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Developments in Practice XVII: A Framework for KM Evaluation

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ABSTRACT

Demonstrating the value of knowledge management (KM) to the organization represents an elusive challenge. In part, this challenge is due to the nature of knowledge management itself and the difficulty in creating direct linkages between knowledge sharing and sales growth or productivity. But it is also undoubtedly due to misaligned KM activities. This paper first reviews the current state of metrics in KM and presents six principles of measurement immediately applicable to the practice of KM. It then outlines a framework for KM evaluation using four key approaches: balanced scorecard; strategic imperatives; capabilities assessment; and measurement matrix. The paper concludes by presenting a number of strategies for improving KM metrics.

Keywords: knowledge management measurement, knowledge management metrics, knowledge management assessment, knowledge management evaluation, knowledge management evaluation frameworks

I. INTRODUCTION

Today, many knowledge management (KM) functions in organizations are struggling to articulate their value to senior management [Smith and McKeen, 2004a]. The traditional financial accounting measures currently used in companies are widely recognized to be seriously flawed because of the difficulty of placing reliable financial measures on intangible assets, such as: innovation, process capabilities, employee skills and flexibility, and customer loyalty [Stewart, 1997]. Unfortunately, all these areas are ones in which KM is likely to be influential. Furthermore, while research shows that key information management practices and information behaviors link positively to financial performance, awareness about what these are, why they are important, and how to achieve them is still limited [Marchand et al., 2000].

Knowledge managers themselves use a wide variety of measures against which they judge their performance. They recognize that financial performance simply tracks what happened in the past, while much of what they seek to do is influence human and structural capital to impact future performance [Edvinsson and Malone,1997; Smith and McKeen, 2003c]. At the same time, they are increasingly involved in projects that seek to harness knowledge to deliver more immediate present day business value [Seeley, 2002; Smith and McKeen, 2004b].

However, in spite of being well-aware of the potential past, present, and future impacts of KM, knowledge managers frequently find it difficult to demonstrate where their initiatives contribute to business value. Sometimes, it is a lack of alignment between KM and business objectives. At other times, the business doesn't understand the value of some of the initiatives KM is working on and how they will impact the organization's strategic capabilities. Both of these situations would be improved enormously if KM could develop metrics that link its work more directly to business objectives and provide an assessment of its contribution.

To improve understanding of how metrics could be used to improve KM's link to organizational objectives and demonstrate KM's performance, the authors convened a focus group of practicing knowledge managers from a variety of organizations in several industries. They were asked to identify a strategic objective for their organization or a major business unit and the key business metrics that are used to indicate if the objective was achieved. Then, they were asked to identify the specific KM objectives that were designed to assist their organization/business unit to meet its goal and the specific measures to be used to indicate if their KM objective were achieved.

This paper describes the results of this exercise to develop an evaluative framework for KM that links it in some way to business value. It first describes the current experiences of knowledge managers with metrics and the measures that they use (Section II). Next, it draws on previous research, both in KM and in other fields, to identify some principles of measurement that should be used in developing a framework for measurement (Section III). Then it describes four possible frameworks for linking KM more closely with business value (Section IV). The paper concludes with practical advice on getting started on KM measurement.

II. THE CURRENT STATE OF METRICS IN KM

It was clear from the outset of the meeting that different organizations use a wide variation in metrics to measure KM value. In some, where metrics are an organizational focus, KM uses a well-defined set of measures that are closely tied into corporate strategic objectives. However, most KM groups are still trying to determine what to measure and how to demonstrate KM's impact on what their senior management feels is important. These managers admitted "sometimes KM forgets where the company competes".

This problem is by no means limited to the focus group members. One research project documented over ten pages of different metrics being used by or suggested for KM [Liebowitz and Suen, 2000]. However, in spite of collecting many possible measures, these researchers still concluded that:

> *"the knowledge management community needs to be responsive to the needs of management in the organization by trying to adequately measure the organization's intellectual capital and assess the worthiness of the knowledge management initiatives."* [Liebowitz and Suen, 2000].

Thus, overall the current state of measurement in KM currently falls fall short of meeting senior management's needs.

When we explored the value of KM several years ago, we concluded:

> *"Many KM managers are left with the difficult task of demonstrating exactly how their budgets contribute to the corporate bottom line… There are no accepted metrics to use and no agreed upon standards… Knowledge managers are therefore left largely on their own to justify their existence in and value to their firms. In the absence of agreed-upon measures, knowledge managers are actively trying to discover measures that will work in practice. At present, valuing*

> *knowledge and the KM function is very much an individual effort."* [Smith and McKeen 2003a].

Other researchers concur.

> *"Showing how [the KM] program benefits the firm and clients is difficult because KM is a relatively new function and has virtually no standard success metrics."* [Boyd, 2004].

In short, measurement in KM is still a hodgepodge of approaches and disjointed metrics. With a few exceptions, KM organizations still find measurement a challenge. There is therefore a significant need to develop a more comprehensive and effective framework for evaluating KM.

III. PRINCIPLES OF MEASUREMENT

Any program of evaluating KM needs to be carefully thought through to ensure that it takes advantage of what others learned about measurement in other parts of the organization. Most notably, for several decades IT has been on a similar journey to demonstrate its value. Some of the principles that were found to work include:

1. **Pay Attention to What is Measured.** It is a truism, but nonetheless one that needs periodic restating, that people pay attention to what is measured. "Measurement counts. What a company measures and the way it measures influence both the mindsets of managers and the way people behave" [Marchand and Kettinger, 2001]., The developers of the "balanced scorecard" state:

   > *"an organization's measurement system strongly affects the behavior of people both inside and outside the organization… Unfortunately, many organizations espouse strategies about customer relationships, core competencies and organizational capabilities while motivating and measuring performance only with financial measures."* [Kaplan and Norton, 1996]

   Knowledge managers had similar experiences trying to promote collaboration, for example, while their organizations reward individual initiative. Metrics in KM must therefore be consistent (or at least not incompatible) with overall managerial values and also with incentive programs.

2. **No Silver Bullets.** Focus group members agreed that no single metric will provide the definitive answer as to the value of KM. What should be measured very much depends on what management needs or wants to know. Knowledge assets cannot be defined, managed and measured unless it is clear what the organization is trying to do with them [Stewart, 1997]. For example, metrics to evaluate the success of KM in stimulating innovation will be different from those used to assess its impact on call centre productivity.

   Luehrman [1997] suggests that managers need different metrics for different types of activities:

   - **Operations.** Managers need to determine the effectiveness of their ongoing services and processes.
   - **Tactics.** They need to understand better how well their strategies are doing as they are implemented.
   - **Opportunities.** They need to determine the potential future value of new products, services, or processes.

   The focus group agreed that KM metrics would vary for each of these dimensions. A compilation of measures they use, categorized in this way is given in Appendix I.

3. **Business Metrics are Important.**

> *"A measurement system should only be a means to achieve an even more important goal… feedback about [business] strategy"* [Kaplan and Norton, 1996].

A growing body of opinion holds that one of the best ways to ensure that people and departments are delivering value is to evaluate them according to what is important to the business overall.

> *"People who understand the business and are informed will be proactive and... have a disposition to create business value every day in many small and not so small ways"* [Marchand and Kettinger, 2000].

A study of IT managers also found that

> *"the key to linking what IT does to business performance is … to create an environment within which everyone thoroughly understands what measures are important to the business and is held accountable for them."* [Smith and McKeen, 2004c].

It is surprising therefore that a recent study found that understanding of company strategy drops off significantly the farther down in the organization one goes [Norton, 2002]. Clearly, therefore, an important element in any evaluative framework for KM should be key business metrics, such as profit, customer satisfaction, or productivity even if KM initiatives do not appear to directly affect these measures. Furthermore, one direct way KM could influence business performance would be to identify and articulate key business strategies and ensure that the business metrics associated with these strategies are communicated throughout the organization.

4. **Measure at Different Levels.** Enterprise measures are, however, only one level of metrics against which KM should be measured. If KM is a distinct group in the enterprise, metrics should also evaluate the work of the group as a whole. These metrics would address specific functional objectives, productivity, and effectiveness (e.g., KM customer satisfaction, knowledge satisfaction, and use of knowledge assets). Many of the metrics currently monitored by the focus group would fall in to this category. Finally, for projects measures of the success and effectiveness of a particular initiative in which KM plays a role should be the same measures as those set for the project as a whole. Since KM participates in many different types of projects, these measures will vary according to what a given project is trying to accomplish.
5. **Monitor Leading Indicators.** While financial results are clearly an important part of any measurement of a business' success today, they are not enough. Companies now recognize that effective business metrics programs should also include non-financial measures, such as customer and employee satisfaction. Such non-financial measures are predictive of future performance. They therefore offer an organization the opportunity to make changes that will ultimately affect their financial success. Since KM plays a significant role in building human and structural capital, any metrics program for KM should incorporate these types of measures as well as current business metrics. See Appendix III for a sample metrics report used by one focus group member to assess their Communities of Practice.
6. **Clarify What 'Value' Means.** 'Value' is a highly subjective assessment. Thus, different companies and even different executives will define it differently. Today, businesses define value broadly and loosely, not simply as a financial concept [Ginzberg, 2001]. Because there is no single agreed measure of KM value, misunderstandings about its definition can easily arise. Therefore, it is essential that everyone involved in a KM initiative or KM activities agree on what value they are trying to deliver and how they will recognize it. Furthermore, value involves a time dimension. It takes time for a KM investment to pay off. Benefits typically come only as people learn new ways of working. Thus, it can be a while before value becomes apparent.

IV. FRAMEWORKS FOR KM EVALUATION

> *"Management processes and programs are built around frameworks. Traditionally, management systems have been built around a financial framework… This framework became less valuable as more and more of an organization's activities involved investments in relationships, technologies and capabilities that could not be valued in the historical cost model."* [Kaplan and Norton, 1996].

KM managers understand this point only too well. As we noted in an earlier paper, these types of intangible corporate assets are being recognized as the most valuable and fastest growing part of our economy. Knowledge managers are struggling to find ways to help their organizations understand and identify the true contribution of knowledge and other intellectual assets to a firm's success [Smith and McKeen, 2003a]. To try to develop a framework for KM evaluation, the focus group originally wanted to try to develop a "balanced scorecard" for KM. However, it soon became apparent that not all of the organizations involved had the senior level sponsorship, clarity about enterprise strategy and discipline to introduce a metrics program of this magnitude.

However, it was generally agreed in the focus group that *any* framework for KM evaluation should aim to accomplish the following:

- Align KM initiatives with enterprise/business unit strategic objectives.
- Support the effectiveness of business units.
- Demonstrate usage of and satisfaction with current KM activities.
- Generate more visibility for KM and its contribution within the enterprise.

Four evaluative frameworks which knowledge managers might use to achieve these goals:

1. **A Balanced Scorecard.** Scorecards are one of the most significant efforts in recent years to integrate an organization's mission and strategies with a measurement system.

> *"The Balanced Scorecard translates an organization's mission and strategy into a comprehensive set of performance measures that provides the framework for a strategic measurement and management system….[It] measures … performance across four perspectives: financial, customers, internal business processes and learning and growth."* [Kaplan and Norton, 1996].

A scorecard is therefore designed not only to look at measures that show how well a company did in the past, (i.e., financial performance), but also to look at metrics that position the firm to achieve future performance (i.e., customers, learning and growth and processes). While it is difficult putting a reliable monetary value on these items, many companies believe that such non-financial measures are critical success factors for superior financial performance in the future. Research is showing that this is in fact the case. Companies that use a balanced scorecard tend to receive a better return on investment than those that rely on traditional financial measures alone [Alexander, 2000].

Focus group members whose organizations implemented a balanced scorecard were extremely positive about its effectiveness, not only in aligning KM with strategic objectives but also in how it demonstrates the ability of KM to help the organization achieve them. In fact, these KM managers did not express the same types of concerns about measurement as did the others in the group. However, they agreed that it is not possible to implement a true balanced scorecard program for KM without a high level of commitment from the rest of the organization.

> *"Setting up the collection and collation of internal data to feed a Balanced Business Scorecard is not a trivial task. It's crucial that this element… is adequately funded and*

> *enjoys board level sponsorship and visibility. Nor is this a task which has much value unless it's part of a sustained program over many years"* [Cook, 2004].

In short, while a balanced scorecard is an extremely useful framework for evaluating KM, it requires support and commitment throughout the organization to be effective. As a result, it is not a suitable framework for use by KM alone.

2. **Strategic Imperatives.** With this framework, used by one focus group company, the executive team annually evaluates the key environmental factors affecting the company and then identifies a number of strategic imperatives for the firm (e.g., achieve industry-leading e-business capability, achieve 10-15% growth in earnings per share). These factors can vary according to the needs of the firm in any particular year. Each area of the business is then asked to identify initiatives that will affect these imperatives and how they will be measured (e.g., retaining customers of a recent acquisition, increased net sales, a new product). In the same way, KM identifies the key projects and measures that will help the business achieve these imperatives. Each part of the company, including KM, then integrates these measures into its variable pay program.

An important difference from the scorecard approach is the identification of key projects.

> *"These are not all projects, but a small number which are closely aligned with the strategic business imperatives. Having the success of these projects associated with their variable pay, drives everyone's behavior. People tend to jump in and help if there's a problem with one of them."* A KM Manager in the focus group

Targets and results are posted quarterly and small groups of employees meet to discuss ideas about how they can influence the business' goals.

> *"Some amazing ideas have come out of these meetings. Everyone knows what's important and these measures get attention. People use these metrics to make choices all the time in their work."* The same KM Manager.

This approach is more flexible and easier to implement than a balanced scorecard. Another key advantage is its direct link to employee financial incentives. A significant disadvantage is that it does not identify metrics associated with ongoing KM activities or with non-strategic KM initiatives.

3. **A Capabilities Assessment.** A somewhat different approach to KM measurement is a capabilities audit. Organizational capabilities are defined as "an organization's underlying DNA, culture and personality" [Ulrich and Smallwood, 2004]. Unlike core competencies, organizational capabilities "emerge when a company delivers on the combined competencies and abilities of its individuals". Well-managed companies tend to have a set of 11 competencies (see box), functioning at industry norms in all, while excelling in about three.

Generic Organizational Capabilities

- **Talent** – attracting, motivating and retaining competent, committed people.
- **Speed** – ability to make important changes rapidly.
- **Shared Mindset and Coherent Brand Identity** – ensuring that employees and customers have positive and consistent images and experiences with the organization.
- **Accountability** – obtaining high performance from employees.
- **Collaboration** – Working across boundaries for efficiency and leverage.
- **Learning** – generating and implementing ideas.
- **Leadership** – developing current and future leaders.
- **Customer Connectivity** – building enduring, trusting relationships with customers.
- **Strategic Unity** – sharing a strategic point of view at intellectual, behavioral and procedural levels.
- **Innovation** – doing new things in both content and process.
- **Efficiency** – managing costs.

Source: Ulrich and Smallwood [2004]

A capabilities audit is a way to monitor an organization's intangible assets and highlight which ones are most important. Senior executives, using the eleven generic capabilities, identify areas that are critical to meeting the organization's (or business unit's) goals. Then, using a short online survey, employees and managers are asked to rate the organization's current performance in these capabilities and the level of achievement that is necessary to meet its goals. The objective of this exercise is to target a few key capabilities that are strategically necessary. Then, an action plan can be developed to improve these critical capabilities [Ulrich and Smallwood, 2004]. Further audits can monitor improvements over time.

While none of the members of the focus group were using this approach to measurement, it was generally agreed that a large component of KM's contribution to business value is its ability to affect intangible assets and to champion cultural change. A capabilities audit therefore targets the areas where KM can make the greatest impact. By working with executives to identify and measure key capabilities, designing programs to help strengthen them, and then monitoring improvements, KM can demonstrably influence strategically significant intangibles. Many focus group members already use online surveys in their efforts to quantify KM's impact. "There are many tools available these days for designing, implementing and analyzing surveys effectively," said one. Linking these surveys to strategic capabilities may therefore prove to be an appropriate framework for assessing KM value.

4. **A Measurement Matrix.** For many KM managers, a formal enterprise or business unit-wide approach to metrics may be too complex and require more management commitment than can be readily obtained. In these cases, it may be more practical to develop a set of "homegrown" metrics that make sense for a particular organization. As noted above, there is no shortage of measures to choose from. The challenge is to create a dashboard or radar chart of key measures that simply and clearly illustrate where and how KM is providing an impact. A measurement matrix looks for metrics that answer the three questions to which KM managers most want answers [Wilson, 1993, McKeen and Smith, 2003]:
   - ***How well are we using knowledge now?*** Measures in this area would look at the effectiveness of current knowledge use and KM practices. Examples of metrics could include: portal, intranet, or repository usage statistics; numbers of people taking KM training; numbers of best practices contributed; stories about value gained from a community of practice or another KM initiative; and participation in communities of practice. Where KM has been used to improve or enhance a business process, it is also appropriate to use the same business metrics as the rest of the organization, such as throughput or improved sales, since KM has been part of the team that effected the improvement.
   - ***Are we doing the right things with knowledge?*** This question is more difficult to answer but it is critical because it is easy to focus scarce KM resources on the wrong things. Current knowledge initiatives may be well used but may not be delivering optimal value for the organization. For example, a recent survey of Fortune 1000 executives showed that while almost all of them would like real time information about critical events as they occur, very few actually receive it. The conclusion of the study was that "neither they, nor those who support them are asking the right questions." [McGee, 2004]. To address this question in KM, one of the focus group members distributes a survey that asks staff to select a relevant topic from a list of tools and tips, visit the KM site involved, and provide a brief comment about what they saw. Other KM managers ask their clients about how they can make their "data junkyards" more meaningful. One focus group manager judges his success by how many calls his area gets for consultations. Knowledge customer satisfaction surveys can also be a useful tool in addressing this question (see Appendix II for a sample survey that provides a measure of knowledge effectiveness).
   - ***Are we positioned well to compete with knowledge in the future?*** Executives want to ensure that they are also investing for the future. In this area, both internal and external metrics should be used. Benchmarks or comparisons with other companies about how they use knowledge can be effective, particularly measures of customer capital (e.g., customer retention, customer satisfaction). Assessments of internal skills and capabilities and identification of gaps are also useful. Knowledge mapping, mentoring programs, and ease of connection with data, experts, and

expertise are good measures of future ability to compete. One focus group organization rated the quality of its external resources as a means of identifying future opportunities. Finally employee satisfaction was found to be an excellent leading indicator of future performance [Koys, 2001; Rucci et al., 1998]. This indicator would therefore be a good enterprise metric for KM to monitor.

Selecting a framework for KM assessment will largely be a matter of the preferences of individual corporate cultures. Where organizations don't have a formal, enterprise-wide program of measurement, such as a balanced scorecard or strategic imperatives, KM managers will be left on their own to develop the measures they feel are most useful. For these KM groups, a capabilities assessment or a measurement matrix will be a more practical way of moving towards a comprehensive and balanced set of measures. The type of framework selected is less important than the thought that goes into selecting the measures involved. The advantage of a framework is its ability to present a comprehensive picture of KM value that addresses all of its heterogeneous dimensions, its strengths and weaknesses, and progress as it is made.

V. IMPROVING KM METRICS

The focus group agreed that wherever an organization is today with its KM metrics program, it could still improve. The group members offered the following tips and techniques that they found helpful in establishing and improving KM measurement in their own organizations:

- **Understand the value proposition.** Any value proposition for KM includes three components:
    1. identifying potential sources of value;
    2. converting ideas into reality; and
    3. realizing value.

  Knowledge managers should ensure that their organizations address each component. Typically, KM groups are strongest on developing and implementing ideas and weakest on realizing value. Recognize that even once a knowledge initiative is implemented, additional work is needed to ensure that outcomes match expected results. Usually problems to address and new opportunities to leverage value will occur that no one anticipated. Experience shows that efforts in the realization phase of any KM initiative yields substantial benefits in recognized value.
- **Use surveys creatively but carefully.** Survey generating tools and intranet access to most employees gives KM a significant opportunity to obtain frequent and rapid feedback to a variety of questions. Managers in the focus group found online surveys to be an extremely useful and practical approach for tapping into opportunities, problems, and success stories. Nevertheless, they are not foolproof and great care should be taken in how frequently they are used and what questions are asked. It is important not to generate "survey fatigue" by overusing these tools. Similarly, it is good practice to test surveys on a small sample group to ensure that the results that will be obtained are actually answers to the questions that KM wants to ask. Even specialists in this field find that poorly phrased or vague questions can lead to equivocal or misleading results. To encourage people to answer surveys, one KM organization runs "contests" with prizes for randomly selected respondents. "These do a lot to increase our response rate," said the KM manager involved.
- **Experiment and Evolve.** Metrics for KM are a continually moving target for a number of reasons.
    1. There are few KM best practice metrics at present. This situation is likely to change gradually as knowledge managers work through this issue. Practitioners can therefore expect to see a growing consensus around certain types of KM metrics over the next few years.
    2. Value is an ever-changing target itself, depending on such matters as the state of the economy, business cycles, and industry competition. Knowledge managers must

therefore develop mechanisms to "take the pulse" of senior managers to find out where they want to monitor value and adjust their metrics accordingly.

3. KM is a highly context-specific function. Metrics that work for one organization may be meaningless to another. As KM develops in a particular organization, metrics must relate to its particular initiatives and strategies.

- **Communicate results.** Making metrics visible is an essential part of any effective measurement program, stated the focus group. While the temptation is to hide negative results, they can be a powerful catalyst for change. Used appropriately, they can motivate KM managers and staff to get to the root causes of knowledge problems and can stimulate productive discussions with senior management about linking KM more closely with strategic and tactical objectives. Positive results should be more widely broadcast since success tends to breed success.

  > *"One of the most effective pieces of PR for KM was when the CEO spoke about the success of KM in one of his speeches. The impact on attitudes toward KM was enormous."* A KM Manager

  Wherever possible, success stories should be incorporated into all forms of KM metrics as they add "meat" to otherwise dry statistics. If they are well-aligned with corporate strategies, the combination of metrics and stories is unbeatable at communicating the value of KM.

VI. CONCLUSION

Developing measures that will truly communicate the value of KM is not a trivial task. Trying to get financially-oriented senior managers to recognize the value of the intangibles most likely to be influenced by KM (e.g., human capital, intellectual property) is a challenge for most knowledge managers. It should not be expected that in a field as new and as "soft" as KM, that measures of knowledge value will be readily available. Instead, knowledge managers will need to work them out for themselves following accepted principles of measurement and using a framework that captures the many dimensions of value that KM influences.

Unfortunately, there is no "silver bullet" metric that succinctly captures KM value. This paper therefore recommends that knowledge managers select a set of metrics that reflect not only past performance but also current and future indicators of performance. If knowledge managers want their value to be recognized they will need to monitor a variety of measures and communicate them compellingly. This process will take time, experimentation and creativity. Most of all, however, it will involve paying close attention to the elusive target known as "business value" and ensuring that KM initiatives and metrics are continually in close alignment with them.

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APPENDIX I. KM METRICS BY TYPE[1]

OPERATIONAL MEASURES

- Portal usage/hits
- Attendance at events
- Number of downloads
- Anecdotes about successes
- The value achieved by a given project with which KM was associated
- Contributions to the knowledge base
- Number of learning hours
- Hours saved with knowledge tools
- Delivery against KM action plan
- Questions answered by a Community of Practice

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[1] This list is one compiled by the focus group. It is not comprehensive, nor are all measures recommended for all organizations.

TACTICAL MEASURES

- Surveys of core competencies
- Knowledge audits
- Number of people who consult with KM
- Focus group responses: what they want to see; pain points
- Demand for KM
- Response to prototypes
- Trends over time
- Evolution of products and services
- KM's ability to support / facilitate communities

STRATEGIC MEASURES

- Leadership development
- "Alumni" contacts
- diversity metrics
- Amount of KM consulting done

APPENDIX II. A KNOWLEDGE EFFECTIVENESS SURVEY[2,3]

1. You are satisfied with the availability of knowledge for your tasks.
2. The available knowledge improves your effectiveness in performing your tasks.
3. You are satisfied with the management of knowledge you need.
4. You are satisfied with the knowledge available for the tasks in your directorate.
5. You are satisfied with knowledge sharing among individuals at your directorate.
6. The available knowledge improves the effectiveness of your directorate.
7. You are satisfied with the management of knowledge at your directorate.
8. You are satisfied with the knowledge available for various tasks across the organization.
9. You are satisfied with knowledge sharing among various divisions in this organization.
10. The available knowledge improves the organization's overall effectiveness.
11. You are satisfied with the management of knowledge in this organization.

APPENDIX III. A SAMPLE COMMUNITY OF PRACTICE EFFECTIVENESS SURVEY AND BENCHMARKS

The core members of the Communities of Practice (CoP) were surveyed to provide the Knowledge Management team with a benchmark to address any problems, challenges or suggestions that members may have. The feedback is used to improve the knowledge access,

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[2] All questions are rated on a five point scale from Strongly Disagree to Strongly Agree
[3] After Becerra-Fernancdez and Sabherwal, 2001

exchange, and knowledge sharing of the CoP teleconferences and face-to-face meetings.

MY COMMUNITY MEMBERSHIP

1. Membership in the Community of Practice increases my knowledge and expertise:
    a) In my industry's sector and market information
    b) For my personal competencies
    c) For improving my recognition as an expert with customers.
2. My CoP as a whole is dynamic, energetic and passionate about this sector
3. Membership in the CoP encourages me to share my expertise with other staff.
4. My CoP is a place that leverages my knowledge (e.g., documents, links, head knowledge, debriefs on events).
5. My community has clear goals and is moving forward on its action plan.
6. My CoP is producing useful tools or documents (e.g. synopsis, budget, narrative templates).
7. Are there any specifics you can share about a tool or event arising from a CoP that was particularly helpful?
8. As a result of being a CoP member, I am being asked to contribute to more projects and give more feedback?
9. Which projects are you being as to contribute to?
10. Being a CoP member requires a significant investment of time.
11. Please give a brief description of how your time is spent on your CoP.
12. The leader/facilitator of the CoP provides sufficient direction and organization.
13. The cybrarian of the CoP gathers my inputs and manages community documents and information sources.
14. I would say that I have saved time on work process due to my membership on a CoP.

KM SUPPORT

15. KM effectively supports my community (e.g., monthly call, annual meeting, action plan support).
16. Our CoP requires more support from Knowledge Management.
17. What improvements would you like to see?
18. I receive support from my manager to attend face-to-face meetings and monthly calls.
19. I know what kinds of activities other CoPs are undertaking

CONFERENCE CALLS

20. My CoP has regular conference calls.
21. The conference calls are a suitable length of time.
22. The conference calls are well organized
23. I feel comfortable sharing information and speaking during the conference call.

24. The CoP calls are something that I absolutely do not want to miss.
25. My CoP invites guest speakers to ensure we stay current with our sector.
26. Any other comments regarding staying current.

FACE-TO-FACE MEETINGS

27. My CoPs face-to-face meeting was time well spent.
28. At my CoPs face-to-face meeting, we created an action plan for the upcoming year.
29. The CoPs face-to-face meeting strengthened the relationship and trust between its members.
30. The tours and/ or guest speakers at the face-to-face meeting were worthwhile.
31. Interacting with stakeholders, customers and experts provided me with knowledge that I could use in my job and share with customers
32. Please share your comments about face-to-face meetings or improvements to be made.

OVERALL

33. I would say that membership in the Community has been a worthwhile experience for my personal expertise and development.
34. Please give examples of how. This is the only measure we have to show increase in staff expertise.
35. I would say that our organization as a whole benefits from the Community concepts.
36. Please give examples of how our organization as a whole benefits from the Community concept.
37. Overall, I would say that customers benefit from the Community concept.
38. Please give examples of how customers benefit from the Community concept.

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