

A Small Company KM Evaluation

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Practitioner Track

**A KM PREPARATION STEP
Results of a Study of a Small Firm**

ABSTRACT

Following is the outcome of study to gauge the preparedness of an organization to undertake a Knowledge Management (KM) effort. The study was designed by the faculty of the Center for Information and Communication Sciences (CICS) at Ball State University and conducted by graduate students in the summer of 2001. The company studied had doubled in size in the previous 2 years and was concerned about knowledge sharing and not “inventing things twice”. The study was recommended as one of the ways for the company to get prepared and discover the best direction for their initial Knowledge Management (KM) efforts. Results indicated that there was a good deal of organizational awareness of management’s desire to do something about KM, but some concerns were generated as to what really was involved in KM and what methodologies would be used. The start activities described here led to decisions concerning a second and third phase of the project.

BACKGROUND

The CIO of the largest architecture and engineering firm in Indianapolis (around 185 total employees) is a graduate of our Masters program. He, with the concurrence of the CEO, invited CICS to provide some direction to a KM effort intended by the business. Both officers were anxious to proceed and had even appointed a person with the title of Chief Knowledge Officer. Their problem was determining the best approach of achieving the desired organizational buy-in and then defining the best first steps toward a solid KM implementation. I and another faculty member led 12 graduate students in a project to assist the managers. This paper describes the first phase of our support of this effort. A presentation of this material was made to the top

managers and unit heads in mid-summer and some of the reactions to the presentation are also recorded here. For purposes of this document I will call the firm ABC and the team of managers that called us in the KM team. This study is ongoing now that the second and possible third phases have been identified.

DATA GATHERING

A questionnaire (see attachment) was used to test the pulse of people in the organization regarding their awareness of Knowledge Management techniques presently in use in their company. The instrument was distributed on site by the CIO to 30 managers in 6 sub-units of the organization. Completed questionnaires were sent directly, in the envelopes enclosed, to the university assuring anonymity. In the past I have used similar questionnaires and other interview techniques to determine awareness. My experience has been that the mean averages of responses from most firms with little experience with KM procedures and potentials will be in the under 3 range on a Likert 1 to 10 scale. It must be remembered that the CEO of this company had been talking about KM for at least a year before he chose to get us involved, therefore somewhat higher than average scores might be expected. This organization had generally higher responses than the inexperienced firms, indicating to me that the groundwork has been laid in ABC to make a significant successful move into KM. Following are the questions and my evaluations based on 28 responses.

Leadership

Does your ownership clearly articulate how knowledge management contributes to achieving organizational objectives? Mean = **6.2**

Rating	0	1	2	3	4	5	6	7	8	9	10
# Response	1	1	0	0	1	6	6	5	6	0	2

Ownership in the case of the structure of this business can be thought of as partners. It is a closed company with many people having an “ownership” position. Even though the respondees had been told that the KM team was interested in the subject this is positive response. A response this high indicates that there is recognition of the feelings of more managers than just the CEO for a vigorous approach to KM. A good open-ended question that might have been added to this first question might have been, “Can you state how your ownership clearly articulates how knowledge management contributes to achieving organizational objectives?” I think there would have been some responses to such a question that would have pleased the KM team.

Measures

Does your organization measure and manage its Intellectual Capital in a systematic way, and publish regular reports on the subject to its external stakeholders? Mean = **4.5**

Rating	0	1	2	3	4	5	6	7	8	9	10
Response	1	0	3	3	8	6	2	3	1	0	1

One might say that the first question covered “talk the talk”. This one however, covers, “walk the walk”, and a lower mean indicates an area needing attention. It is not unusual that many people are not familiar with KM reports and it is even less usual that a company is enlightened enough to publish them. When pressed, the KM team couldn’t define what specific reports they would consider available to external stakeholders, but obviously some of their managers believed that they, or someone else in the company, was providing some data. Many companies feel that KM is only an internal activity. Certainly these managers understood the field of competitive intelligence and were aware of some of the security aspects of KM, but they were also skilled in customer relations management and were willing to share the appropriate data with outsiders.

(Due to the organizational structure of this firm “external stakeholders” was easily understood to include customers, potential customers, suppliers, regulators, potential employees, potential investors, and in some cases competitors.) The largest numbers of responses to this question were in the middle of the scale indicating that work is required in this area.

Processes

Does your organization have clearly documented systematic processes for gathering, organizing, exploiting and protecting key knowledge assets, including those from external sources? Mean = **5.3**

Rating	0	1	2	3	4	5	6	7	8	9	10
# Responses	1	0	1	4	5	5	5	1	2	3	1

The study team looked at and documented 10 individual processes/systems in use at ABC.

These systems varied from those with content specific data bases, about job activities, to general communications systems and email. There was a lack of documentation for some of these systems. (One group prepared the first flow chart for their process just for an explanation presentation to the students, an unexpected value to the company). The study team started looking at these systems based on the data in the systems that could be shared. In informal discussions these systems appeared to have data repeated in some of them. At least one of the systems studied was still under development and some managers hadn’t been privy to its requirements.

The first of the new traumas facing a KM manager is the definition of what data is to be shared. Shared data should be in its smallest component (in the vernacular of data analysis this is usually third normal form) and that which is essential to the functionality of the business. It is not financial report data or organizational data or not even necessarily previously defined customer

data (that data with which the manager is familiar). It may not be the previously most used data or most redundantly stored data, although the later is probably a good indicator. The company's business functions must be well defined, before guidelines for data sharing can be established.

Understanding business functions that require the data is a key element in KM, as it is reengineering.

Unfortunately defining business functions is difficult and must involve interdepartmental or company planners. It's too important to be left to data processing planners. Business functions are distinct from departmental goals or even business objectives. Business functions are the detail of what the business does and how it does it. Taking a hard look at business functions result in strange new descriptors for the work of the organization. These descriptors generally come under headings of Management Control, Operations, Support and Planning. Only after these overall functions are broken down can planners really determine what data is necessary to perform the functions and determine where to find the source of highest quality data. The response to this question was not strong and requires follow-up to assure all understand the processes that were uncovered and the systems involved with them. The result of the discussions on this question and the presentation of findings resulted in the definition of phase two of the project.

Explicit Knowledge

Is there a rigorously maintained knowledge inventory, with a structured thesaurus or knowledge tree, and clear ownership of knowledge entities, that is readily accessible across the organization? Mean = **4.4**

Rating	0	1	2	3	4	5	6	7	8	9	10
# Responses	1	1	7	4	2	3	4	3	3	0	1

This question had the lowest response mean. There was a KM system previously built to act as a locator or interface between other systems. Users were not happy with that locator. Some of the negative response to this question could have been generated as a result of experience with the locator. There may have also been a problem with the “ownership” portion of the question since some departmental units seemed to have a very proprietary interest in their “own” systems. In many cases they have paid for those systems over the years and tend to think that they are “theirs”. This area requires a good deal of attention. The “ownership” problem needs to be solved and all users must be involved before any new interface system is contemplated. The top managers will have to be involved in explaining that the business “owns” the data not the individual sub-units. If a new interface or locator system is to be designed, and I feel that the KM team believes that should happen, its specifications must be well defined and should not proceed with out intensive user involvement.

Tacit Knowledge

Do you know who your best experts are for different domains of key knowledge, and do you have in place mechanisms to codify their tacit knowledge into an explicit format? Mean = **5.9**

Rating	0	1	2	3	4	5	6	7	8	9	10
Answers	0	0	4	1	1	7	4	3	4	3	1

This is a relatively high mean and there were no respondents rating the question with less than a rating of 2. My feeling, born out by the discussion at the presentation, is that the people in the organization have a good feeling about the first part of the question. They know their experts. They are much less secure in their feelings about the second part - the codification and formatting of the knowledge. This firm understands the problem of getting, and recording properly, the knowledge of its experts. Part of the KM team understands that they *are* the

experts and are aware that they will have to spend the time to work with the recorders. They also understand that currently in use in the company, there are no methods to classify, code and store the knowledge for later easy use by other employees. Tacit knowledge by definition is “silent” therefore it’s the process of turning it into “explicit” that is tricky and must be defined within the vernacular and in some cases the culture of the individual company concerned.

Culture/ Structure A

Is knowledge sharing across departmental boundaries actively encouraged and rewarded?

Mean = **5.5**

Rating	0	1	2	3	4	5	6	7	8	9	10
# Responses	1	2	1	3	3	1	5	2	3	3	3

This question evoked very mixed responses. It had the highest number of people responding in the 0-1 categories and a high number in the 9-10 range. Again it is somewhat of a guess as to which people were responding to “encouraged” and which to the “rewarded” when they answered. The discussion at the presentation indicated that the responders with high scores understood the position of the KM team and felt sharing was positively encouraged. There were several anecdotal examples of good things, which had happened when information was exchanged. My recommendation is that the “rewards” needs to be emphasized as part of the PR for the next phase of the program. If some reward, or lack of penalty, is not explicit active participation must rely on company loyalty, which may not be sufficient incentive for the new hires or possibly even for some of the employees with longer standing.

Culture/ Structure B

Do workplace environment and format of meetings encourage informal knowledge exchange?

Mean = **7.1**

Rating	0	1	2	3	4	5	6	7	8	9	10
# Responses	0	0	1	0	1	2	5	8	4	5	2

This question had the highest mean of all responses. Something good is happening here. There was some variance across sub-units, but it is good cause to celebrate the occasion and learn to emulate across all of ABC. The company has a new building with a good deal of large open spaces for meetings. The physical environment, with its lack of separation, encourages exchange of information. The cultural atmosphere is relatively informal, even with the great amount of growth. The nature of “informal knowledge” wasn’t defined at the presentation, but it seemed to mean something different to the participants than “explicit” and “tacit”.

Knowledge Centers

Are there librarians or information management staff that coordinate knowledge repositories and act as focal points for provision of information to support key decision-making?

Mean = **5.0**

Rating	0	1	2	3	4	5	6	7	8	9	10
# Responses	0	2	0	6	5	2	4	3	2	2	1

This mean was disappointing to the KM team. They put in place a librarian about 6 months ago with the specific purpose to gather, classify, and publicize shared vendor and product information. It appears that not everyone is aware of that this work has already been done. I was impressed with the activity the librarian had accomplished in gathering, identifying, and color-coding the conventional hard copy manuals. She is also working to cross-reference the same materials to the vendor’s web sites on the Internet. This data will be made available on the company’s intranet. The team understood that a PR effort was also needed in this area. They acknowledged the priority of the librarian’s web activity and realized that its data will be most

recent, but still felt that the manual library will need to be kept up-to-date for those people that “would not use the Internet”. The librarian has created her own methodology of coding these documents without spending much time in investigation if something to perform the purpose already existed. The graduate students made some recommendations about available procedures, but I am not sure they will be accepted.

Exploitation

Are your knowledge and knowledge management capabilities packaged into products and services and promoted in your organization's external marketing? Mean = **5.0**

Rating	0	1	2	3	4	5	6	7	8	9	10
# Responses	0	2	2	4	7	3	1	3	2	3	1

Not surprisingly one of the most aggressive units in ABC is marketing. They have developed and maintain some of the most advanced knowledge sharing systems in use at ABC, but this question had a large range of responses, indicating some education is necessary if this form of KM exploitation is to be a major goal. A basic Request For Proposal system has been developed by Marketing Department people. Architects, engineers, and legal people can use it. This system can be used as one of the key KM systems if understood well and its use is encouraged. There seems to be a "not invented here" or "not invented by the right people" syndrome occurring in this instance. The system is a logical opener for an historical (keep us out of legal trouble) database that has been invented by another sub-unit. We will see what happens in the next iteration of system design. The exploitation area of activity is more than a PR problem; there will be training and some priority adjustment needed if systems such as these are to provide potential benefits

People/Skills

Are all senior managers and professionals trained in knowledge management techniques?

Mean = **4.7**

Rating	0	1	2	3	4	5	6	7	8	9	10
# Response	1	2	3	4	2	3	8	2	2	0	1

Most responses here are toward the lower end of the scale although better than 1/3 feel there training rates above a 5. Since there is no formal training program in the company these answers

might reflect respondents' feeling of lack of training as well as perceptions of others degree of training. It is assumed that "senior managers" was a proscriptive enough description. At the presentation the feeling was that probably there would have to be some training, but it was hoped that the "new people" were the ones that need it. There wasn't much discussion as to what the techniques were or should be. I think many people interpreted the word "trained" in a less formal sense. They are thinking about policy changes that would emphasis KM as opposed to specific textbook training. This may be an unwarranted assumption if the firm is to take advantage of most of the benefits of KM. Specific training for all may be necessary.

Technological Infrastructure

Can new users easily find all the important information on your Website within three mouse clicks? Mean = **5.9**

Rating	0	1	2	3	4	5	6	7	8	9	10
# Responses	0	0	2	4	2	2	3	5	8	2	0

These responses were pretty comfortable with most everyone toward the high end of the scale. I am not sure that all respondents considered "new users" as they rated this question, but I don't think that makes much difference. This is a rather innocuous question concerning infrastructure. It was included because the Web, or this company's Intranet, is currently and certainly in the future, will be one of the major vehicles for sharing information. These responses show that there is a pretty good feeling about use of this technology as the basis for sharing. Technology infrastructure was discussed at the findings presentation. Notwithstanding the bad experience with the interface system, I feel that most people there felt reasonably secure that there would not be great expenses for hardware necessary to get into KM. They consider that the proper platform is in place. The determination of software requirements is less defined and should be. The

possible problems that can be generated by a rush to a premature software selection I think is understood and will be avoided..

The number of responses from each organization.

Sub-unit A	5	Sub-unit B	7	Sub-unit C	2
Sub-unit D	4	Sub-unit E	5	Sub-unit F	3
Unknown Organization	2				

CONCLUSION

The reason for this study was to gauge the awareness of KM activities in the ABC Company.

The results were used to gain insight into employees' ratings of 10 critical success dimensions.

Over all the employees, 28 managers of 6 sub-units, gave relatively high responses. The areas of concern are; Measures – measuring and managing intellectual capital in a systematic way,

Explicit Knowledge – rigorously maintained knowledge inventory ... clear ownership,

Exploitation – KM capabilities packaged for external marketing, and People/Skills – training of

knowledge techniques. Very good ratings were given concerning leadership's articulation of

objectives and the workplace environment encouraging informal knowledge exchange. The KM

team was please with the results and the activity of the graduate student team. An attempt to

better define ABC's business processes will be the next phase of the project. It will start after

the end of 2001. A following, or possibly parallel phase will be to determine the methodology

and begin expert interviews. CICS will participate in each activity.

Attachment

KM Awareness Questionnaire

This questionnaire provides a quick check of where your organization is along ten critical success dimensions. Rate your organization (or part of it) on a score 0 to 10, where 0 is doing nothing at all, and 10 is world-class. When completed, please add the name of your organization and return in the envelope provided as quickly as possible.

Questions

1. Leadership

Does your ownership clearly articulate how knowledge management contributes to achieving organizational objectives?

0 1 2 3 4 5 6 7 8 9 10

2. Measures

Does your organization measure and manage its Intellectual Capital in a systematic way, and publish regular reports on the subject to its external stakeholders?

0 1 2 3 4 5 6 7 8 9 10

3. Processes

Does your organization have clearly documented systematic processes for gathering, organizing, exploiting and protecting key knowledge assets, including those from external sources?

0 1 2 3 4 5 6 7 8 9 10

4. Explicit Knowledge

Is there a rigorously maintained knowledge inventory, with a structured thesaurus or knowledge tree, and clear ownership of knowledge entities, that is readily accessible across the organization?

0 1 2 3 4 5 6 7 8 9 10

5. Tacit Knowledge

Do you know who your best experts are for different domains of key knowledge, and do you have in place mechanisms to codify their tacit knowledge into an explicit format?

0 1 2 3 4 5 6 7 8 9 10

6. Culture/ Structure

a. Is knowledge sharing across departmental boundaries actively encouraged and rewarded?

0 1 2 3 4 5 6 7 8 9 10

b. Do workplace environment and format of meetings encourage informal knowledge exchange?

0 1 2 3 4 5 6 7 8 9 10

7. Knowledge Centers

Are there librarians or information management staff that coordinate knowledge repositories and act as focal points for provision of information to support key decision-making?

0 1 2 3 4 5 6 7 8 9 10

8. Exploitation

Are your knowledge and knowledge management capabilities packaged into products and services and promoted in your organization’s external marketing?

0 1 2 3 4 5 6 7 8 9 10

9. People/Skills

Are all senior managers and professionals trained in knowledge management techniques?

0 1 2 3 4 5 6 7 8 9 10

10. Technological Infrastructure

Can new users easily find the most important information on your Website within three mouse clicks?

0 1 2 3 4 5 6 7 8 9 10

Organization (Check your unit)

- Sub-unit 1 _____
- Sub-unit 2 _____
- Sub-unit 3 _____
- Sub-unit 4 _____
- Sub-unit 5 _____
- Sub-unit 6 _____

Associate Professor Bellaver has 40 years of experience in data processing and telecommunications. He has developed software, been responsible for supervision of analyst and programmer teams, evaluated development software, and been a planner at the local and corporate level. He has been at Ball State University for twelve years where he is the Associate Director of the Center for Information and Communication Sciences. He teaches courses in the history of the information and communications industry, human factors in design, telecommunications management, and strategic planning for information systems. He also has developed and led product and system usability studies and other consulting activities in conjunction with several large us corporations. He is presently editing a new book on Knowledge Management.