
Assessing Knowledge Management Initiatives: A Framework Based On Stakeholder Approach

Authors: **Patrick Mbassegue**, Ecole Polytechnique, Montreal, Canada, Patrick.mbassegue@polymtl.ca; **Mickaël Gardoni**, Ecole de Technologie Supérieure, Montreal, Canada Institut National de Sciences Appliquées (INSA), Strasbourg, France, Mickael.gardoni@etsmtl.ca

This paper discusses various methods and tools to assess knowledge management and makes an exploratory evaluation of these elements. Most of them show some weaknesses concerning, firstly the fact that different groups of interest must be taken into account, and secondly the fact that tacit knowledge that belongs to individuals is difficult to assess. Our work examines how to take into account these elements. Assessing knowledge management can be argued along six dimensions:

- 1- the « what » refers to methods and tools;
- 2- the « how » refers to the implementation process;
- 3- the «where» corresponds to the level where the assessment is conducted;
- 4- the «when» concerns the moment or the period the assessment should be conducted;
- 5- the «who» refers to the person or group to be considered for assessing personal knowledge;
- 6- and the result refers to the improvement of business performance.

This paper highlights the fact that a framework based on stakeholder approach may help to overcome the problems related to assess knowledge management.

Keywords: Knowledge management, stakeholder, measurement, framework.

Introduction

Measuring the value of knowledge management projects is a critical challenge for organizations. Scholars and researchers are both agree that measuring the impact of knowledge management on business performance is both essential and difficult. The difficulties stem from different causes:

1. There are different groups of interest that must be taken into account;
2. The dissemination of tacit knowledge which belongs to individuals is difficult to assess;
3. The production of knowledge is a reality which does not fit in the traditional functional organizations, so conventional measures are not useful;
4. Many knowledge benefits are intangible, so common measures such as the number of documents in a repository, the number of times a particular piece of intellectual content is downloaded from a system tell nothing about the value of the content stored or shared;
5. The results on knowledge management projects may take certain time to show benefits.

For managers and consultants, there is still the same impression of a lack of metrics to evaluate and measure knowledge management projects. As Tiwana stated “I have researched several companies that have been successful in implementing knowledge management but have yet to come across one that a strong measurement program in place” [1]. This position is shared by different others researches ([2]; [3]; [4]). The challenges about assessing knowledge management project concern both scholars, researchers, consultants and managers. So, to develop a framework to evaluate and measure knowledge management processes become crucial.

The framework that we are proposing in the context for evaluating knowledge management is based on 6 dimensions:

1. The “what” refers to knowledge management methods and tools, including such questions as: 1- Do we consider only technological

- or/ and organizational solutions? 2- Are we talking to account tacit knowledge? 3- Are we fulfilling the needs with the chosen methods and tools?
2. The “how” refers to the implementation process of the tools and the method including such questions as: 1- How it must be done? 2- Do we deal with stakeholders? 3- Do we follow rules and planning of project management? 4- Do we manage the resistance to change? 5- Do we inform all the people involved in the process?
 3. The “when” refers to the period we have to consider to conduct the assessment; so we can consider different questions, such as: 1- Do we have to assess the initial situation or state? 2- What is the value of the knowledge management initiative during the first year after implementation? 3- What is his value after two or three years? 4- Is it necessary to conduct assessment in a regular period of time?
 4. The “where” refers to the organizational level we have to consider to conduct the assessment, including such questions as: 1- What are the impacts or outcome of the knowledge management initiative at the personal or individual level? 2- What are the impacts at the group level?
 5. The “who” refers to stakeholders? In any organization there are different stakeholders, so we have to answer such questions as: 1- What are the key stakeholders? 2- What are their needs? 3- What are they looking for concerning the knowledge management project?
 6. The results refer to business performance improvement, including such questions as: 1- Do we reach in the process initial objectives? 2- Do we improve the individual skills of the workers? 3- Do the company show better financial results?

Problematic related to assess knowledge management initiatives

The first aspect related to the problematic is that knowledge management initiatives mobilize financial resources. Financial resources also refer to the need to generate a return, that is, what is earned per unit of dollar invested, except that knowledge is intangible ([5];[6]). This characteristic makes it difficult to apply conventional accounting methods to measure the

performance of knowledge management projects ([7]). An investment is supposed to generate value, especially based on the expected benefits associated with knowledge management initiatives. If conventional accounting methods cannot be used, it becomes difficult to establish the link between investment in knowledge management and organizational performance. What cannot be measured cannot be improved. A second aspect related to the problem is that measurement is essential for several reasons, such as better allocating resources, demonstrating the results obtained and making solutions more efficient ([8]). Thirdly, beyond the difficulty of measuring knowledge management, there is also the fact that a project of this nature is based on 3 types of resources, including personnel, processes and infrastructure. It is the combination of these resources that will generate the expected added value. The question of what constitutes the object of the measure is therefore relevant to the spin-off effects of knowledge management: is it human, material, informational or relational resources?

Fourthly, knowledge is a stock, because there is an accumulation of experience, solutions and know-how in the organization; Stocks that represent knowledge in which staff draws solutions and also enriches them with new constructed knowledge ([9]). At the same time, it cannot be forgotten that as knowledge belongs to individuals, they improve their abilities and practices. Incidentally, their knowledge is therefore not static. They change and evolve in time: this also makes knowledge a flow. Therefore, should knowledge management be measured at flow and inventory levels? If one recognizes the dimension relative to the flows, it is also pertinent to remember that the measures also evolve over time. Measurement indicators should therefore reflect this development. The structural dimension of an organization corresponds to the different hierarchical levels: this gives architecture by functions. Thus, the measurement of knowledge management can be at the level of functional or hierarchical units.

On the basis of all these elements, like several other authors, it is recognized that the measurement of knowledge management initiatives is difficult to establish ([5];[10];[11]). It depends on many parameters and variables. In spite of the difficulty, it is necessary because, if it is carried out, it can allow the organization to avoid reinventing the wheel and build on the accumulated knowledge ([12]). Given the interest of managers, consultants

and researchers in the management of knowledge, its measurement becomes an important issue for the organization as knowledge is created at all levels and allows organizations to build a competitive advantage and better serving customers ([13];[14]).

What Do We Know About Knowledge Management Assessment?

For nearly 20 years, there have been a number of models and tools for assessing knowledge management. Thus, we find models of a conceptual nature and others more applied which can be taken as application's frameworks.

In the first category, we distinguish studies based on linear models that match, on the one hand, a dependent variable (performance, satisfaction, value creation, etc.), and, on the other hand, independent variables (organizational culture, technology, Processes, activities, inputs, leadership, organizational learning, etc.). We can also distinguish everything that relates to the measurement of intellectual capital. Under these conditions, the emphasis is on the intangible dimension as well as intangible assets. Methods based on specific projects such as organizational memory, or process mapping or ERP implementation, were also differentiated. In the second category, emphasis is placed on all applied aspects such as management or measurement frameworks that are already used in organizations. This includes benchmarking, the scorecard, the House of Quality, the added economic value, the book value of human resources, or financial and accounting values ([15]; [7]; [1]). In this category, given the applied perspective, it is also possible to include tools developed by consulting firms, such as the Knowledge Management Assessment Tool (KMAT) developed by Andersen Consulting firm ([16]). In this article, we are only interested in the second category, because it contains models that organizations are already using. Indeed, organizations have limited resources, so if you can benefit from a framework for different functions, then you are efficient. Moreover, such an avenue is also commendable because the learning and mastering process are carried out only once, but with the advantage of multiple uses. It is no longer necessary to learn, each time, a new model.

Generally, the following aspects of these key models can be noted, on the one hand, by establishing their characteristics and, on the other hand, by determining how they can make a substantial contribution to the measurement of knowledge management initiatives.

Knowledge management is made by a number of activities, namely; the classification of skills, collection, maintaining the management system, the creation, acquisition, production, development, distribution, the application or use, conservation, sharing, extraction, and reuse, in that order ([17]; [18]). Some users may emphasize on organizational dimensions, such as: the development of an organizational culture, the development of top notch expertise, etc. ([19]; [20]; [21]). In this article however, let us consider four essential activities related to knowledge management namely, creation and sharing first, then use and conservation second. Knowledge management for us consists of a group of activities which promote the acquisition, creation, conservation, the sharing and use of skills. Knowledge management is also the capacity to act on those skills. In addition to the activities related to knowledge management, many tools and methods applied to knowledge management assessment are found in the review of literature. The latter allows in great measure, the means to accomplish wholly or in part, the activities related to knowledge management. We distinguish the technical tools, generally constructed from computer platforms and those of an organizational nature ([22];[18]). Those tools can be presented in centralized, decentralized or organizational form.

Among technical tools, it is safe to mention data bases expert systems, data mining as centralized structures, and expertise cards, or expert directories, intelligence agents, the internet, etc. as decentralized structures. Several evaluation methods are considered such as: prototype (basically consists of elaborating the vision of a system on paper presenting it to the users and collecting their comments); heuristic, ethnography (consists of producing on the job, studying the culture and the way that the tools are used). We distinguish also, the user's test, laboratory experiments, interviews ([37];[23]). It seems evident that such methods of evaluation are limited only to certain attributes such as: The relation between human and computer, person to person interaction, problems relating to user-system communication, etc. In certain cases however, decentralized and artificial situations may arise, as is the case of laboratory analysis and prototype.

Nevertheless, some authors predict that generally most of those valuation measures are necessary for specific reasons, and could therefore be pertinent in the early stages of the assessment process; because they allow the most flagrant problems to be detected. The necessity to identify the metrics associated to those different methods is essential, particularly due to the fact that it allows us to decide whether the system satisfies the need or not. Three types of metrics are considered, namely ([15];[7];[11]): 1- financial and economic metrics (using the cost of production, the return on investment etc., as indicators); 2- socio-organizational's metrics (aim is to determine whether work organization have improved thanks to better sharing of knowledge, and to measure overall employee satisfaction as well; working climate, nature of the job are some of the metrics used); 3- technical metrics refer to the transmission of know-how (volume of information, number of time people use and send request on data bank time of respond).

There is also an interest in the methods and tools to assess knowledge management activities coming from consultants and certain companies which have adopted a process of knowledge management ([16];[23]). At their level we distinguish three models which compliment essentially tools of a technical nature (data bases, the internet, etc.), namely: 1- benchmarking, 2- the House of Quality; 3- and the Balance Scorecard ([1]).

The benchmarking is a search for industrywide best practices that must lead to superior performance ([24];[25]). Two main advantages come with the benchmarking practice: 1- it's a significant and systematic technique to measure and to emulate the ways things are done best, anywhere within or outside their firm, industry or sector; 2- companies repeatedly end up solving the same problems that have already been solved in other offices or locations of the same company; they expend time and money building solutions to issues that have already been addressed ([26];[27]). A five steps procedure for benchmarking is applied for knowledge work ([28]): 1- Determine what to benchmark in terms of: Which knowledge processes? What products? What is the scope of benchmark? Etc.; 2- Form a benchmarking team (who will be involved? Will customers be involved? What is the allocation budget? etc.); 3- Who will be your benchmarking target and partners? 4- Collect and analyze data (Is a trusted third party involved?); 5- Feedback.

Some specific tool as the one developed by Andersen Consulting Group and the American Productivity and Quality Center called the Knowledge Management Assessment Tool (KMAT) provide a series of questions on a scale. Answers to these questions could then be compared to the industry specific and across industry averages ([16]). In the case of benchmarking, the valuation criteria reach many dimensions, though these dimensions be exhaustible, it may prove to be somewhat difficult even at this time, to find data to support the best practices of other companies.

The House of Quality is a method that helps to link customer needs to business processes and internal decisions ([29]). Three elements are important: 1- the outcomes (they must be observable and measurable); choose metrics to evaluate performance (benchmark values, rank order of issues, desired results, etc.); 3- underline importance of issues addressed by the metrics in use. The House of Quality method is the most practical, and among the most widely used in businesses. Its principal characteristic is to put into correspondence the need and expectations identified by indicators and the overall performance of the organizational unit. Therefore, with the needs identified beforehand, the relative activities process of knowledge management can then be identified (creation, acquisition etc.) and other expectations such as employee satisfaction. One of the major weaknesses of this method resides principally on the fact that the data must be quantifiable, measurable and observable; consequently, the majority of metrics in use is essentially quantitative or financial by nature. On the other hand, one of the advantages is due to the fact that we distinguish what is to be measured and how it should be done.

The Balance Scorecard is a method for measuring knowledge performance ([30]). This method maintains a balance between different parameters, such as long term and short term objectives, financial and non-financial measures, and between internal and external perspectives. A four-step procedure for the Balance Scorecard is applied for knowledge work ([31]): 1- Translate the knowledge management vision (Why are managing knowledge? What is our vision for knowledge management? It's important that stage to reach a consensus); 2- Communicate and link (How we sold the idea? Educate employees?); 3- Develop the business planning in terms of goal, metrics, rewards, budget, etc.; 4- Incorporate learning and feedback (Is it working? Are we seeing results? What can be done better? The emphasis

of the Balance Scorecard is related to assess the performance of the organization ([31];[32]).

We have thus presented a variety of methods and metrics related to assess knowledge management, but there is still some weaknesses which should be underlined; 1)- The highly exaggerated importance attached to quantitative measures; 2)- Some less-addressed issues about the subject; 3)- The importance of the financial, technical and sometimes socio-organizational metrics; 4)- Generally among the methods, the absence of preoccupation or mechanisms for ongoing evaluation; 5)- Systematic lack of a referential framework or equivalent; 6)-The lack of combined method where technological and organizational solutions are needed. These flaws tend to insinuate that in knowledge management, it isn't possible to measure all, at the same time with an ongoing process.

Challenges Related To Assess Management Process

All management processes need evaluation and measurement. Assessment process is relied on the performance of the whole organization ([33]). The bottom line of the evaluation is to adjust the organizational system to ensure that the latter reality satisfies the user's expectations ([34]).

By putting the emphasis on knowledge management, one must realize that it operates at both the individual and/or collective levels. First, one realizes that knowledge belongs to the individuals who possess, harness, utilize and produce it. Secondly, following the interaction and dynamics of groups, one can make this knowledge available to other business partners. Consequently, the role of the individual to materialize the regulation of knowledge is essential. Another matter, which deserves consideration in the process of evaluation, is the position granted to the individuals. Finally, the process of assessment may contain certain biases depending on the type of evaluation which we hold, its use, those who define the framework and indicators etc. For these reasons therefore, assessment must be considered as a complex and difficult approach. Many questions must be considered as Ramage have suggested [37]: 1- Which user and what point of view should be considered? 2- Which activity should be withheld? 3- When is the opportune time for evaluation? 4- What metrics should be withheld? 5- For what purpose? In this way, assessment can be associated to many

perspectives. For Hariharan [35], it is important to answer the «How» questions, namely: 1- How to keep knowledge management relevant to the business? 2- How to focus the knowledge management efforts? 3- How to organize knowledge management around the most critical business measures? 4- How to ensure real business results and performance improvements?

The many perspectives relating to assessment goes back to an approach based on stakeholders. The stakeholder approach is an analytical way of observing and explaining how different parties are affected by and affect business decisions and actions ([36]). The stakeholder approach then is a method for mapping and managing the complex moral relationships between a corporation's strategic activities and those who affect and are affected by such actions. The stakeholder approach is a pragmatic way of understanding multiple, competing political, economic, and moral claims of parties. Stakeholders represent also persons and groups who contribute to create organizational value. The basis of stakeholder theory is to assess in a broadly perspective the dynamic of interrelations that contribute to the overall global performance of the organization by taking to account multiple interests ([8]).

Other scholars recommend a broad view by including the present or future tense, and the fact that they're potentially or effectively affected ([38]; [39]). Nevertheless, it could be somewhat difficult to keep track of the multitude stakes, how then can we make a distinction? To this effect, three principal criteria should be considered ([40]): 1- power (one or parties who can gain access to coercitive, utilitarian, or normative means to impose its will in the relationship); 2- legitimacy (one or parties who have property rights, moral claim, and so on); 3- urgency (one or parties who can call for immediate attention or pressing). Based on these attributes, seven categories of stakeholders in three groups can be retained:

First group: 1- dormant stakeholders (power); 2- discretionary stakeholder (legitimacy); 3- demanding stakeholder (urgency)

Second group: 4- dominant stakeholder (power and legitimacy); 5- dangerous stakeholder (power and urgency); 6- dependent stakeholder (legitimacy and urgency)

Third group: 7- definitive stakeholder (power, legitimacy and urgency)

In spite of this broader view, much larger than conventional evaluation, the questions remain: which perspective to accept, from which stakeholders? Many attempts have been made, either to ignore this problematic or to assist a concerned group. Finding a solution consists of not dismissing it as a problem, but rather accepting it as part of a complex cooperative system, where it is necessary to confront the perspective of multiple stakes ([37]). Therefore, the perspective which is taken in this article on the assessment framework should respond to four considerations:

1. a multi-disciplinary approach (take to account the different expertise involved)
2. a multi-metrics approach (qualitative and quantitative/ internal and external)
3. a multi-activities approach (sharing, creation, use, protection, socialization, internalization, etc.)
4. a multi-stake approach (based on the three groups mentioned above).

To propose a framework to assess knowledge management first, consists on the basis of literature, defining the methods involved. Secondly, identifying the tools in order to record the models and metrics used to this effect. From this time onward, a synthesis should be introduced, opening to a framework to measure the complexity of the assessment process and its purpose.

A Proposed Framework to Assess Knowledge Management

As stated in the literature, knowledge management refers to different views, namely human-centered, technology or process approaches. As far as we are concerned, it takes the form of a number of activities, including: knowledge classification, collection, feeding of management systems, creation, acquisition, indexing, filtering, distribution, application, use, conservation, sharing, extraction, reuse of knowledge ([41]). Some authors emphasize organizational dimensions, such as the creation of a learning organizational culture, the development of key skills. Knowledge management for us consists of all activities that promote the creation, protection, sharing and use of knowledge. In addition, it should be stressed that knowledge management takes place at the individual and collective level. Thus, on the one hand, it is recognized that it is the individuals who possess, manipulate,

use and produce them, and on the other hand, through interaction and group dynamics, they can make this knowledge available to other members of the organization. Therefore, the role of individuals in the realization of knowledge management is paramount. Individuals must be given a prominent place in the process of measuring knowledge management. As such, several questions should be asked, among others: 1- Which users and what views to consider? 2- What activities should be considered for the measure? 3- What is the best time for evaluation? 4- Which criteria should be used? 5- For what purposes? Therefore, a measurement methodology for knowledge management must include several perspectives ([42]).

Thus, the multiple perspectives on the knowledge management measure refer to a stakeholder approach, contrary to the functionalist approach favored by current methods. "Interested person" means any person who affects or is affected by a process or actions of the organization. In spite of this more open perspective than that of a conventional evaluation, the fact remains that we are always confronted with the question of which perspective of which stakeholders should be privileged. In relation to which criteria and objectives? This difficulty must be integrated as the inherent dynamic in the complex cooperative system found in a measurement process. Thus, the model to be developed must answer 4 considerations, whether: 1- Multidisciplinary (involving the role of different types of experts, professionals, interacting employees in knowledge management); 2- multicriteria (the need to integrate as many qualitative, quantitative, internal and external measurement indicators as possible); 3- multi-activities (the need to integrate all activities inherent in knowledge management at all functional levels of the organization); 4- multi-interested. In addition, from the stakeholder approach, to take into account the multi-activity and multidisciplinary dimensions, three levels of action will be considered that affect both organizational dynamics and knowledge management; It is a question of evaluating systematically: what has been done "What", how it was done "How", where it was done, by who and when, and also the results obtained following the new practices and ways of doing "Outcome". This method of evaluation affects both the implementation process and the operational results.

The Knowledge Management process within the organization should not merely be the affairs of a few specialists, but should include the entire unit. At this point, let us refer back to the proposition of Ramage

([37]). He proposed a four-step approach: 1- determine the nature of the system (one cannot study a system on one basis alone, without related to the technology. It would mean ignoring the fact that technology modifies the processes, the structure and organizational culture). 2- Decide on which type of valuation should be conducted (knowing the type of valuation to conduct, allows for a clear idea of how it should be undertaken). 3- Identify the stakeholders. 4- Study and analyze key issues (key questions will rely on the type of evaluation and could be as follows: What effect will it have on the system? How will it affect the group, the organization and its members? What are the potential effects? What are the objectives of the system in relation to the stakeholders, etc.)? 5- Share the results.

Beyond the need of introducing a stakeholders' approach, the gap in the various frameworks presented above should also be addressed, namely the methodological aspect of the measurement approach. Thus, an approach based on 4 WH makes it possible to identify the aspects to be addressed within the framework of the knowledge management measure (Table 1).

Table 1: Basis of the framework

4WH	Parameters
Who	Managers- Staff – Technicians – Others Employees involved
What	Knowledge activities (4)
When	Different phases or periods of the project (timely response as a milestone)
Where	Individual level/ group level/ department level/ organizational level
How	Auto-evaluation- Questionnaire – Linear Model – Logic Model Change Model to compare the situation before and after the project

Referring back to Ramage's model ([37]), associating it to Kaplan's ([30]), we discover a continued assessment framework based on the stakeholder's approach. This model takes into account Ramage's five steps by proposing an appropriate solution to the problem relating to: who should be considered as concerned party, and what is their relative power. The entire stakeholders group is listed into three groups under the basic power, influence and urgency criteria.

The ongoing framework also falls under three considerations. 1- Expectations, need and objectives must be included, which will serve as a basis for the choice of metrics (as it is done within the House of Quality model); 2- An audit of the company must be performed on everything connected to knowledge management, in order to determine beforehand, the distance between the acquired and the objectives; 3- We should take into account, the entire cycle relative to knowledge management and the different phases of development (planning, development, operation, evaluation). This procedure is applied sequentially at six levels: 1- the “what” (what is to be done), 2- the “who” (who is responsible to do it); 3- the “where” (which level must be considered); 4- the “when” (what is the best period to conduct the assessment) ; 5- the “how” (how it should be carried out), 6- then the results.

Concerning the “WHAT”, three considerations are come into focus, they are: 1- Form a multi-disciplinary team to lead the knowledge management assessment; 2- The application of the stakeholders approach which we propose; 3- The establishment of a multi-criteria valuation grid (at the material, financial, functional and organizational levels). Metrics based on material criteria covers infrastructures and equipment in terms of cost, efficiency, performance, technological, deployment within the company, etc. Metrics based on financial criteria cover costs, purchases, loans, return on investments etc. Metrics based on functional criteria covers operations of all functional units in terms of volume of activity, number of tasks or mandates, quality of service and products developed the rate of recourse to technological processes already established within the unit or the company etc. Metrics based on organizational criteria refer particularly to human resources, in terms of satisfaction etc. Therefore the assessment grid keeps track of specific questions related to the dimensions named above in relation to issues, such as, 1- Do we have recourse essentially to technological or organizational solutions? 2- Do we take tacit knowledge into account? 3- Do we reach set objectives?

It is important to note that knowledge management depends as much on human dimensions (the capacity of individuals to manipulate, to transform, and to stock knowledge) as it is with material (availability and use of reliable tools and infrastructure, such as databases, expert systems, the internet). To our knowledge, it is the interaction of these two dimensions that enables the achievement of an efficient knowledge

management, meaning one that reaches the needs and expectations of sharing, distribution, application, storage, acquisition and collection. For this reason we recommend, on the one hand, that the solutions adopted must always be a combination of human and technological dimensions, on the other hand, having recourse to indicators capable of measuring these dimensions. By so doing, it becomes possible to extract the tacit knowledge through some of the recommended approaches in the review literature, such as the internal seminary, work groups, decentralized databases.

Concerning the "HOW" level, four considerations are come into focus, they are: 1- take into account the different concerned parties? 2- follow the rules, the principles and the practices related to the management of projects, 3- do we adequately handle resistance due to change? 4- do we adequately inform all parties involved in the process? The multidisciplinary team will be the group in charge of the project management. The suggested procedure is based on the stakeholder's approaches which have already been presented above, which allows, at the implantation level, to undertake the different stakes. In other terms, the assessment framework is related to the principals of project management guidelines, where we can also apply the same four metrics, namely: material, functional, organizational and financial metrics. The method of the critical path is highly recommended.

The question of «Who» is important to determine both those who measure and those who are measured. From a stakeholder perspective, consideration is given to various interests. It is therefore possible to insert different types of evaluation such as the evaluation made by the management, or an external company or a self-assessment of its own benefits. One can even think of a combination of types of evaluation. Identifying the "Who" is also crucial, because in a knowledge management initiative, since knowledge is held by employees, it is therefore crucial that individuals are at the core of the evaluation process.

The question "When" is made to determine when the assessment should be conducted. This question is essential because a knowledge management initiative is temporally evolving. Like any other system, this initiative changes over time, and as the life cycle model, it changes. Therefore, the evaluation period should be determined. Considering time factor, the evaluation must be done at different times in order to observe the different levels of impacts.

The question of "Where" establishes the levels where the assessment is conducted. The knowledge management exercise is carried out and facilitated by those who hold the required knowledge. First of all, the evaluation is conducted at the level of those who possess knowledge on knowledge management process. However, individuals fit into organizational functions, which leads to multi-level evaluation: individual, group and throughout the organization. In this way, it is possible to determine the impact at each level, as well as the nature of these impacts.

Concerning the Results level, it is also necessary to measure the results obtained. The performance is an incumbent and integrated concept; many definitions of this concept exist ([43]). It varies essentially on the basis of targeted domain and utilization contexts. The measure of performance is fundamental to all systems, where follow-up and evaluate the progression towards the objectives are necessary. The purpose of the performance measures is to motivate the attitudes leading to continuous change related to improve productivity and flexibility within the whole organization. The performance measure is therefore a powerful way of assuring the success of an implantation.

In short, based on the stakeholder approach and the 4W-H methodology, a framework and measurement approach is proposed that takes into account time (the maturity of the knowledge management initiative), the project development in order to determine the level of ownership (change in practices induced) and the nature of the impacts and at what levels they materialize. This combination makes it possible to submit the figure 1 which summarizes the framework.

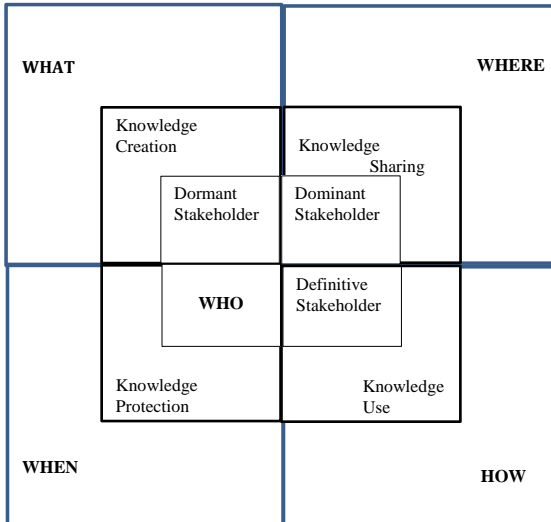


Figure 1: Stakeholder framework for KM assessment

In this article, the measure of performance is seen as an aid to an ongoing evaluation process. This performance requests a multi-dimensional and multi-criteria perspectives concerning the following dimensions([43]): 1- enhancement of the organization’s activities and services; 2- reaching the objectives, needs and expectations; 3- more intensive use of knowledge available in the organization to develop new products, services and know-how; 4- enhancement of the market share and financial position of the organization. 5- enhancement of the productivity of employees; 6- greater participation of employees sharing of their respective knowledge. So the assessment of the organizational performance must be on three levels, namely: finance, operation and human dimensions. Many authors identify the parameters to measure performance such as ([43]): vision, the quality of service, competence, the market position, finance, productivity, employee satisfaction. This metrics don’t specially apply to the knowledge management process. We propose to use at this level the four types of metrics already used in the previous one, namely: financial metrics (return on investment, etc.), material metrics, functional metrics and human resources metrics. We satisfy also the critical dimension related to

knowledge management which request a multi-stake, multi-dimensional, multi-disciplinary and multi-criteria considerations.

The method to realize the assessment of organizational performance and integrate these three dimensions are based on the dashboard framework. This method is based on five steps ([44]): 1- organize of the project (analyze the expectations and evaluate the available information system); 2- identify the preoccupations of management and metrics (establish a preoccupation-indicator chart); 3- prepare a design of each metric used in the monitoring (elaborate cards by metrics with visual representation); 4- build a data base to serve the monitoring model; 5- finalize the choice of indicators according to an internal or external perspective.

With this method, it might seem to find the principles of the stakeholder's approach. Comparatively to other performance methods of evaluation, the monitoring panel allows the identification of metrics which could be taken from other existing bases, and are relative to knowledge management processes (financial, operational and human resources levels), according to the phases of planning, development, implantation, exploitation and evaluation of a project.

Conclusions

In this article, we have tried to point out the assessment model which can be applied to the knowledge management process and the challenges that such instruments may pose. The proposed framework is based on three levels, which are absent from the models presented in the review of literature (the what, the how and the results). On the other hand, the framework allows to take to account different issues related to assessment processes, and specifically to knowledge management assessment, such as: 1- taking to account the different stake with the stakeholder approach; 2- a general and integrated evaluation touching the activities, implantation, and the global results for the organization; 3- a multi-disciplinary, multi-variable and multi-criteria perspective; 4- a practical orientation. Our proposition includes also an initial diagnostic-audit which permit, with to respond to the general fear expressed towards evaluation measures and procedures such as control and sanctions; and allows employees to perform and to go through a learning process. We must nevertheless, underline that a certain amount of

points needs to be elaborated upon, a little more in detail, such as the taking into account the evaluation measures for tacit knowledge, the individual dimension of self-assessment and performance. Furthermore, the information system was not part of the discussion in this article, although it plays a major role. Finally, we should underline that this framework will be submitted to many modifications once installed, because all evaluation measures are contingent to the context, to internal arrangements, to available resources, to the structure of the organization

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