1 Conception

In early 2009 an engineer who was relatively new to JPL was frustrated that JPL didn't have a better way to train new employees on how JPL does business. She began to go around and interview her peers, who were also recent hires, asking them for the one question they wish they had the answer to the day they started. Questions ranged from, "where can I find flight fasteners" to "how do you release a drawing" to "where are the best places to eat close to JPL". It didn't take long for the list to get to around 100 questions and to become sort of an unofficial FAQ for new engineers at JPL.

A Section Manager saw the list and formed a working group of 6 people to discuss what the best approach would be to answer these questions and disseminate the answers. Manuals and published "welcome guides" had been tried before and were not effective in part because (1) the materials would start becoming out of date and (2) there was no follow-up effort to keep them current, so they would eventually become mistrusted resources and forgotten.

The first thought was to publish a web page where the group could post the answers to the list of question. The working group, however, realized that the Section could "create its own version of Wikipedia to answer these types of questions for each other." Because a majority of the section members of go by the title Cognizant Engineers or CogE, the name CogEpedia was adopted, as shown in Figure 1.

Figure 1. Early Logo Concept

The first step was to choose a wiki platform to host the wiki. Criteria for selection included:

- Fast page loading so the end user could quickly access the information
- Easy to edit so that individuals with varying tech-savvy-ness could contribute
- Able to integrate with the current IT infrastructure (e.g. passwords and company directories) to simplify access security

During the evaluation process for the wiki tool, the group learned that the Office of the Chief Information Officer already hosted a wiki platform for institutional use. The working group would be able to use this tool and take advantage of technical support services as part of the OCIO infrastructure. This was important because this meant startup costs were effectively zero, which allowed a grass-roots effort to flourish without the need of wading through the difficult process of securing funds.

The first article written by the working group was on Mechanical Bellows. This article was critical because it provided the framework for the working group to discuss the desired structure and content for a CogEpedia article. Based on Wikipedia, we decided in general, articles should include:

- Overview (a few sentences at the top that briefly summarize the article)
- Hyperlinked table of contents (this is automatically generated)
- Body (this is the main portion of the article)
- References
- "See also" (links to other articles on Wired that are applicable)
- Useful links (links to other JPL information repositories, external websites, or useful page attachments)
- JPL points of contact (a list of JPL personnel who can provide further information)

From June 2009 to August 2009 extensive extracurricular work on the wiki was required to establish the basic infrastructure and create articles that explained the CogEpedia concept, established the ground rules, and provided instructions on how to add and edit content. The working group wanted to make the wiki scalable so that users could contribute without needing a personal instruction session. With little effort, someone could come to the site and quickly understand the objective of CogEpedia and learn how to create and publish an article.

3.2 Gestation

Beta testing of the intrapedia occurred from October 2009 to November 2009 and involved 40 test users. These specific users were invited to participate because they were representative of the initial target users of the system. The objectives of this beta phase were two-fold:

- To test CogEpedia's documentation and see if the beta testers were easily able to navigate and contribute without significant help
- To seed CogEpedia with some excellent examples of articles for the official launch

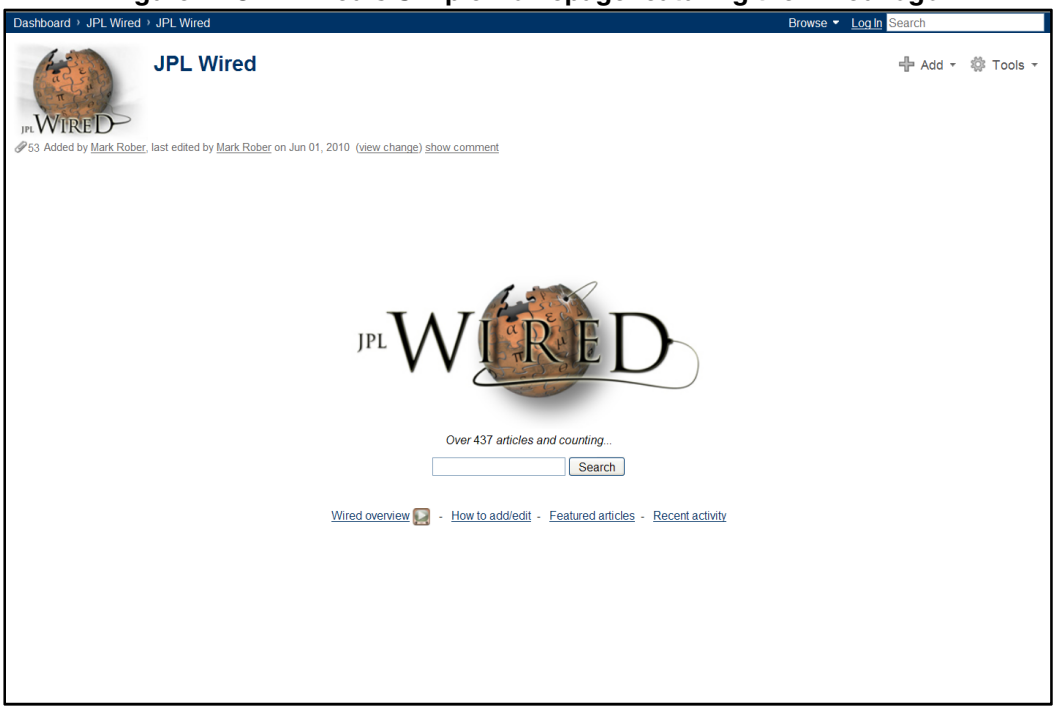
In conjunction with the beta phase a few members of the working group began giving 30-60 minute demos at multiple levels of the organization, from work groups to executive management. The purpose of getting the word out, giving demos and receiving feedback was three-fold:

- To find out if there was a similar effort being pioneered somewhere else on lab, and if so how could we team up. (There wasn't.)
- To get a broader perspective on how we could make this more appealing to the entire lab and not just the Engineering group. The goal was to avoid a bunch of copycat intrapedias for different segments of the lab (e.g. "Systems Engineeripedia" or "Scientistapedia") because 10 separate wikis with 10 pages each is much less powerful than 1 wiki with 100 pages.
- To gain cross-laboratory buy-in and establish this effort as JPL's intrapedia. In the meantime, we could prove the concept out in our Section without worrying that the lab would adopt a different, less effective solution.

Eventually the Laboratory Director received a demo and the response was overwhelmingly positive.

One result of meeting with a broad cross- section of employees across lab was to change the name from CogEpedia to something less specific to an engineering discipline and therefore less exclusive, such as JPL Wired. Again, the working group recognized that to get buy in across lab it needed to feel like everyone's wiki – not just some tool one

Figure 2. JPL Wired's Simple Homepage featuring the Wired logo



engineering group uses that they foist on everyone else. In addition to being more inclusive, the name Wired also connotes interconnectedness and speed. We knew the key to achieving critical mass was widespread adoption, so as in any good advertising campaign, we deliberately created an appealing, readily identifiable logo (a combination of the Wikipedia logo and the planet Mars).

Wired was intentionally structured to be clean, fast and simple for the end user. To access the site, a user simply types the word "wired" into their browser. They don't have to log in to view articles as long as they're behind the JPL firewall. The homepage (Figure 2) is also clean and simple and is intended to remind users of using Wikipedia or Google because that is primarily how you find information on Wired as well, by searching and using hyperlinks.

3.3 Birth

Instead of having a huge launch to the entire lab, the working group decided to go for a staged "soft-rollout" starting with an all- employees email from the Division manager introducing Wired on January 18, 2010. One reason for this approach was the preference for a deliberate and steady growth profile to allow for dynamic updates to the structure, documentation and articles of the wiki during the early months. Growing too quickly right at first wouldn't allow us to adapt and make any changes to the wiki that might be needed to ensure long term sustainability.

The soft-rollout consisted of making group presentations targeting all 150 members of the Section and giving higher level presentations to other division managers and leadership on lab. As a result of those initial presentations, through word of mouth, further group meetings and demos were scheduled.

One of the most common questions during demos was "what happens if someone puts up information that is flat-out wrong?" The answer is that the consequences are really no worse than current informal sharing methods, where engineers and scientists could get equally erroneous information. In at least one way, it is better because the version history captures exactly who makes what edit error sources can be addressed. While all systems have risks, the Wired community feels that if JPL was to let fear dominate, then JPL would lose a completive advantage to the companies that are embracing Web 2.0 and wiki technology to capture and transfer knowledge more fluidly. It is worthy to note that of the 440 articles contributed to JPL Wired thus far, no semblance of posting "flat-out wrong information" has been observed.

3.4 Nurtured growth

JPL Wired has seen steady growth since the official launch over a five month period, as shown in Figure 3. Over one-third of employees have accessed the system and the number of articles has grown to 440, as shown in Table 1.

One strategy employed to drive traffic to Wired as it builds toward critical mass is a monthly publication entitled, "Hot Wired". This email publication highlights the best articles that were added in the past month, lists Wired related announcements, and gives a monthly tip for using the tool. Wired typically has a large bump in traffic following a "How Wired" publication.

Total page views	45,000
Unique visitors	1850
Total articles	440
Current pageviews/month	Over 10,000

Table 1. JPL Wire Usage Statistics from 1/18/2010 to 6/8/2010

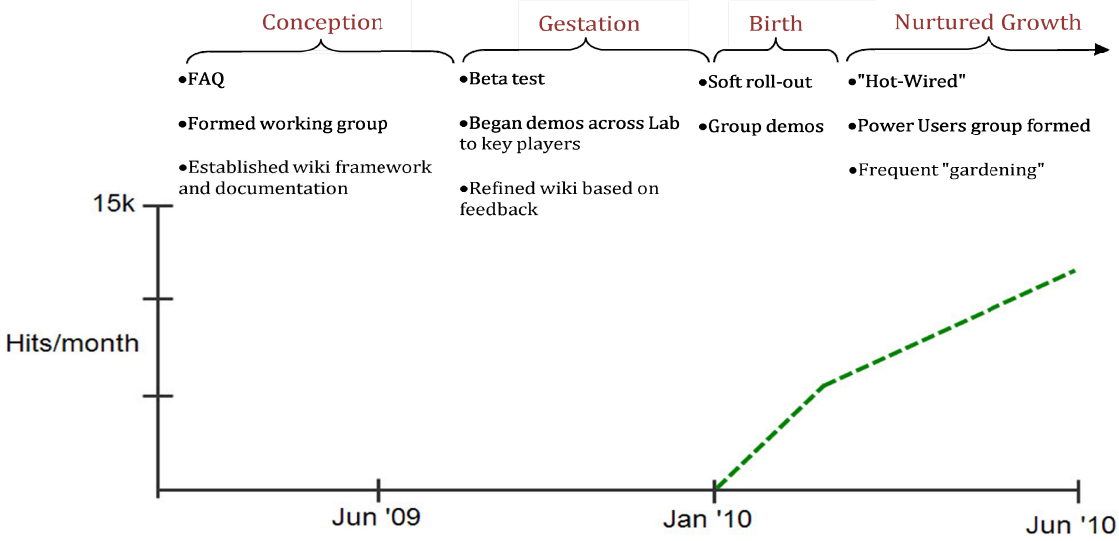
A core group of "Power Users" has emerged within Wired, similar to those in Wikipedia [15]. These are employees that use Wired the most and make the most edits. Most of the edits are for format as opposed to technical content because format edits help foster a feeling of consistency among articles on Wired. This "shaping" behavior [32] helps maintain consistency from article to article and allows Wired to be read, written, edited, navigated, and used more easily by readers and editors alike. The user community meets monthly at the Power User Group meeting to discuss how Wired can be improved and to look at examples of good articles.

Newer employees have been contributors of particularly content-rich articles. Newer employees routinely seek out advice from more employees with more experience, continuing a long tradition of informal mentoring at JPL. With JPL Wired, an emerging trend is that when newer employees interview other employees with more experience, they now capture that information in article format, and then publish it on JPL Wired. In this manner, the information in the experienced employee's brain is indirectly transferred through mechanisms that are natural – and enjoyable – for these senior employees: ad hoc question & answer sessions. These senior employees contribute significantly to the wiki without ever having to touch a computer.

JPL Wired is a bottom-up approach to knowledge management that has gained top- down recognition and support. Fundamentally, it is a grass roots effort that only succeeds by the collective participation of many "working in the trenches". However, contribution rates may suffer if end users do not feel management values contributions to the wiki knowledge base. For this reason, management encourages participation through actions such as verbal recognition, awards for outstanding articles, and including Wired contribution requirements as part of yearly performance reviews have contributed to the success of the intrapedia.

Creating and launching a wiki designed for knowledge management takes a significant commitment from the "Wiki Champion/s" [29] to strive to attain rich, long-lasting results does.

Figure 3. Significant Milestones and Growth Profile of JPL Wired



Creating, nurturing, and consistently promoting the wiki until it can sustain itself requires significant commitment from those in the "champion" role. JPL Wired has not reached this point but appears to be steadily approaching it.

The Wired community will be expanding significantly – and temporarily – during the summer as the annual influx of co-op and summer hire students descend upon the Laboratory. To capitalize on this energetic, web-savvy population, several organizations across the Laboratory are requiring that students contribute at least one Wired article based on their summer experiences.

4. Discussion

This research contributes to knowledge systems research in two primary ways. First, this case provides a counter example to the prevailing wisdom that executive sponsorship is critical for knowledge capture efforts to succeed. The success of this grass-roots effort shows how using Web 2.0 technology can result in successful bottoms-up knowledge capture. Second, this article contributes to a growing body of thought about the value of connecting Gen Y's and Baby Boomer's in the workplace, offering a valuable approach for addressing corporate "brain drain" as workforces age [24].

4.1 Executive sponsorship

Traditional wisdom recommends high-level, executive sponsorship for knowledge capture efforts to succeed [23]. This case shows, via a counter example, that bottoms-up efforts can also be successful and that the role of executive management may be subtler. In previous knowledge capture efforts in the same organization, executive sponsorship was considered critical for engaging participants and enabling rapid population of a knowledge resource [4]. Knowledge capture was, in those cases, driven from the top-down. In JPL Wired, however, a grass-roots effort established capability and gained support from the bottom- up. Subsequent executive level involvement enhanced rather than led the ground swell of support.

Executive sponsorship for JPL Wired consisted of an endorsement by the Laboratory Director during a demonstration of JPL Wired and technology support from the Office of the Chief Information Officer (OCIO). The former served to legitimize the effort across the Laboratory and reinforce lower-level management's continued support for the grass-roots effort. The endorsement wasn't necessary for success as much as a negative reaction would have had a profound negative effect.

The Office of the CIO provided the critical wiki technology, not just for JPL Wired, but also for anyone on Lab who wanted to use it. OCIO Sponsorship consisted of tool support, recognition for creating a valuable resource using an OCIO-sponsored platform, and exposure to executive-level management. Executive management did not conceive JPL Wired and then attempt to infuse it within the organization. Instead, it endorsed a growing grass-roots effort, allowing the ground-swell of activity to continue.

The case suggests three factors for this inversion in sponsorship. First, a significant *need* existed at the working level. Individuals new to the organization felt that there was a gap between the information they needed to do their jobs and generally function within the organization. As members of Gen Y, these new engineers then exhibited behavioral characteristics as described by Erickson [7], "Y's, when faced with a new challenge, tend to function like a heat-seeking missile—single- mindedly pursuing the person in the organization with the most relevant experience... This approach reflects how Y's like to learn—from an expert, just-in-time, and in response to the specific challenge they need to address."

Second, this need was *shared* among a broad cohort of early career hires, socially re-enforcing the desire to close the gap not just individually, but as a group, for the benefit of the group. The social orientation associated with Y's, e.g., [27], was clear in the intuitive, automated leap between "we need to capture this information" and the choice of wiki technology to host the captured knowledge. This represents the next step in the evolution of knowledge management platforms from "let's build a database" and later "let's build a website" – to the current "let's build a wiki." Wikis are inherently interactive – even if a single author generates an article there's an implied invitation for others to contribute. By capturing knowledge in the wiki, GenY employees actively practiced "empowerment" while satisfying a need to "contribute" [8].

The shared need and comfort with Web 2.0 technologies would not have reduced the criticality of executive sponsorship without the third factor, which was the availability of a wiki platform as a no-cost institutional resource. The IT organization had installed a commercially wiki platform for the use of groups throughout the organization.Following a hybrid governance model [25][26], the IT organization managed the wiki platform while leaving the development of applications to the

business units. By making this technology available as part of the institutional infrastructure, the IT organization eliminated the need to obtain funding early in the process and allowed the mechanical engineering organization to experiment with the Wired approach. Further, when Wired moved from a local to an enterprise resource, the centralized ownership of the platform removed any concerns of having to negotiate shared costs across different business units within the organization. Finally, as the resource expanded across the enterprise, the IT organization extended its support to sponsor content administration of the wiki by the original champions, extending the governance responsibilities into overall quality of the site while still maintaining business unit ownership of the content.

4.2 Using Gen Y-Boomer relationships for knowledge capture

Corporations around the world have been wrestling with the problems associated with "brain drain" – the loss of critical corporate knowledge due to large scale retirement of an aging workforce [5][6]. One of the driving needs justifying knowledge management initiatives in organizations has been addressing this problem [1]. Knowledge management efforts have met with mixed success due to the difficulty of converting tacit knowledge to explicit, an unwillingness to share personal knowledge, and the challenges of adding knowledge documentation to already overloaded personnel.

The emergence of Web 2.0 – and a new generation of employees ingrained in using Web 2.0 in their daily lives – has created an opportunity to leverage the talent and skills of one generation to capture the knowledge and expertise of another. A growing body of work shows that there is an affinity between Gen Y and Baby Boomers [10] that could possibly be exploited in a win-win-win for newer employees, long-time employees, and the organization in general. According to Erickson [7] Gen Y's naturally focus efforts on finding the best source of expertise. When this expertise resides with older members of the organizations, Gen Y's contact the source, reflecting "their comfort in relating to Boomers on a peer basis, developed over an adolescence of friendly interaction with their parents and parents' friends." In addition to searching out the information, Gen Y's also seek to share, using their skills with Web 2.0 technologies to "publish" what they've learned. The newer employees enhance their skills and knowledge; older employees have an opportunity to teach and mentor, and the organization benefits from the codification and sharing of knowledge. While, of course, not all Gen Y's or Boomers match these characterizations, the presence of generational differences was evident in this case and contributed to the success of Wired.

4.3 Implications for research and practice

As a single case study, within a single organization, the results discussed here have limited generalizability [33] and the process described for the creation and nurturing of the Wired intrapedia may not work as well in other organizations. Therefore, one research implication is the need to look at intrapedias as a distinct class of corporate wiki and identify factors contributing to successful implementation and operation. In addition, Wired has not yet reached "critical mass" where the wiki is self-sustaining. Given the smaller population available behind a corporate firewall (as compared to the potential population for Wikipedia), the question of what actually constitutes "critical mass" remains open. Additional research may point toward different interpretations based on the span of the content relative to the organization, rather than just sheer numbers.

The results do raise questions about the importance placed on executive advocacy. This is not to say that executive support doesn't help, but rather to say that under the right conditions, a grass-roots effort can flourish. Potential moderators of the relationship between executive support and knowledge management system success include the availability of Web 2.0 technology platforms, the presence of a cohort with a shared need, and workforce inclination to use Web 2.0 technologies. Future research is needed to develop a model of executive support in the Web 2.0 environment and to test the role of these and other potential moderators.

This case hints at the potential for capitalizing on mentor-mentee relationships as a source for knowledge capture as well as for teaching. While it is a gross simplification to state that Gen Y has a unique affinity for the use of social media, and that this can translate into the work environment, these are avenues that merit further exploration.

This case suggests several potential applications to practice. First, it is a proof of concept for the use of wiki technology to support knowledge capture. While wikis are emerging behind company firewalls to support team collaboration, e-learning and other collaborative activities [29], intrapedias hold significant promise to support knowledge capture. In addition, leveraging the skills and inclination of Gen Y employees to capture of the knowledge of near-retirement Baby Boomers could address two

corporate needs: for short-term transfer of job-specific knowledge and for long-term capture of critical knowledge. This case also suggests that wiki technology is a good investment as part of an organization's IT infrastructure and provides an opportunity for creative approaches to knowledge capture originating in the business units.

5. Conclusion

This paper presented a case study showing how wiki technology was applied in a high-tech organization to develop an "intrapedia" for the capture of corporate knowledge. The case study follows the Wired intrapedia from conception, through the grass-roots development, and emergence as an enterprise-level resource. Key success factors were identified and implications for future research and practice presented.

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