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ABSTRACT (100 – 200 WORDS):

The present study is an analysis of Cap Gemini Ernst and Young's Knowledge Management (KM) System from a user based perspective. The willingness of users to adopt CGEY's KM system was examined, using the five factors identified by Roger's Theory of Diffusion of Innovation. Adoption of CGEY's KM system encompasses the concept of getting users to willingly contribute their own knowledge and use others' and therefore establishing a knowledge sharing culture. In addition to investigating Roger's theory, the user's perspective was used to determine the validity of Pollard's study that identifies four key factors that are critical to the success in establishing a knowledge sharing culture.

**CGEY'S KNOWLEDGE MANAGEMENT SYSTEM:
An evaluation from the users' perspective**

Nermine Abadeer

KNOWLEDGE MANAGEMENT SYSTEM: An Evaluation from the users' perspective

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INTRODUCTION:

What is Knowledge Management?

Knowledge Management is the process by which knowledge (meaning any intangible resource of a business that helps its people do something better than they could without it) is harvested and distributed within a given organization. One Health Care Company that has implemented a powerful KM system, defined it as the following:

"KM is the ability to capture and leverage what associates and practitioners know, combined with external content, in order to share efficiencies, or create innovative solutions...the key goal of knowledge management is to improve organizational performance by creating, sharing and using knowledge from associates and practitioners to generate innovative solutions that provide measurable value." (Ascension Health, 2002)

Why is Knowledge Management Important?

To remain competitive in the twenty first century, companies must continually invest in knowledge management systems and tools. Many companies' processes are ambiguous and lacking in structure. It is as such that efficient management of knowledge may be the key to profitability in any given company. However, Knowledge Management is especially important to consulting companies. At Cap Gemini Ernst & Young (CGEY), "One of the critical success factors that remains key to winning in this highly competitive market involves presenting a team with deep industry knowledge and/or demonstrated innovation in its solution delivery." (Terry Jost, CGEY internal electronic mail, July 2002) One of the most notable ways in which CGEY presents such a team, is by promoting and making use of their powerful KM system. One of the key differentiators among consulting firms is their knowledge base: having a strong knowledge system means a consulting company can deliver solutions of better quality in a more efficient manner.

Why a User-Based Perspective?

In regards to a KM system, a firm's perception of "if we build it, they will use it" is far from reality. In fact, a KM system is only as good as its' users. Building the appropriate architecture and infrastructure is necessary, but it is not sufficient. Getting users to willingly contribute their own knowledge and use others' is a difficult culture to establish (Pollard, 2000). Understanding the user's perspective and background culture,

surrounding the system is therefore important and of great relevance. It should also be noted that understanding the user's perspective helps an organization understand the complexity of owning a successful KM system and may help either in the development of a new system or in the improvement of the existing one.

THE PURPOSE:

The goal of this study is to better understand the user's perspective of the Knowledge Management system in place at CGEY in order to see how that perspective affects the user's overall willingness to adopt the tool. Since adoption in this case can partly infer the willingness to contribute knowledge and to use others' knowledge hence establishing a knowledge sharing culture, the second goal is to evaluate the user's perception of four factors identified as critical to the success of a knowledge sharing culture. Their perspective was used to determine the existing culture at CGEY and furthermore to evaluate if these factors are indeed factors that would establish a knowledge sharing culture at CGEY.

An examination of Everett Rogers' five factors that explain the rate of adoption of any new idea or tool, aids in understanding of the users' perspective, as well as any pre-existing culture surrounding the tool. The willingness of users to adopt the system will therefore be analyzed by making use of Roger's five identified factors for the diffusion of an innovation: relative advantage, compatibility, trialability, observability, and complexity. Moreover the four drivers critical to the success of a knowledge sharing culture as established by Pollard, will be evaluated to determine if these factors currently exist at CGEY and to validate that the users concur that these factors affect the usage and therefore knowledge sharing culture. Critical success factors include sponsorship and leadership; rewards and recognition; cultural reinforcement; and lastly outreach programs.

REVIEW/BACKGROUND

Everett Rogers' Theory: Diffusion of Innovation

This study relies upon Rogers' Theory by exploring the diffusion of an innovation: in this case, the KM system in place at CGEY. A more detailed look at Roger's theory and his five key factors is therefore necessary.

Rogers describes diffusion as a process by which an innovation (any idea, tool, system, process or manner in doing something that is perceived as new) is communicated through certain channels over time. According to his theory, the rate of adoption of a given "innovation" will depend on the absence or presence of five factors, further examined below.

Relative Advantage

This key factor refers to the degree to which the innovation is *considered* to be superior to the practice or method that it replaces. Essentially is it perceived to be better than the idea that precedes it? It should be noted that this does not necessarily involve whether or not the new tool or system is *in fact* superior, but rather whether or not the potential user *believes* it to be superior. That is to say, whether or not he or she believes they will gain some advantage, relative to using the previous method already in place. An often-cited

example by Rogers is the concept of boiling contaminated water (as it was attempted to be introduced to a rural village within Las Molinas) in order to free it from impurities and potentially dangerous microorganisms. On its surface this may appear to most, to be clearly advantageous and superior to simply drinking contaminated water without boiling it. However, based on Rogers' theory, it is the *perceived* relative advantage that the user may or may not have, that contributes to the rate of adoption or outright rejection of the new idea or tool. In this case it may not be thought of as advantageous by some and as such would not necessarily be adopted. The people of Las Molinas could not grasp the concept of harmful microorganisms being present in their drinking water. Since they could not "see" them and even after the water was boiled, physically looked the same, it did not seem advantageous to practice this cleansing method. The greater extent to which *Relative Advantage* is present the greater the increase will be in the rate of adoption of the tool.

Compatibility

Compatibility within Rogers' theory pertains to the degree to which the innovation is compatible with the potential user's current manner of working and preexisting culture. Is it consistent with the existing values, past experiences, and needs of the adopter? In the example stated above, although it might appear to most that the process of boiling contaminated water prior to drinking is superior, preexisting notions within the village in question affected the rate of adoption of this process. Notably, a firmly rooted practice within this village was to give boiled water to people once they had become ill. Therefore, from the potential user's perspective, the process of boiling water prior to drinking was, in this case, incompatible with their preexisting culture. This was since the potential users in no way felt ill and boiled water was firmly and culturally, established as only to be given to people upon illness. As seen with this example, *Compatibility* therefore, clearly affects the rate of adoption of a new tool or system and, as with *Relative Advantage*, the greater the presence of *Compatibility* the greater the increase will be in the rate of adoption of the new system.

Trialability

Trialability is the degree to which the innovation can be tried before the final adoption decision has to be made. Are potential adopters free to experiment with the innovation prior to any decisions on its use? This is one of the five key factors since it can greatly influence the potential user's final decision. At first glance a new method, process, or tool may appear to be of little interest or use to a potential user. However, the *Trialability* of an innovation allows the potential user to become familiar with, and to see first hand, any new benefits that may be brought about by usage of the new tool. This thereby gives the new user a chance to modify any possible negative, preconceived notions surrounding the innovation. Therefore, the greater the extent of, and presence of *Trialability*, the greater the increase will be in the rate of adoption of the innovation over other innovations, preexisting systems or tools, if any.

Observability

Observability is the degree to which attributes and advantages of the innovation are easy to observe or experience. Are the results of this idea visible to others? Again, as with *Trialability*, the degree of *Observability* of the new system affects its rate of adoption when potential users are able to see first hand any new benefits that may arise out of usage of the new system. This again gives users a chance to modify and override, any possible negative preconceived notions surrounding the innovation, as well as their hesitation in

using the new system. The more the potential user can directly observe potential benefits and see immediate rewards to usage of the new innovation, the greater its rate of adoption. In the case of the villagers in Las Molinas, Trialability and Observability are jointly explained and are somewhat interdependent of one another. The villagers did not need to learn nor experiment with the process of boiling water, since this practice was already known to them, but they needed to experiment and observe the benefits of it. Since the benefits would not be apparent immediately, the villagers were expected to take a “leap of faith” that this practice would benefit them in the long run and therefore observing direct results was next to impossible. The women of Las Molinas did not feel comfortable with the outsider who was presenting the idea to them, and therefore the villagers focus to observe and try might have been deterred due to this factor. Also, the only woman who was willing to adopt was also an outsider from a nearby village. She was constantly seeking the approval from the village and was willing to embrace this concept in hopes of being accepted among her peers. In the villagers eyes this innovation was not an acceptable method and therefore inhibited them from experimenting and seeking further investigations of the benefits.

Complexity

Complexity relates to the degree to which the innovation is perceived as being difficult to learn and/or use. Is the new idea perceived as difficult to understand and use? A new system that is easy to use will be adopted more quickly than one that is complex. Continuing on with the example stated above, did the new users feel that boiling water was inconvenient, complex and/or too difficult to do each time prior to drinking the water? How cumbersome would it be to start a fire, boil the water, then wait for the water to be cool enough to drink? It is less likely that a user will continue to adopt or use a new tool if it is seen as extremely cumbersome or overly complex to use.

As seen above, according to Rogers Theory, any innovation that is perceived by individuals as having greater *Relative Advantage*, *Compatibility*, *Trialability*, and *Observability* as well as less *Complexity* will be adopted more rapidly than other innovations. (Rogers, 1983).

Roger’s Theory and Knowledge Management

According to Rogers, an innovation is an idea that is perceived as new. Within this study the innovation considered is CGEY’s Knowledge Management system. Upon first being hired at CGEY, employees are introduced to this KM system to be used as a tool to help them do their job more effectively and efficiently. Furthermore, each time CGEY re-engineers their KM tool, it becomes to a certain extent an innovation once again. Rogers’ five factors mentioned above will determine the users willingness to adopt it.

Pollard’s Theory on Critical Success Factors of a knowledge sharing culture

According to the Most Admired Knowledge Enterprises (M.A.K.E.) Study, eight key drivers of performance have been identified as being critical to the success of any company: Establishing a knowledge culture, Top management support, Developing and delivering K-based goods/services, Maximizing value of intellectual capital, Effectively creating an environment of Knowledge Sharing, Establishing a culture of continuous learning, Effectively managing customer knowledge to increase loyalty/value, and Managing knowledge to generate shareholder value (Business Wire, June 2000).

Similarly, David Pollard speaks of Success Factors for Knowledge Management and Virtual Organizations. He discusses four key factors necessary to harvest a knowledge sharing culture: *Executive Leadership and Sponsorship*, *Outreach Programs*, *Rewards & Recognition* programs and *Cultural Reinforcement* programs. (Pollard, "Success Factors for Knowledge Management and Virtual Organizations, May 2000) These factors will be examined in the present study as they relate to the KM system in place at CGEY. As the extent to which these four critical success factors are present within CGEY will be later examined, these four drivers are further explained and outlined below.

Executive Leadership & Sponsorship:

Pollard references John Kotter in his book on "Leading Change" and has identified executive leadership and sponsorship as key in creating a knowledge sharing culture.

Top management support has been identified throughout the leading companies as one of the key factors in the success of a firm. However, in regards to a knowledge management tool, employees must feel that management values their KM Tool. Top management must support and stand behind the system. The difference between the successful integration of the system can rest on this key factor. At CGEY examples of Executive Leadership and Sponsorship involve actively promoting the usage and promoting the advantages to leverage project deliverables while on client engagements.

Rewards and Recognition:

Another key factor to harvesting a knowledge sharing culture involves setting goals and establishing rewards and recognition to potential users. Goals must be set towards the contribution and usage of it. Companies must set certain targets as to how many knowledge objects they submit and how many they leverage. At CGEY rewards could be given to those who actively contribute and leverage by including this factor in their quarterly performance review or awarding incentive prizes

Cultural Reinforcement:

Embedding knowledge activities in business processes and technology is essential to creating a knowledge sharing culture. KM is not simply a tool but more a philosophy of doing work. Users must believe in the advantages of their KM system and highly regard the return on the investment in their efforts of using it. Reinforcing the benefits and establishing this mindset is a large task at hand that involves dedication and coordination of the company as a whole.

Outreach Programs:

Communication, and internal marketing are methods to promoting the usage of the KM system. Companies that successfully have a support group that are actively reaching out to internally market and train potential users are essential to fostering a knowledge sharing culture. CGEY must frequently retrain users on the contents and capabilities of their knowledge management system. All efforts in creating and coordinating a powerful KM system will be worthless if users are not educated on the functionalities and capabilities of the system.

Classification of Knowledge Management

De Long, Davenport, and Beers (Ruggles, 1996) have identified eight different types of

knowledge management projects which organizations have undertaken: *Capturing and Reusing Knowledge* (i.e. utilizing old project deliverables as source material for a new project); *Structuring and Mapping Knowledge*: (i.e. organizational “yellow pages” or typologies); *Synthesizing and Distributing External Knowledge* (i.e. creating widely-distributed bulletins based on trade publications and news reports); *Sharing Lessons Learned* (i.e. conducting a team debrief to examine what when well and not so well within a completed project); *Documenting Expertise* (i.e. creating a database of employee qualifications); *Measuring and Managing the Economic Value of Knowledge* (i.e. attaching an economic value to patent holdings and managing those patents accordingly); *Using a Technical Infrastructure for Knowledge Exchange* (i.e. implementing email, Lotus Notes, intranets, etc); and *Embedding Knowledge in Products and Services* (ie. smart products).

De Long, Davenport, and Beers have used the above listed typology to identify knowledge management initiatives and practices. These initiatives are considered to be official programs that are explicitly put in place within an organization in order to more effectively manage knowledge. Practices are those same types of activities that individuals engage in as a natural part of the way they work. Effective initiatives are often absorbed into organizations in such a way that they become practices, enforced only by organizational norms.

Knowledge Management at CGEY

Cap Gemini Ernst & Young’s Knowledge Management system is implemented under the EY/KnowledgeWeb (KWeb). The development of the KWeb has been, and continues to be, evolutionary in nature. The KWeb encompasses the firm’s internal knowledge content as well as relevant external knowledge content, organized into knowledgebases. It is designed to make knowledge accessible to the desktop through technology, knowledge navigation, and search capabilities on a consistent basis throughout the firm. The content of the knowledge environment includes final deliverables, work products, and other completed documents generated by practitioners in the course of service delivery and methodologies derived from the practice.

The firm’s knowledge content includes the following materials: *experiential knowledge* (gathered from the practice and the practitioners’ activity and submitted through the appropriate processes); *synthesized, filtered, and engineered knowledge* (gathered from the practice and the practitioners’ activity and further refined by subject matter specialists’ (SMSs)); and *external knowledge* (acquired through contracts and shared through vendor-provided access methods or through the standard internal knowledge-sharing applications and tools).

The main purpose of gathering and sharing knowledge is to enable the firm’s three other mega processes –sales, service delivery, and people (training and career development).

The firm’s knowledge is made available by means of knowledgebases, which is a collection of homogeneous information or knowledge that is grouped together and managed for convenience of retrieval, content acquisition, ownership, management, and access control requirements. The content architecture provides a standard set of rules for defining a knowledgebase.

There are three basic types of knowledgebases: *filtered, unfiltered, and external*. One of

the most important content distinctions is between *filtered* and *unfiltered* knowledgebases.

Filtered knowledgebases are high-value-added databases that subject matter specialists have engineered to meet specific knowledge needs of their subject matter area or discipline. Users can expect that significant care has been given to determining which information will be stored in a filtered knowledgebase. Few individuals have the authority to submit information to a filtered knowledgebase, although many may nominate information for inclusion.

Examples of *filtered knowledgebases* include, but are not limited to, the following:

PowerPacks – repositories of exemplary knowledge items that have been selected and packaged by subject matter specialists and that are of especially high value to practitioners;

Knowledge objects repositories – repositories of knowledge items that have been sanitized and synthesized for re-use.

Unfiltered knowledgebases may contain engagement documents, work products, proposals, and other materials that are collected from engagement and project teams. Few other modifications or interventions are performed on content, which is largely received and stored “as is.”

While it is expected that filtered knowledgebases will often be the first place a user will look to fill a knowledge need, unfiltered knowledgebases are important from several perspectives: Filtered knowledge bases cannot cover the full scope of activities of the practice. Since filtered knowledge bases rely on individuals to create or filter information to submit to them, they are not as current as unfiltered knowledgebases, which are more likely to reflect recent changes in the marketplace or the nature or scope of our practice or clients. Unfiltered knowledge bases provide an excellent source from which to package or create content for filtered knowledgebases. Unfiltered knowledge bases also cost far less to create and maintain.

EVALUATION MODEL

The model of evaluation consisted of a survey that was created to serve as a base, for an evaluation of the users’ perception of the KM system at CGEY. The survey was comprised of 3 parts. The combination of these three parts provided a good insight into the users’ mind and perspective.

Survey Description -Part One

Part one of the survey consisted of five areas and was based on Rogers five factors as previously detailed, as well as loosely based on the set up of Gary Moore’s survey used to measure perceptions of adopting an information technology innovation (Moore, 1991).

Section A - Relative Advantage: Is there a perception that using it is a good idea and advantageous?

Section B - Compatibility: Do users feel that using it fits well with the way they work?

Section C - Trialability: Do users feel that they have had enough training to use the tool?

Section D - Observability: Have users seen other coworkers use it and do they believe that

they are perceived as a more valuable employee if they use it?
Section E - Complexity: Do users think that the tool is user friendly?

Each section was based on a 5-point scale (1-5), 1 meaning "Strongly Disagree" and 5 meaning "Strongly Agree". The survey questions were modified to address specific terminology and issues relevant to CGEY's Knowledge Management system, also known as KM Tools.

Survey Description –Part Two

Part two was based on the Critical Success Factors in establishing a knowledge sharing culture. These factors encompass similar concepts from authors such as Pollard, as well as the M.A.K.E study as previously detailed:

Section F- Sponsorship and Leadership: Does upper management support its use and emphasize its value?

Section G- Rewards and Recognition: Do potential users make it a goal to contribute and use it. Are there rewards and recognition given to those who use it?

Section H- Cultural Reinforcement: Is KM a part of the business culture/process. Do potential users believe in the advantages of KM Tools?

Section I- Outreach Programs: Is the support group actively reaching out to internally market and train potential users?

Respondents were asked if they believe that each one of these factors existed at the company. Answers were given in a "Yes" or "No" response. They were also asked that if these factors improved, would it increase the likelihood of using the tool. It should be noted that asking if it would increase the likelihood of using the tool is also an indication of whether or not the users feel that these factors are important and valuable. The users answers to the question above will validate or negate that these factors influence a successful knowledge sharing culture.

Survey Description -Part Three

Part three allowed the user to suggest 3 issues that need to be addressed in order to improve KM Tools at CGEY. This gives the user a chance to freely express their opinion on topics that were not necessarily discussed in the survey. This question was included as it may also instigate further research questions that may be studied.

The combination of the above three sections facilitate the evaluation of the users' perception, behaviors and needs in order to determine if the users' perspective affects the adoption of the KM system; to determine what the existing culture is and lastly to validate that the aforementioned factors are critical to establishing a knowledge sharing culture.

Apart from input by client serving professionals, an interview with a knowledge coordinator was conducted to understand the perspective of the KM support group at CGEY. He discusses questions surrounding the same four Critical Success factors to establishing a knowledge sharing culture in regards to the KM system discussed in the survey. His responses focus on the mega processes of the company- Sales, Service, People, Culture, and Knowledge (Refer to KM at CGEY). A comparison can be made to the perception users have from the survey versus the perception that the support group has from the interview.

METHODOLOGY

A survey and a follow-up interview were conducted with 18 CGEY consultants as participants. Also, an in-depth interview with a CGEY knowledge coordinator was conducted to gain further insight and understanding on the relevant issues as related to users' comments and concerns.

Survey Evaluation Method- Part One

Scores were tabulated in two different ways. The first tabulation was as follows: an average rating per question was calculated, these averages were then averaged once again per section to give "A Total Average" (per Question) per Section. The second tabulation was based on the following calculation: a percentage of each rating (1-5) was calculated, an average per section was then calculated to give a percentage per each rating per section. Results were tabulated and scores of 1 & 2 were grouped together as "Disagree". Scores of 4 & 5 were grouped together as "Agree". A score of 3 was tabulated by itself as a Neutral opinion. Since each question is evenly weighted per section, an average of the average was then taken.

Survey Evaluation Method- Part Two

Answers were tabulated based on an average of "Yes" versus "No" answers. An average was tabulated for each question, then an average percentage for each section was tabulated to determine what percentage agreed and what percentage disagreed that the critical success factors existed and their willingness to use KM Tools based on the presence of these factors.

Survey Evaluation Method- Part Three

All suggestions were categorized into one of the nine variables used in the evaluation model. The suggestions were then evaluated to determine which area was suggested for greatest improvement.

FINDINGS/RESULTS

Since there is an average of five consultants/senior consultants to one manager on any given project at CGEY, the ratio of respondents in the survey is a good reflection of the aforementioned consultant to manager ratio.

The *employee's level* consisted of consultant (10), senior consultant (5), and manager (3).

The *employee's current role* consisted of Business Analyst (6), Project Management (2), Technical Architect (7), and Team Lead/Managers (3).

The years of experience consisted of: under 2 years (11), 2-4 years (3), 4-6years (4).

Note: For *Section E- Complexity*: Questions 1-3 all ratings were translated so that all scores of 1 were equal to a score of 5 and vice versa. Moreover, question 5 of *Section H* was also reversed for tabulation purposes.

Survey Results -Part One: (see Appendix C)

I. Average Rating per Section: - Graph A:

Keeping in mind that a rating of 5 equates to *Strongly Agree* and a rating of 1 equates to *Strongly Disagree*, a total average rating per section was tabulated to present the following: The highest rating was 3.51 for Relative Advantage. Compatibility received a rating of 2.83, followed by Observability with 2.65. The two factors that received the lowest average rating included Complexity at 2.53 and Trialability with 2.52.

II. Percentage Rating per Section: - Graphs B-I through V:

Section A- Relative Advantage: Highest percentage is Agree.

The survey shows that **53.7% agreed** that having and using Knowledge Tools is a good idea. The perception is instilled in the users' minds that using it is advantageous, increases productivity, improves the quality of work, and improves job performance. The Total Average Rating (Per Question) Per Section is 3.51 out of 5, which is a significantly higher average rating than all of the other sections.. (Refer to **Appendix C - Graph B-I**)

Section B- Compatibility: Highest percentage is Neutral.

The survey shows that **44% are neutral** when it comes to the users' perception on compatibility. Only 19.4% agreed and 36.1% disagreed that using Knowledge Tools is compatible and fits well with the way they like to work. . (Refer to **Appendix C-Graph B-II**).

Section C- Trialability: Highest percentage is Disagree.

The survey indicates that 50% Disagree. Concurrently 50% of the respondents feel that they have not had the opportunity to have proper training by trying to locate various Knowledge Tools. Also respondents don't feel they know of all of the tools available to them. Furthermore, it is of interest and should be noted that a rating of 5 (Strongly Agree) was not selected on questions 1,2,3 and 5 from *any* of the respondents. That is to say that out of all of the respondents not one person strongly agreed that they have had adequate training indicating a general trend of insufficient training on the part of participants. (Refer to **Appendix C-Graph B-III**).

Section D - Observability: Highest percentage is Disagree.

The survey results show that **44.4% Disagree** and 31.9% Agree that using knowledge tools improves self-image. More specifically question 1 and 3 were directed more towards image; in both questions the rating that received the highest percentage was 2 (Disagree) at 27.78% (for Question #1) and 1 (Strongly Disagree) at 38.89% (for Question #3). Therefore an overall Strongly Disagree that using it improves image. Questions 2 and 4 were directed towards observability; in both questions the rating that received the highest percentage was 4 (Agree) at 38.89% and 33.33% for Question #2 and #4 respectively. Therefore an overall rating Strongly Agree that when they see others using it, the users are considered to be more valuable employees. (Refer to **Appendix C-Graph B-IV**).

Section E - Complexity: Highest percentage is Disagree.

Results of the survey indicate that **48.7% Disagree** that Knowledge Tools are easy to use. Again it should be noted that no respondents gave questions 1, 3, or 4 a rating of 5. Therefore, overall the majority of respondents feel that it is complex. It is viewed as cumbersome, frustrating to use, and overall they are not able to find what they are looking for easily. (Refer to **Appendix C-Graph B-V**).

Survey Results –Part Two

This section discusses the percentage of respondents that agree or disagree that the four Critical Success Factors to establishing a knowledge sharing culture exist at CGEY.

Overall 69.4% agree that Support from Upper Management to use Knowledge Tools exists. When speaking of a reward system, 51.9% agree that there is one in place for using Knowledge Tools. When asked whether users personally believe in the benefits and part of CGEY's values, 81.1% responded yes. Only 30.6% feel that there are outreach programs that market and promote the use and capabilities of Knowledge Tools. (Refer to **Appendix C-Graph C & Graph DI-IV**)

The answer to questions in Sections F, G, and I all had identical results: 66.7% agreed that if upper management would support it more, if the rewards were greater and if the individual was continuously updated and informed they would use it more.

Detailed Evaluation –Part Two:

Section F- Sponsorship and Leadership:

Fourteen out of 18 respondents (78%): believe that senior management supports the use of Knowledge Tools. Eleven out of 18 respondents (61%): believe that their direct supervisor supports the use of Knowledge Tools (Refer to **Appendix C-Graph D-I**). Furthermore, when asked if they would use the tool more if upper management supported it more, 67% responded yes. This indicates that the majority of users believe that sponsorship and leadership is a factor that would help establish a knowledge sharing culture, as explained previously.

Knowledge coordinator Jim Lee, agrees that to be successful, KM must be visibly supported by the executive leadership of any community. They know that sponsorship leads to high knowledge sharing, and conversely, low sponsorship leads to little institutional knowledge sharing.

Section G- Rewards and Recognition:

Twelve out of 18 respondents (67%): believe that there is a reward system in place for submitting Knowledge resources. Only 39% (7 out of 18 respondents): believe that there is a reward system for using Knowledge resources. 50% (9 out of 18 respondents): believe that there is a reward system for submitting quality Knowledge resources. (Refer to **Appendix C-Graph D-II**). Once again, when asked if respondents would use the KM Tool more often if the rewards were greater, 67% said yes. By agreeing to this question, this also indicates that users believe that being rewarded and/or recognized for using and submitting knowledge is a factor that would establish a knowledge sharing culture.

Lee believes that rewards and recognition do not exist to the extent that they should. Only local uses of reinforcement/rewards/recognition have been put into effect, and then only in a case-by-case basis. As a company they do not have a program to recognize knowledge-sharing practices.

Section H- Cultural Reinforcement:

Sixteen out of 18 respondents (89%): agree that the company believes that using it is beneficial. (83%) 15 out of 18 personally believe in the benefits. (89%) 16 out of 18 agree that Knowledge Tools are worth using. (83%) 15 out of 18 agree that it is important to use and contribute to the Knowledge Tools. Concurring with the responses to cultural reinforcement, only 38.9% agree that using Knowledge Tools is more for formal purposes.

This indicates that more than half, 61.1% agree that using it isn't just for formal purposes but in fact is a useful tool. (Refer to **Appendix C-Graph D-III**). The responses that have been tabulated in this section are a clear indication that users truly feel that using Knowledge Management Tools is a part of their culture.

Lee explains that as one of the five mega-processes, it has the same level of behavioral objective setting that the other four have. Because the impact is difficult to measure, knowledge has not yet achieved a 100% penetration in the mindset that the other mega-processes have. Even though it has not achieved full penetration Lee believes cultural reinforcement is key to the success of their Knowledge Management system.

Section I- Outreach Programs:

Only 5 out 18 respondents (27.8%) believe that there is continuous communication on what's new. Only 6 out 18 respondents (33.3%) agree that there is a constant effort to promote the use of Knowledge Tools. (Refer to **Appendix C-Graph D-IV**). The last question in this section asked users if their use of the KM Tool would increase if they were continually updated and informed. Sixty seven percent agreed that if there were more outreach interactions they would use it more. These results indicate users agree that Outreach Programs is a factor that would promote a knowledge sharing culture.

Lee states that they will begin to proactively market their knowledge capabilities. Although they have encouraged communities within CGEY to have knowledge issues on their agendas for conference calls, newsletters, and meetings, it is not on a consistent basis. Lee states that they will begin rolling out US-wide engagement/account team visits (ETV) to train consultants on the latest tools available to them, or to reinforce the knowledge sharing culture.

Survey Results –Part Three

When asked to name three things that would improve Knowledge Management at CGEY or problems that need to be addressed, respondents spoke of topics that were later categorized into the nine variables discussed in the survey. The most common topics were *Relative Advantage* and *Complexity*.

Detailed Evaluation- Part Three

Relative Advantage: users spoke of the need for better content. Issues were discussed such as the information is typically archaic/outdated. Slow turnaround time of when the information is posted to the KWeb also contributes to lack of cutting edge information. What this user is referring to is the Filtered Knowledgebase that takes time for subject matter experts to review and sanitize. There are also doubts on accuracy of information. A suggestion was made to indicate the actual author and the purpose of the document. Currently the person who actually submits the document is labeled as the author. Another suggestion was made to formally track who actually reused the information.

Complexity was the issue that most users commented on (29 counts out of 54 on this topic). Many users stated that it is cumbersome to use and commented that it is very difficult to find the information required. One user actually stated that he could not find what he himself submitted to the repository. Some users complained that they don't know where to search and suggested that there be a one-stop-shop suggesting popular hits. Another user explained that they do not know what applies to them when refining the

searches. Yet others simply state that they get what they are looking for through their peers, whom they find more reliable than their Knowledge Management system. Relating to this, many stated topics around taxonomy: documents are scattered among service line, industry etc... One suggestion was to group documents by content. Others commented that the tool, needs to be more intuitive. Many users spoke of the fact that when not in the office users cannot use high-speed network and must use telephone line dialup. This is very time consuming and takes much longer to download information. One user stated that the helpdesk needs to take a more active role to facilitate the search process.

A concern regarding *Compatibility* involved the fact that KM tools at CGEY is not relevant to technical issues. Being a technology focused company the user feels that there should be more pertinent information geared towards that. Suggestions on *Trialability* involved on-the-job training that would be more beneficial than training sessions only available at the home office, since consultants are mostly at the client site. Other users speak of similar things that more training is needed since they have difficulty finding information.

Sponsorship and Leadership opportunities exist for management on the project level. Although firm-wide encouragement exists, creating knowledge objects is sometimes viewed as a waste of time and not a priority. Concerning *Rewards and Recognition*, some say that there needs to be greater rewards for those who use and submit information. Some users explained there is not enough communication about the Knowledge Tools, hence more *Outreach Programs* are needed. One user suggested the ability to sign up for alerts that are relevant to their interests would help promote the use of Knowledge Tools.

CONCLUSION

The current study of the Knowledge Management System at Cap Gemini Ernst & Young has explored the perspective of the user as it relates to Everett Rogers' Theory of Diffusion of Innovation to uncover the users' overall willingness to adopt the tool based on five factors including relative advantage, compatibility, trialability, observability, and complexity. Secondly, David Pollard's concept to establishing a knowledge sharing culture by the presence of four factors (including sponsorship and leadership; rewards and recognition; cultural reinforcement; and outreach programs) was explored by evaluating the users' perspective to determine if these factors currently exist at CGEY and if users agree that these factors affect the adoption/usage and therefore knowledge sharing culture.

A further analogy explains the results of the study: CGEY's KM system is much like a library in the midst of a junkyard with an incomplete card catalog; a user is therefore not unlike a college student who would really like to use a library. He might know how to get to the library, that the library has many great books, that others have used it to find good material, and that it could in theory be a good source of information. However the student does not know how to use the card catalog efficiently, cannot find the books he's looking for, and even when he finds the book sought, he may realize the contents of the book lack substance and realizes he must restart his search to find another book. This arduous *hunt* takes too much time and as a result, the student is frustrated because he is spending most of his time on gathering information, rather than actually utilizing and more importantly analyzing the information. The student decides it is too difficult to find, realizes that his professor will not give him extra credit for going to the library and only cares about the final product that has a due date which is fast approaching. He decides to get information

from his peers who have done a similar project in the past and gives up on the library altogether.

The results of this study portray the scenario mentioned above. CGEY users truly believe in the product, they believe in using it, and the use of it appears to be culturally sound within their minds. The hindrance lies in its complexity, in the lack of reward in using it and contributing to it, and in the lack of adequate training to fully understand what is available to them and how to find what they are looking for.

A CGEY Knowledge Manager Melissa Monaco states that the fact that revenue is rising while the number of personnel is static is a testament to the benefits of the knowledge management on the firm. The CIO attributes this accomplishment to E&Y's knowledge reuse, stating the following: "Put together a million knowledge objects and a search engine, and you just might have a powerful intranet that makes your profits shoot up faster than your headcount. That's what happened with Ernst & Young's KnowledgeWeb." This case study shows that it is not enough to just "put together a million knowledge objects", and in fact maybe the problem is that there *are* a million knowledge objects. CGEY must take into consideration users' feedback on their needs by looking at their perspective while considering Roger's Theory of diffusion of innovation and Pollard's factors identified as critical to establishing a knowledge sharing culture. Research from within the company explains that consultants are spending 80% of their time accumulating data and 20% of their time on analysis and strategy. CGEY must work on improving and essentially reversing that triangle by having consultants spend 20% of their time on collecting data through proper use of the KM System and 80% on their analysis and strategy.

The value of a Knowledge Management System is determined by how skillfully it is organized and harvested. Suggested further research should include topics covering successful taxonomy of a KM System .

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APPENDIX A- Survey

Knowledge Tools include but is not limited to The Kweb (Knowledge Web); Powerpacks etc...

Please be as ACURATE as possible.

1. How long have you been with CGEY? (include employment with EY) _____
2. What is your current level? (Consultant, Senior Consultant, Manager) _____
3. What is your current or most current role?

PART 1: Select a number from 1-5. 1= Extremely Disagree 5= Extremely Agree					
Section A: Relative Advantage (is it better than the idea it supersedes)					
	Extremely Disagree				Extremely Agree
1. Using Knowledge Tools enables me to accomplish tasks more quickly.	1	2	3	4	5
2. Using Knowledge Tools improves the quality of work I do.	1	2	3	4	5
3. Using Knowledge Tools makes it easier to do my job.	1	2	3	4	5
4. Using Knowledge Tools improves my job performance.	1	2	3	4	5
5. Overall, I find using Knowledge Tools to be advantageous in my job.	1	2	3	4	5
6. Using Knowledge Tools increases my productivity.	1	2	3	4	5
Section B: Compatibility (is it consistent with the existing values, past experiences, and needs)					
1. Using Knowledge Tools is compatible with all aspects of my work.	1	2	3	4	5
2. I think that using Knowledge Tools fits well with the way I like to work	1	2	3	4	5
Section C: Trialability (can adopters experiment with it)					
1. I've had a great deal of opportunity to try various Knowledge Tool applications.	1	2	3	4	5
2. I know how to locate various Knowledge Tool applications	1	2	3	4	5
3. Before using the Knowledge Tools I was able to properly try them out. (through on-the job training, co-worker training etc..).	1	2	3	4	5
4. There are resources available to me that will help me use Knowledge Tools .	1	2	3	4	5
5. I know how to use all of the Knowledge Tools available to me.	1	2	3	4	5
Section D: Image (Observability) (are the results of this idea visible to others)					
1. Using Knowledge Tools improves my image within the organization.	1	2	3	4	5
2. When I observe others in my organization using Knowledge Tools, I see them as a more valuable employee	1	2	3	4	5
3. People in my organization who use Knowledge Tools have a high profile.	1	2	3	4	5
4. I have seen my coworkers use (or mentioned the use of) Knowledge Tools to perform work.	1	2	3	4	5
Section E: Ease of use (Complexity) (is this idea perceived as difficult to understand and use)					
1. I believe that Knowledge Tools are cumbersome to use.	1	2	3	4	5
2. My using Knowledge Tools requires a lot of mental effort.	1	2	3	4	5
3. Using Knowledge Tools is often frustrating.	1	2	3	4	5
4. Overall, I believe that Knowledge Tools are easy to use.	1	2	3	4	5
5. I feel that Knowledge Tools enable me to find what I'm looking for easily.	1	2	3	4	5
PART 2: Answer Y or N to the following questions					
Section F: Sponsorship & Leadership: (emphasizes its value)					
1. Does senior management support the use of Knowledge Tools ?		Y		N	
2. Does your direct supervisor support the use of Knowledge Tools?		Y		N	
3. If upper management would support it more, I would use it more.		Y		N	
Section G: Goals, Rewards, Recognition:					
1. Is there a reward system in place for Submitting resources to the Kweb		Y		N	
2. Is there a reward system in place for Using resources on the Kweb		Y		N	
3. Is there a reward system in place for submitting Quality Knowledge resources		Y		N	
4. If the rewards were greater I would use it more		Y		N	
Section H: Cultural Reinforcement:(is KM a part of the business culture/process)					
1. Is it a part of CGEY's beliefs that using it is beneficial		Y		N	
2. Do you personally believe in the benefits		Y		N	
3. I believe that Knowledge Tools are worth using (VALUES)		Y		N	
4. I believe it is important to use and contribute to the Knowledge Tools (NORMS)		Y		N	
5. I believe that using the Knowledge Tools is more for formal purposes but informally I don't really use it to accomplish work. (PRACTICES)		Y		N	
Section I: Outreach Programs: (internal marketing/ technical training)					
1. Is there continuous communication on what's new		Y		N	
2. Is there a constant effort to promote the use of Knowledge Tools		Y		N	
3. If I was continuously updated and informed on Knowledge Tools I would use it more		Y		N	
PART 3					
NAME 3 THINGS THAT WOULD IMPROVE THE KNOWLEDGE TOOLS @ CGEY OR PROBLEMS THAT NEED TO BE ADDRESSED...					

Note: Explanation of Topics per Section. For Reference Only

APPENDIX B- Interview

INTERVIEW WITH CGEY KNOWLEDGE COORDINATOR - JIM LEE

1) Does Sponsorship and Leadership exist to emphasize the value of Knowledge tools?

Y. We always insist that to be successful, the executive leadership of any community, service line, or industry team must visibly support KM. We know that high sponsorship leads to high knowledge sharing, and conversely, low sponsorship leads to little institutional knowledge sharing.

2) Do Rewards and/or Recognition exist?

N. We have seen only local use of reinforcement/rewards/recognition that are effective, and then only on a case-by-case basis. Such things as drawings for gift certificates, Palm Pilots, etc., have been used on some very specific knowledge promotions, but largely, we as a firm do not have a program to recognize knowledge sharing. One could argue that as a mega process, knowledge sharing should be easy to incept, as well as a requirement for success, but in the end, it has not had the emphasis of the other four mega processes.

3) Is there cultural reinforcement (KM as a part of the business process)?

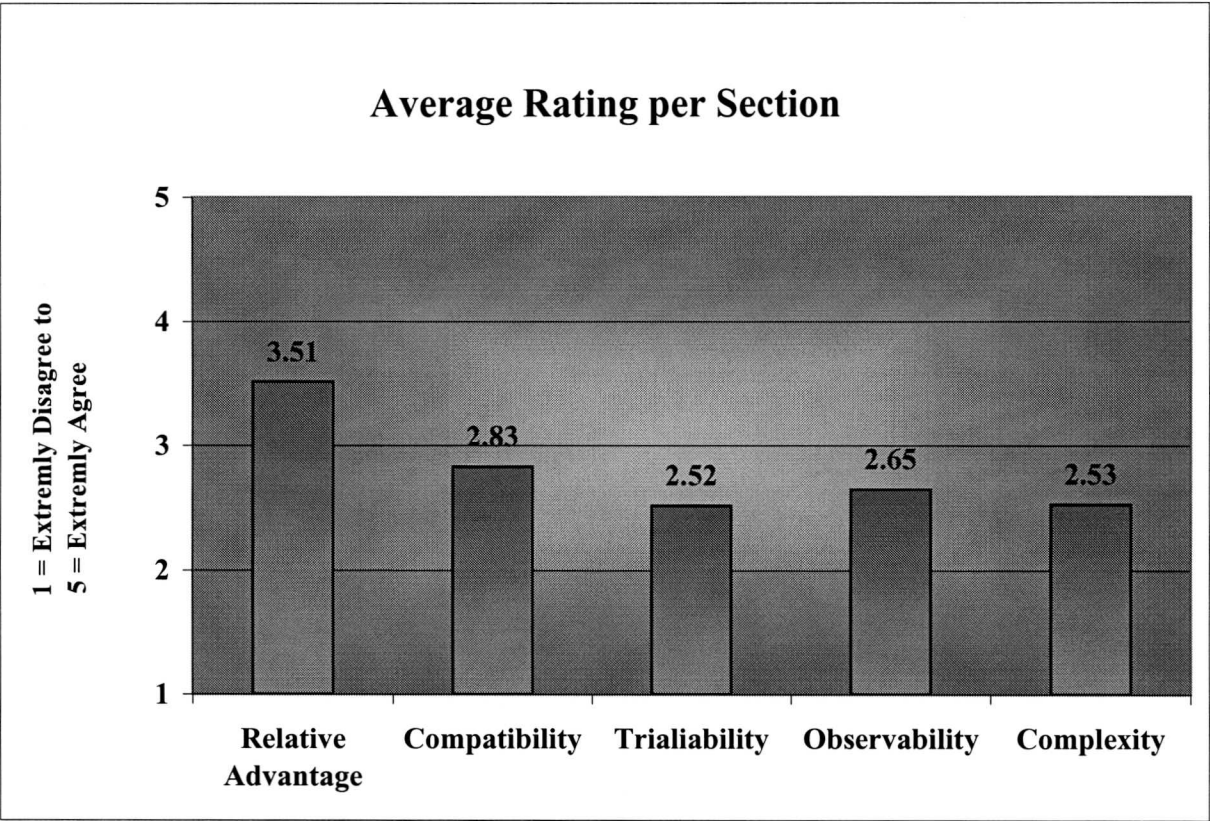
Y. Again, as one of the five megaprocesses, knowledge has the same level of behavioral objective setting that the other four have. Maybe it's because it's the newest megaprocess, or because its impact is difficult to measure, knowledge has not yet achieved a 100% penetration in mindset that the other megaprocesses have. It is culturally reinforced however, as the existence of full-time knowledge coordinators such as myself; knowledge training programs; and specific tools (e.g. Community HomeSpaces) are used to continually keep knowledge "in front" of the consultants.

4) Are there currently Outreach programs such as internal marketing, network coordination: aware of the 1st three)?

Y. We (network coordination) proactively market our knowledge capabilities; either our available resources and training, or the successes we've achieved through the reuse of knowledge. Communities are encouraged to have knowledge issues on their agendas for conference calls, newsletters, and meetings. Network coordination actively seeks opportunities to hold engagement/account team visits (ETV) to train consultants on the latest tools available to them, or to reinforce the knowledge sharing culture. As an example, we will begin rolling out a US-wide ETV schedule to train as many people as possible on traditional KWeb tools.

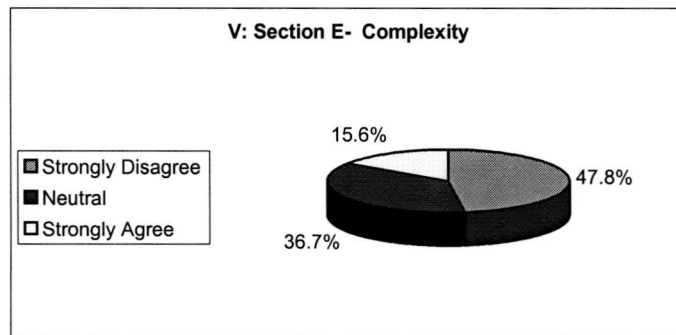
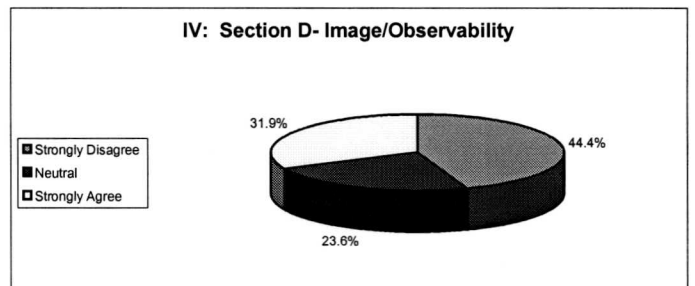
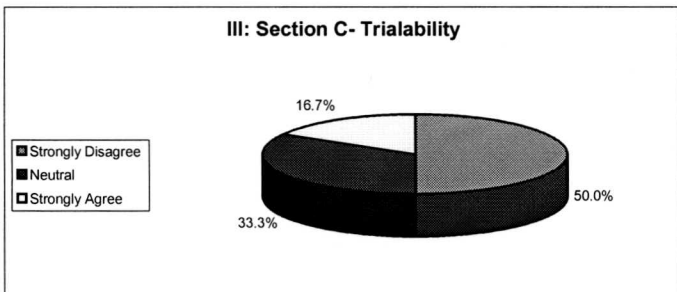
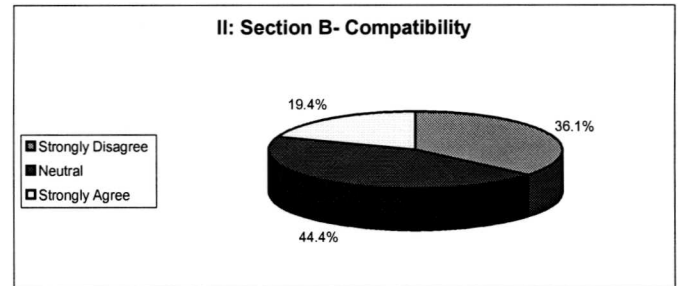
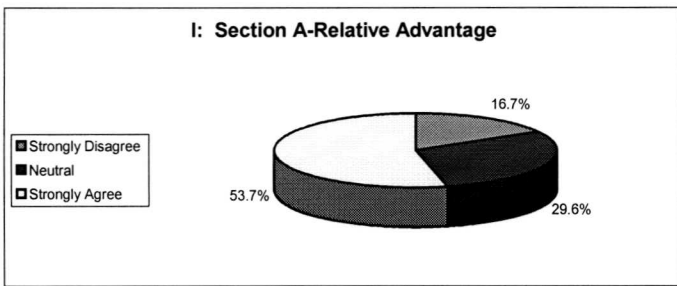
APPENDIX C – GRAPHS

Appendix C- Graph A



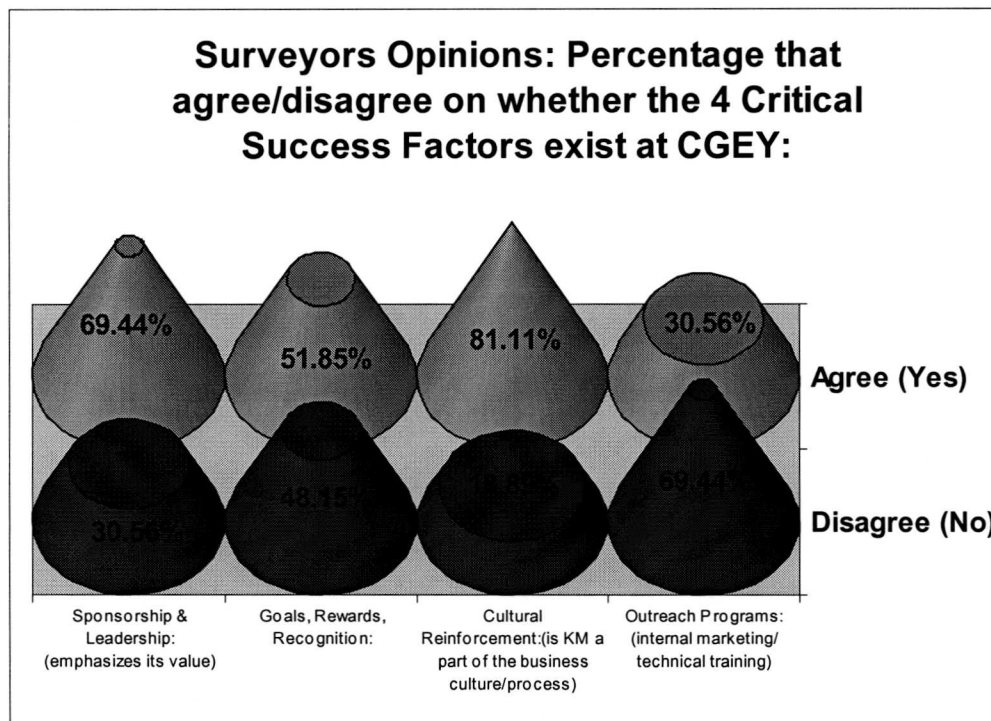
* Data gathered from Section A-E of the survey

Appendix C- Graph B: I, II, III, IV, V



* Data gathered from Section A-E of the survey

Appendix C- Graph C



* Data gathered from Section F-I of the survey

Appendix C- Graph D

Note: this graph portrays the same information as Graph C

