Chapter 4
KARMA - Knowledge Assessment Review and Management Audit

Final draft

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Abstract
Companies tend to start their knowledge management initiatives with a knowledge management audit. A framework used for developing this specific audit as well as some issues encountered while utilizing the audit are illustrated. A number of benefits and weaknesses are also identified. Finally, a detailed, open-ended audit tool is introduced, Knowledge Assessment Review and Management Audit - KARMA.

Key words: Knowledge Management Audit; Knowledge Management 6 W’s; Stakeholder’s Analysis; Intellectual Capital.
Introduction

Throughout our journey in the area of Knowledge Management, we found that very often companies had no clue what kind or types of knowledge they had and what they were lacking. Take for example, a merger of two companies that ended poorly for one line of business. Mergers are very tricky because the process forces the combination of multiple entities. It is relatively easy to combine financial systems and reporting because of the commonality in accounting practice. Since there is no commonality in addressing knowledge issues, assumptions are made. There are many well documented cases of merger where one line of business fails or the expected synergies do not meet the initial expectations. In one example the authors are familiar with, cost savings and areas to be kept or discarded were identified. One area that was being kept by the merged company included a $2 million line of business. There was only one person who possessed the tacit knowledge to make the process complete (the People aspect of the triangle discussed earlier in chapter 1). Unfortunately, that individual was let go in the merger process and when he walked out the door, the $2 million line of business walked out with him.

This may be an extreme example, but how many times has a knowledgeable or seemingly not-too-knowledgeable employee left an area and presented management with a knowledge void that they never knew existed? How many stories have you heard about someone leaving only to finally be replaced by more than one individual? It’s not because the workload for the position increased; it’s because the knowledge gap between the new person and the replaced person has a direct impact on productivity. What we call the learning curve, in many instances, is really the process of re-creating all the knowledge that was possessed and never passed on by the person leaving. In these cases, organizations are continually re-inventing the wheel.

This chapter will provide an in-depth discussion of an auditing tool. There are three major aspects of the tool that will be discussed in this chapter. The first will be customization of the tool. In order for KARMA (our audit tool) to be successful, it must be customized to meet the needs of the organization. Here we plan to discuss how the customization will work. For example, a manufacturing business will be different from a service business and the questions of the audit will have to be adjusted to accommodate the type of organization. When we talk about the product/services, for the manufacturing company, the product identification will be relatively straight forward. For the service company, on the other hand, the definition of their service offering might be more complex and difficult to define. Or we might assume there will be more constraints if we are dealing with a defense contractor vs. a financial service company. Not that there aren’t secrets in both companies, but the perceptions will be different. We identified early in the process that a good, solid audit was (and still is) a very powerful tool for helping organizations get into the journey of KM. The framework discussed in this chapter has evolved and has been fine-tuned over time and with actual use. Through implementation of audits, we have discovered that a cookie cutter, comprehensive audit approach is not practical. Why? Remember that knowledge is context specific. This means a comprehensive audit that is right for one company might not be appropriate for another company, even within the same industry, at the same point in time. Why? The two
companies will probably have different strategies, goals, and game plans. Even for the same company at different points in time, there will be a need for some modification. Again, changes in their strategy, changes in customers’ needs, etc., will probably force the company to modify its questions.

We also found that there is an interesting dilemma organizations face when dealing with the type of audit they want to conduct. We have found that the open ended questionnaire is a great tool when the company is open to the KM journey and understands the value of the audit. We, our clients, and students have conducted more than 150 audits, and the average time that is required for a high quality audit was more than 80 hours. So, yes, you get a high quality product, BUT there is need for a heavy investment. Our proposed tool is a recommendation. You are encouraged to add, eliminate, or modify the discovery questions to align with your specific needs. The more specific the tool and the better it is tailored to your situation, the more valuable it becomes. But there is more to the audit than just finding where you are in the KM journey. We have found the audit to be an excellent context for beginning to understand some of the concepts we want the key players to understand, absorb and utilize. One area in which this has proved valuable concerns the codification of tacit knowledge. When we talked with one company about the strategic dilemma of codification versus tacit the concepts were clear but their KM team was not able to work with these concepts. At some point, they decided to develop product pages to support their newly recruited sales people. Then they had to go back, and verify what knowledge they had about their products, who had, and who owned that knowledge. In order to do that, they had to develop the process of codification, validation, etc. of that knowledge. They had just started the audit process in one specific area of their company, BUT, the concepts and the dilemmas had become clear in their minds.

Another issue is the knowledge gaps you might have which you might not expect to find. These gaps are another reason why we prefer the open ended qualitative tool. This tool approach also points to another sensitive issue in regard to the open ended version: Who is conducting the audit? If you are not looking for gaps, you will not find them. The assumptions that you have going into the audit, will be, in all probability, validated. On the other hand, if you are willing to leave your assumptions at the door, and be open to gaps, you might be able to find them. In many cases, this is asking the impossible from an internal auditor, which is why companies often have external auditors and auditing.

KARMA enables validation of underlying assumptions about the knowledge an organization has and where that knowledge is located. It also uncovers areas of knowledge that management never knew existed (perhaps an insight that allows entry into a new line of business or the exploitation of a niche in an existing line of business). It is important to acknowledge these assumptions because they are usually anecdotal and not based on factual or empirical data. Therefore, decisions made as a result of assumptions can produce inconsistent, unpredictable, or disastrous results. How many projects have you seen delayed or discarded for no apparent reason? We speculate that a majority of these projects were based on assumptions that had little or no factual basis. KARMA strips out assumptions and biases and gets as close to empirical issues as
possible, although we admit that human nature won’t allow us to get to the level of 100% objectivity.

Audit’s weakness and benefits

As stated above, we cannot completely remove bias, and because of that, there are certain inherent weaknesses and risks within the Audit process. We have identified two types of risks to be recognized and considered. If the organization starts with the end in mind or predicts where they want to be in the future, that will bias the audit. Conversely, if the organization uses the audit to define the correct path, the end result will also be biased. You may have a mandate from top management that forces you to predict where you want to be, perhaps the provider of specialized software within a specific manufacturing technology. This will bias the audit and will require analysis of the results to ensure that other avenues are not closed out. You may find that your assumed knowledge base in that niche is much less than you imagined. Now you have the problem of trying to fill the knowledge gap in an area where you don’t have expertise. It’s not impossible and we have developed tools to deal with those instances, but KARMA may tell you that you are much better aligned to provide the processes that go into building the technology rather than providing the software to make it run. On the other hand, if you don’t know where you want to go, the process may take you in many directions that don’t provide a clear guidance for strategic planning. Again, we have developed tools that can take you through that process as well (see our discussion in chapters 7 and 9 in this book).

These weaknesses in KARMA can be mitigated by utilizing an independent third party to conduct the audit. This comment may cause some, especially those in the audit community, to take exception, but this observation is not meant to create any bad feelings. On the contrary, we believe this is a flaw that can only be corrected as more knowledge audits are performed. Since there is no external regulatory body to oversee the audit process, or a standard set of guiding principals, such as GAAP, any internal audit could potentially be biased based on cultural norms within the organization. The exception to this is if there is an individual within the organization who has the insight and political power (CIO or CEO) to drive the independence of the process. The inherent weakness in KARMA is based on the assumption that an organization will perform the audit internally. Think of your knowledge audit as being on an equal footing with your financial audits. The Enron’s and Tyco’s have put a spotlight on reliable third party oversight in the financial arena. We suggest using an independent third party to customize the audit and interpret the final results in the knowledge arena as well.

KARMA was designed to allow you to describe your organization from a knowledge point of view. It can tell you if your strategic plans have been consistent with your available assets. It can even go further and pinpoint the areas where your knowledge base is lacking. It can affirm a decision to move your business in a specific direction or it can let you know that you have potentially made a serious mistake. Bill Gates did this intuitively when he changed the direction of Microsoft in the early 1990’s from a company that provided operating system software into a company that provides software
solutions for the emerging Internet economy\textsuperscript{1}. This was a huge gamble for Microsoft but management inherently understood the strategic direction of the business environment. Since there was little or no knowledge base for the technology that had to be developed, the decision was to either become a leader or follow the pack. KARMA would have shown a huge gap in the knowledge possessed and the knowledge needed. This is somewhat analogous to President Kennedy’s directive in the early 1960’s to put a man on the moon. A vision and direction were put in place and People, Processes, and Systems were used to create the Knowledge necessary to fulfill that vision.

This chapter will go into the specifics of KARMA but it is useful to understand the benefits of the audit and what it provides. KARMA identifies knowledge assets, both internal and external. When we discuss knowledge assets, we are talking about People, Processes, and Systems. KARMA breaks down those elements into knowledge areas. You can’t ask a system or process what they know, but by talking with the people involved, you can determine where your knowledge assets reside. However, the knowledge auditor must dig deeper into the systems and processes to determine if the knowledge embedded in the system or process is available and how that knowledge is codified. Phil may have designed the system and Mary may have implemented the process. Joe and Amy are the people who run the system. KARMA will identify the possessors of the knowledge. Perhaps Joe and Amy don’t have to possess any knowledge because it’s embedded in the system and process. Perhaps Joe and Amy are essential because only they possess the knowledge required to run things properly. Perhaps Phil built something into the system that is dependent on the process flow. If you don’t know where the knowledge resides, when reconstruction or deconstruction of the process is required, the process will take longer and be more costly. One additional item you can’t forget about is your customers. In the example above, we didn’t bother looking at the downstream users of the process. They can tell you a lot about what you are doing and how well. KARMA gives you the means to listen to them. The bottom line is that KARMA will allow you to identify where the knowledge resides so when a crisis arises, you can quickly and effectively take the appropriate action.

KARMA also helps you to quantify your knowledge assets and allows you to determine what your assets are worth. There is a story about a company that brought back an engineer from retirement because they had a problem that no one could fix. The engineer walked around the plant and looked and listened to all the machinery. Finally, after a couple of days of tinkering, he took a piece of chalk and put an “X” on the panel of one of the machines. He told the management team that the problem could be solved by fixing the components of the machine where he put the “X”. He also presented them with a bill for $10,001. When asked why his bill was so much, the engineer explained that the “X” was worth $1.00, however knowing where to put the “X” was worth $10,000.

KARMA also provides a baseline to track internal and external sources of knowledge with respect to current strategies and actions of the knowledge base. Perhaps its most important benefit is providing a framework to obtain a consensus of opinion regarding the current knowledge management system within your organization and its relationship to business strategy. This allows you to provide all interested parties with an understanding
of the knowledge assumptions your organization has made as well as the knowledge assets your organization possesses.

Audit framework

While developing the framework for the audit we used a number of tools and ideas found in KM and/or other strategic areas. One widely used tool is the 6 Ws\(^2\), or the 6 Knowledge Ws\(^3\). Another framework is the life cycle, or in our case the Knowledge Life Cycle (KLC\(^4\)). The combination of the two tools results in a six by six table (see Figure 1) that allows us to ask many questions. The discussion below will illustrate some of the issues the auditors (or their customers) will face when designing an audit.

Figure 1: The Six Knowledge Ws and the Knowledge Life Cycle

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<thead>
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<th>Create</th>
<th>Organize</th>
<th>Formalize</th>
<th>Distribute</th>
<th>Apply</th>
<th>Evolve</th>
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<tbody>
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<td>Know what</td>
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An additional tool that can be used is the Constituency (or stakeholders) Analysis\(^5\) which is context dependent. An example of the use of this tool is also illustrated below. The focus of the analysis will shift based on the nature of the entity. Therefore, the following discussion will focus on the questions that frame the answers rather than the specific answers and what they may mean.

Knowledge Creation and What do you know?
This aspect of the analysis focuses on the knowledge the entity creates and what they actually know. It must be remembered that creating knowledge and possessing knowledge are two very different things. Knowledge creation is an active process while maintaining possessed knowledge is a relatively passive process. Here you are looking to analyze how created knowledge is maintained within the entities so all the stakeholders are aware of what knowledge has been created and also what knowledge is possessed. As we analyze this aspect, we will focus on customers, suppliers, and competitors. Of these three, the competitor component is unique because there are three sub-divisions which we will discuss. The three subdivisions are known, unknown, and specialized. Known competitors are those that have a relationship with your customers and have the same or similar goods and/or services to sell. Unknown competitors are entities that are “under the radar”, start-up entities, or existing non-competitors who are looking to enter the market with the same or similar goods and/or services. Specialized competitors could be any of the two previously mentioned but with a focus that will allow them to differentiate themselves from other suppliers in the market. This could take the form of new technology, an innovative process, or even an un-exploited niche that, once established, can be used as leverage to create additional market share.

Knowledge Creation and What do you know (using Constituency Analysis)?

Customers create knowledge like any other entity but the focus from the Customer-Supplier perspective is usually narrowly defined. Your customers are, for the most part, concerned with what they ‘know’ about you. What is your product or service? How is it different (better or worse) than any other supplier? Are orders filled in a timely manner? Are the quality standards acceptable? Etc. It is fair to say that customers want suppliers to have products and services available when needed. As an integral part of the supply chain hierarchy, it becomes incumbent upon the customer to broaden their perspective to not only include the supplier in the knowledge creation process, but to partner with the supplier to allow the relationship to maintain or enhance the knowledge sharing process. For example, if the customer requires new products or services, there must be an exchange of knowledge so both parties can plan accordingly. It is also important for the supplier to transfer knowledge to the customer as changes are made so the customer can adapt, if necessary.

It is imperative that the knowledge creation aspects of the Customer-Supplier relationship be maintained at a level where each entity has a firm understanding of the other’s needs and abilities. A customer change from one product or service to another may exclude a supplier or group of suppliers because they were not brought into the process and have not had the time to create the knowledge needed to provide the new product or service. From a strategic perspective, this has far reaching implications because long term strategic goals between customers and suppliers may not be consistent with the knowledge created or needed to create the specific product or service deemed necessary by the other entity.

Sharing this strategic knowledge will allow each entity to determine early in the process whether creating the knowledge required will fit into their strategic plan or not. This
gives the customer adequate time to secure a supplier with similar strategic goals and it gives the supplier time to either exit the market for that particular product or service or re-tool for another product or service that is consistent with their strategic goals.

Suppliers look at this aspect from the perspective of meeting the customer’s needs. Therefore, it is incumbent on the supplier to create knowledge at levels consistent with the strategic goals of the customer. It can be argued that the supplier must exceed the knowledge of the customer and lead the customer based on the customer’s strategic goals. Although this is the most advantageous approach, it is also the most difficult and requires both an intimate relationship with the customer and creation of knowledge that is powerful enough to be complementary to their strategic goals. If the goal of the supplier is to maintain the status quo with the customer, they must be in a position that will allow them to create the knowledge required to maintain an equal footing with the customer and utilize that knowledge to make adjustments in their products or services to satisfy customer needs. See more about KM in supply chains in chapter 18 in this book.

The competitor situation creates different issues because there is less cooperation between competitors. Much of what you know about a competitor is based on external data. It is difficult, if not impossible, to know how competitors create knowledge. However, it is possible to gain some insight based on what you know about the competition in general. In this example, the competitor is known. They are in a similar line of business and provide similar products and services. What you know about them comes from the knowledge you created based on an understanding of the industry, feedback received from the same or similar customers, as well as the process of providing products and services. Unless some unforeseen event occurs, you know that this competitor has knowledge that is probably consistent with yours and will maintain that level of knowledge. If you both are providing a commodity type product or service, there is good reason to believe that levels of service will remain consistent. If four suppliers have been providing all the needs of a customer for the last ten years with little change in the percentages for each supplier, you know the needs of the customer are static and the volumes you produce for the customer will remain static.

When the competitor is an unknown, the knowledge they possess is unknown although a base knowledge requirement can be inferred because they are in a similar line of business. We will exclude the start-up companies from the .com era as they were special cases that require specialized analysis. Since you have no understanding of their knowledge creation process, you cannot determine what they know or how they know it. However, since all entities have a certain amount of exposure, you can leverage the industry knowledge required for entry into the business along with the background of the key players in the organization to begin the knowledge creation process. Until a product or service is provided, there is nothing to be done. However, once the product or service is public, a reverse engineering process specific to knowledge can be started to determine the level of knowledge the competitor possesses. Since this example is dealing with commodity providers, the product or service can be analyzed by price, quality, time to market, and additional factors specific to the industry. Once known, strategies can be developed to deal with the new competition. However, it must be noted that although
you do not have much knowledge about an unknown competitor, they will have a great deal of knowledge about your organization and other known competitors in the specified line of business.

Specialized competitors are another potential risk that must be analyzed because they can be known competitors developing an innovative process or an unknown entity ready to take market share based on factors new to the specific line of business. Perhaps it is a new manufacturing technique that reduces costs by 20% or a technological service that allows new products to come to market in weeks rather than months. These specialized entities have an extensive understanding of the entire supply chain hierarchy and are using that knowledge to exploit a niche in the current framework, obtain market share and create a new standard of competition, re-defining the landscape of the industry.

Knowledge Creation and How do they know it?

How they know what they know is another aspect of the analysis that should be understood. It can be assumed that a customer knows what he knows as a means to stay in business. Customers can actively pursue knowledge and use that knowledge to set strategic goals or maintain or create a competitive advantage, or they can passively create knowledge as it is presented to them.

Actively pursuing knowledge allows an entity to have a multitude of sources for knowledge creation. This allows for a diversity of knowledge upon which to base any analysis and potential strategic planning opportunities. It is obvious that possessing more knowledge and possessing more diverse knowledge will allow for a more useable finished product. Passively creating knowledge may only supply one or two differing points of view where actively looking for knowledge will provide for a variety of points of view as well as subtle differences within those points of view. When the analysis is done, a limited number of inputs will provide a limited number of outputs and the quality of the outputs may be impacted by the quality of the input. Entire areas of analysis may be overlooked because the knowledge needed to understand them is missing.

It is essential to understand what method of knowledge pursuit a customer is using so you have an understanding of how they know what they know. Either method described above can be exploited to your advantage and can guide strategic direction. For customers who have limited knowledge inputs, maintaining the status quo seems to be the most advantageous strategic direction since they seem to be limited in how they approach innovative ideas. Conversely, those customers who are actively seeking knowledge inputs require specialized care to ensure you provide a stream of data that can be used by them for knowledge creation. Used wisely, the inputs given to the customer can be consistent with the strategic goals of your organization.

How suppliers know what they know can also be a useful tool in understanding the environment you are dealing with. Suppliers are in the position where they must know what the customer wants. A supplier that wishes to attain and maintain a competitive advantage is also attempting to understand what the customer will need in the future,
even if the customer itself does not know. Therefore, the supplier has a number of options to obtain knowledge, from reactive to proactive. How the acquisition of knowledge is obtained can tell you many things about the supplier and the foundation of the relationship structure. If your supplier is constantly seeking to understand your strategic direction, sharing marketing and economic data, and actively searching for ways to incorporate innovative ideas and technologies into their delivery stream, that indicates that they are an active participant in the knowledge creation process and are taking a proactive approach to knowledge creation. An alternative is the supplier who is only looking to stay a few steps ahead of the delivery cycle. Both of these approaches and all the permutations in between are valid but they must be balanced with your strategic objectives. If your strategy is to maintain the status quo, it does not require an innovative supplier.

The aspect of how competitors know what they know can be directly related to their actions. Again, there can be competitors anywhere on the passive to aggressive scale. The interesting part of this analysis is not only understanding how they know what they know, but also how they utilize that knowledge. This aspect exemplifies the complexity of the analysis and the fact that one aspect of the equation might be more important than others. A competitor may be aggressive in their acquisition of knowledge but they may not be an aggressive competitor because they have determined that the customer base does not reward that type of behavior. Strategically they may be looking to exit the business or they have determined that the cost of acquiring the knowledge cannot be offset by either long term or short term gains. Just because there is an understanding of how knowledge is acquired does not necessarily give you an understanding of how it will be utilized.

**Knowledge Creation and Where is the knowledge?**

Although it may not be apparent at first, an understanding of where knowledge resides may be one of the primary factors in the Customer-Supplier-Competitor relationship. Possessors of knowledge are key players in the equation and it is critical to understand where knowledge dwells not only within your organization, but everywhere within the Customer-Supplier-Competitor relationship. The reason resides in the practical usage of knowledge and it must be remembered that every entity use knowledge differently. Therefore, understanding where knowledge resides can give you insight as to the structure of an organization as well as lay the foundation to understand how that organization utilizes knowledge strategically.

There are strategic and competitive advantages to be gained from such knowledge as well. If your organization is aware of where specific knowledge resides within a competitor’s/supplier’s/customer’s organization and the competitor/supplier is not aware that the knowledge only resides in a particular area, that piece of knowledge can be leveraged into a meaningful competitive advantage. We see this happen when organizations are unwittingly forced to battle internally because the knowledge base is unknown or structured in such a way that it allows for exploitation by third parties. This can also work as a disadvantage to your organization and as such it is imperative that this
knowledge be recognized and understood. Organizationally, an entity may be satisfied with this type of exposure. However, it must be aware that there are advantages and disadvantages that have to be factored into their strategic knowledge equation.

Organizations utilize knowledge in different ways and part of that process is developing an internal structure to understand where knowledge resides. For example, when knowledge is created based on data provided, the provider can track the knowledge to see how it is disseminated within another entity within the organization. If the knowledge stays at the creation point, the organization either does not value a knowledge sharing environment or it is compartmentalized to the point where knowledge does not flow freely between organizational silos. If the company in question is a supplier this might be a clue that the supply chain cannot react quickly to market pressures and therefore has questionable long-term value. However, the silo approach may also become the supplier’s competitive advantage because there is no need to internally transfer knowledge to the rest of the organization and this allows the area that controls the knowledge to strategically restructure itself faster than an alternative organizational structure would allow.

As you can see, this understanding can only provide a glimpse of how an organization reacts and is structured. This is one piece of a complex model that provides insight into how organizations react to events as they arise. It is also important to understand the type of business and the changes within the business model that impact the knowledge tracking process. For example, the PC business was initially a high-tech, specialized business that focused on providing computing power to satisfy business, educational and home based applications. Part of that model was software distribution and we still see that with the Apple/PC wars for the home buyer. But that is only an offshoot of the change in the industry from a high-tech industry to a supplier of a commodity. Within the entire supply chain, organizations must be aware of the changes in business that impact the need to understand where knowledge is located. In this example, it was imperative to understand where organizations held their knowledge in order to exploit their competitive advantage although in today’s world of commodity PCs, those implications are inconsequential, at least until the next technological breakthrough is discovered and gives at least one provider a potential competitive advantage⁶.

Tracking where knowledge goes, and finally where it resides, can also provide insight into the supply chain matrix. Although this seems simple, it is more complex than simply tracking the location of a package. Tracking knowledge assumes that there is a solid understanding of what is being tracked and to a lesser extent it requires a general understanding of the organizational structure within which it is being tracked. Understanding what knowledge is being tracked has potential problems because as knowledge is assimilated it can be modified to suit the needs of the culture of the receiving organization. Therefore, tracking the flow of knowledge must include the insight to be able to adjust to the knowledge modification process and still allow for tracking its core components.
Knowledge Creation and When is the knowledge used?

It seems obvious that knowledge will be used when there is a need, but that is not always the case. How many companies have gone out of business because they kept doing the same thing year after year only to find that the knowledge they needed to stay competitive was never created within their organization? In a similar example, how many companies created knowledge and never used it because they didn’t understand the signals the market was sending or the key decision makers didn’t know the organization possessed the knowledge? Xerox created the first PC but never used that knowledge to bring the product to market. If they had exploited that knowledge, we would be looking at a very different business landscape today. Therefore, it is imperative not only to create the knowledge, but also to be able to identify trends in the market that will allow exploitation of that knowledge. In the 1990’s Microsoft transformed itself from a software company into an internet company by being able to identify that the organizational knowledge had to shift direction and in many cases new knowledge had to be created in order to remain competitive.

As we look at competitors, the use of knowledge can be either a sledgehammer or a scalpel. Consideration of the strategic goals of an organization is of the utmost importance in order to leverage the most efficient use of the knowledge. It is also imperative to have a full understanding of the impact of the potential issues involving the use of knowledge. For example, your business is a supplier to a major manufacturing company and you and three competitors get 25% of the orders each for a particular product. If your company creates a process that allows you to cut prices by 30% you will gain a significant advantage over your competitors. However, when and if the knowledge is put into play is of critical importance and it must be considered from many different perspectives. By implementing the process, your organization can realize an immediate increase in profit against the 30% reduction in costs. By most measures, implementing that type of enhancement is a sound strategic move. However, one must be cognizant of the situation in the competitive market. If the process employed allows for a reduction in the workforce of 10%, what signal will layoffs send to the competition and the customer? Does a reduction in both price and staffing signal a reduction in quality or will this be rolled out with an indication, at least to your customer, that the new processes allowed this change to occur. Are your competitors working on similar processes and what is their strategic direction? It is important to remember that actions may be interpreted in many different ways and all possible interpretations must be factored into the rollout process.

Let’s continue this example assuming that the process outlined above is in place, and your organization is forecasting an economic downturn in the future. By combining these two different pieces of knowledge, your organization may want to wait until both the customer and competition is feeling the effects of the downturn while internally your organization has been gearing up for additional production. By timing events correctly you will be able to reduce costs to the customer and increase market share. Although oversimplified to a certain extent, understanding when knowledge should be used can provide both short term and long term strategic advantages.
Some additional factors to consider include: What is the relative financial stability of the competition? If this knowledge is used and effectively eliminates one of your competitors, can your organization increase its production by 100% to meet the needs of the customer at the lower price? Are the barriers of entry high enough to make the risk of entering the market a poor investment relative to potential returns? Is the customer comfortable with a diversified supplier base and will the elimination of one or more of the suppliers raise red flags about the long term stability of remaining in that line of business. Is your organization supplying a commodity or a specialized product? As with any strategic decision, there are a great number of factors that must be considered and we propose that factoring knowledge into the equation will provide additional insights to the decision making process.

Of all the touch points relative to knowledge creation, understanding when knowledge is used has the most strategic consequences. It requires a familiarity with internal knowledge creation including what knowledge is possessed, how it got created, where it resides, who owns it, and why the organization has it. Assimilating this is a complex task, but to make the process as effective as possible, this understanding should also be compiled for competitors, suppliers and customers. Understanding your own organization is difficult enough, but adding others into the mix assumes that your organization has the capability to be strategically focused in the decision making process.

**Knowledge Creation and Who owns the knowledge?**

Although touched on above, owners of knowledge or knowledge possessors are a critical part of any organization. We look at knowledge possessors as individuals, groups, departments, or divisions, literally any individual or group of individuals. Organizational knowledge exists although the larger the entity that encapsulates the knowledge the more difficult it is to quantify and define. Consider the fact that Honda has the organizational knowledge to design and build an automobile engine but it would be almost impossible to point to specific individuals within the organization that possess specific pieces of that knowledge. From a knowledge perspective it would be impossible for a competitor to steal the knowledge that Honda has disbursed throughout the organization. However, the type of knowledge ownership that resides at the enterprise level takes a number of years to develop and requires a strategic management vision to employ.

On a day-to-day basis we deal with, for the most part, individuals. It is difficult to conceptualize that the individuals you deal with are part of larger entities that own knowledge. If your immediate group of co-workers consists of five people, that group owns various pieces of knowledge. As knowledge is disbursed within the group, a number of different knowledge sub-sets are created and the utilization of those knowledge assets begins to come into play. Owning the knowledge is one thing but leveraging that knowledge is something quite different. All the knowledge in the world won’t make any difference unless there is an internal mechanism within the organization that allows the knowledge to be utilized. Individuals, groups, and various other entities within the organization may use their knowledge but if the use of the knowledge is not
consistent with strategic goals, the value of the knowledge decreases from an organizational perspective. Unused knowledge is similar to potential energy however the value of the knowledge can change over time. Like any asset, the potential for an increase in value must be weighed against the different ways knowledge is utilized to create a competitive advantage.

Once knowledge is created, it is owned either by an individual, group, or entity within the organization that can utilize that knowledge. The sales and marketing areas need knowledge that relates directly to the supply chain they are working with. In addition, they need knowledge regarding economic factors, competitors, suppliers, etc. A determination must be made within the organization as to who or what sub-entity within the group will own the knowledge. This situation is analogous to any other asset held by an organization. It must be remembered that the simple fact of understanding who owns the knowledge does not necessarily mean that it will be utilized, it only points to a repository. The factors involved in how the knowledge is utilized constitute another matter altogether.

If one looks to suppliers and customers, knowing the owners of the knowledge that is needed to enhance the business relationship is a crucial aspect of gaining an advantage. The most simplistic example is that any combination of the supplier/customer relationship depends on the supplier knowing what the customer needs. In other words, the supplier owns the knowledge regarding the delivery of the product. It may be a person or team, but there will be a point of contact. This point of contact will inform you of what materials (products) will need to be supplied as well as when they will be delivered. Conversely, the customer must own similar knowledge about the supplier and own the knowledge relative to price, quantity available, etc. As you can see, even in a simple supplier/customer relationship there are complexities that can make the issue more intricate than it may appear. As the relationship between organizations evolves and becomes more and more complex, the knowledge ownership question can become very convoluted.

Mergers fail for a variety of reasons and it can be argued that knowledge ownership plays an important part in the success or failure of any merger/acquisition. One of the reasons mergers/acquisitions occur is because one entity owns knowledge desired by another. If the buying entity understands that the owners of the knowledge are the real assets purchased, there is a greater chance for success than if the knowledge is valued less than the product or service created by the knowledge owners.

Knowledge Creation and Why is the knowledge utilized?

Why knowledge is utilized has a rather simple answer. Why the specific knowledge is utilized is a much more complex question. Remember, in chapter 1 we said that knowledge is context specific, so which knowledge you use is of crucial importance. Since in many cases we frame the questions in terms of the answers we have, in many cases we use the knowledge we have, not the knowledge that needs to be used. In chapter 9 we illustrate this by suggesting that knowledge strategy should not be limited to the use
of the available knowledge base the company has and that the company should have the option of using needed knowledge from the outside. This might be one reason why more and more companies are using external sources of new knowledge.

In a business situation, knowledge owners utilize knowledge in order to obtain an objective. It may be as complex as attempting to gain a strategic advantage over the competition or as simple as winning a contract to supply widgets. The underlying fundamental aspect of all knowledge utilization is to gain some objective. These may be simple or complex, easy or difficult, done over a number of years or completed in a matter of minutes. The essential item to remember is that the old adage, “Knowledge is Power,” is true. However, understanding the aspects that lead to new knowledge utilization makes the knowledge more useful and therefore, more powerful.

Next, we will introduce our audit instrument.

**KARMA**

Following is the KARMA framework that we have found to be applicable for most of the organizations we have worked with:

- **Introduction**
  - Environmental and Administrative Expectations

- **Critical External Sources of Knowledge**
  - Customers
  - Market Trends
  - Competitors
  - Suppliers

- **Critical Internal Sources of Competitive Knowledge**
  - Organization’s Products and Services
  - Core Competencies
  - Competitive Advantage
  - Value Adding Activities
  - Best Practices
  - Organization’s Strategy
  - Organization’s Goals

- **Knowledge Management Strategy (Explicit or Implicit)**
  - Company Strategy/Knowledge
  - KM Strategic Issues
  - Levers of KM
  - KM Challenges
  - Culture
  - Knowledge Leadership
  - Knowledge Roles and Skills
  - Intellectual Capital
  - Knowledge Processes
The result of the audit is a database (or a benchmark) of the knowledge assets of an organization at a single point in time.

The following is the current version of the open ended KARMA. You will find below an introduction letter to the auditor as well as the list of the open ended questions. The next chapter is presented as a case study that will illustrate the use of KARMA as an audit tool for a not-for-profit organization.

**KM Audit**

**Introduction letter**

This audit is designed to be a comprehensive tool for assessing where your organization is in regard to Knowledge Management. As such, you might find some redundancies in the audit. This was done by design.

While starting the audit you will be asked to define the entity you will be doing the audit for, as well as your expectations. The decision about which unit of analysis to do the audit for is seen as critical. You may want to consider the following aspects while thinking about the scope of the audit. The entity must be significant, large, and abundant enough to be considered as a unit for the audit, while not TOO complex and impossible to manage. You might want to reflect on the following as criteria:

a. Relatively clear organizational boundaries
b. Clear set of inputs and outputs
c. Relatively cohesive culture
d. Availability of required information sources

You will need to utilize a number of sources within and outside the entity and conducting an interview utilizing the open questionnaire provided is seen as critical. You will have to talk to a number of people about each issue for validity purposes. You also will have to utilize secondary resources, such as manuals, for the same purpose. You are encouraged to keep a log of your interactions during the audit. The last part of the audit will ask you to document your methodology.

The audit will start analyzing the use of knowledge between the entity and its external constituencies. This will be followed by understanding the value knowledge is creating within your entity. Next, specific aspects of Knowledge Management will be analyzed, concluding with your summary. Good luck 😊
1. Introduction

1.1 Describe briefly the entity and its environment.
1.2 Describe the expected benefits of the audit

2. Critical External Sources of Knowledge

2.1 Customers
2.1.1 Who are the key customers, segments?
2.1.2 What do we know about their current, future needs?
2.1.3 What data/information/knowledge do we have about the mentioned above?
2.1.4 Where is this data/information/knowledge stored?
2.1.5 Who is collecting, storing, managing, diffusing this data/information/knowledge?
2.1.6 How are we collecting, storing, managing, diffusing this data/information/knowledge?
2.1.7 Who are the users of this data/information/knowledge?
2.1.8 How, when, and where is this data/information/knowledge utilized?
2.1.9 What are the key knowledge issues?

2.2 Market Trends
2.2.1 What market trends, regulations, etc. are seen as critical to follow?
2.2.2 What data/information/knowledge do we have about the mentioned above?
2.2.3 Where is this data/information/knowledge stored?
2.2.4 Who is collecting, storing, managing, diffusing this data/information/knowledge?
2.2.5 How are we collecting, storing, managing, diffusing this data/information/knowledge?
2.2.6 Who are the users of this data/information/knowledge?
2.2.7 How, when, and where is this data/information/knowledge utilized?
2.2.8 What are the key knowledge issues?

2.3 Competitors
2.3.1 Who are the key competitors?
2.3.2 What do we know about their current and future strengths, weaknesses, and strategies?
2.3.3 What data/information/knowledge do we have about the mentioned above?
2.3.4 Where is this data/information/knowledge stored?
2.3.5 Who is collecting, storing, managing, diffusing this data/information/knowledge?
2.3.6 How are we collecting, storing, managing, diffusing this data/information/knowledge?
2.3.7 Who are the users of this data/information/knowledge?
2.3.8 How, when, and where is this data/information/knowledge utilized?
2.3.9 What are the key knowledge issues?

2.4 Suppliers
2.4.1 Who are the key suppliers?
2.4.2 What do we know about their current and future strengths, weaknesses, and strategies?
2.4.3 What data/information/knowledge do we have about the mentioned above?
2.4.4 Where is this data/information/knowledge stored?
2.4.5 Who is collecting, storing, managing, diffusing this data/information/knowledge?
2.4.6 How are we collecting, storing, managing, diffusing this data/information/knowledge?
2.4.7 Who are the users of this data/information/knowledge?
2.4.8 How, when, and where is this data/information/knowledge utilized?
2.4.9 What are the key knowledge issues?

3. Critical Internal Sources of Competitive Knowledge

3.1 Own product and/or services
a. Identify all products and services that are delivered by the entity that are considered important.
b. For each one, answer the following:
3.1.1 Identify the data/information/knowledge required for each one of the specific products/services for its successful development, management and delivery.
3.1.2 Who is collecting, storing, managing, diffusing this data/information/knowledge?
3.1.3 How are they collecting, storing, managing, diffusing this data/information/knowledge?
3.1.4 Where is this data/information/knowledge stored?
3.1.5 Who are the users of this data/information/knowledge?
3.1.6 How, when, and where is this data/information/knowledge utilized?
3.1.7 What are the key knowledge issues?

3.2 Core Competencies
a. Identify all core competencies of the entity.
b. For each one, answer the following:
   3.2.1 Identify the data/information/knowledge required for each one of the specific core competencies for its successful development, management and implementation.
   3.2.2 Who is collecting, storing, managing, diffusing this data/information/knowledge?
   3.2.3 How are they collecting, storing, managing, diffusing this data/information/knowledge?
   3.2.4 Where is this data/information/knowledge stored?
   3.2.5 Who are the users of this data/information/knowledge?
   3.2.6 How, when, and where is this data/information/knowledge utilized?
   3.2.7 What are the key knowledge issues?

3.3 Competitive Advantage
a. Identify all competitive advantages that are considered critical for the entity. You can use the following list as examples:
   Quality; Patents; Production flexibility; Research capabilities; Operation/cost; Advertisement/PR; Product development (variety, customer responsiveness, timeliness); Distribution/logistics; Price; Brand name; Sales force; etc.
b. For each one, answer the following:
   3.3.1 Identify the data/information/knowledge required for each one of the specific competitive advantages for its successful development, management and implementation.
   3.3.2 Who is collecting, storing, managing, diffusing this data/information/knowledge?
   3.3.3 How are they collecting, storing, managing, diffusing this data/information/knowledge?
   3.3.4 Where is this data/information/knowledge stored?
   3.3.5 Who are the users of this data/information/knowledge?
   3.3.6 How, when, and where is this data/information/knowledge utilized?
   3.3.7 What are the key knowledge issues?

3.4 Value Adding Activities
a. Identify all critical value-adding activities for the entity. You can use the following list as examples:
   Research; Development; Raw materials; Input processing; Intermediate processing (e.g. subassembly); Final processing Marketing; Sales; Distribution; Customer service; IT; HR; etc.
b. For each one, answer the following:
   3.4.1 Identify the data/information/knowledge required for each one of the specific value-adding activities for its successful development, management and implementation.
3.4.2 Who is collecting, storing, managing, diffusing this data/information/knowledge?
3.4.3 How are they collecting, storing, managing, diffusing this data/information/knowledge?
3.4.4 Where is this data/information/knowledge stored?
3.4.5 Who are the users of this data/information/knowledge?
3.4.6 How, when, and where is this data/information/knowledge utilized?
3.4.7 What are the key knowledge issues?

3.5 Best Practices
   a. Identify all critical best practices for the entity.
   b. For each one, answer the following:
      3.5.1 Identify the data/information/knowledge required for each one of the specific best practices for its successful development, management and implementation.
      3.5.2 Who is collecting, storing, managing, diffusing this data/information/knowledge?
      3.5.3 How are they collecting, storing, managing, diffusing this data/information/knowledge?
      3.5.4 Where is this data/information/knowledge stored?
      3.5.5 Who are the users of this data/information/knowledge?
      3.5.6 How, when, and where is this data/information/knowledge utilized?
      3.5.7 What are the key knowledge issues?

3.6 Organization’s Strategy
   a. Identify the strategy of your organization.
   b. Identify the relevant strategies of your entity that support the mentioned above.
   c. For each one, answer the following:
      3.6.1 Identify the data/information/knowledge required for each one of the specific strategies for its successful development, management and implementation.
      3.6.2 Who is collecting, storing, managing, diffusing this data/information/knowledge?
      3.6.3 How are they collecting, storing, managing, diffusing this data/information/knowledge?
      3.6.4 Where is this data/information/knowledge stored?
      3.6.5 Who are the users of this data/information/knowledge?
      3.6.6 How, when and where is this data/information/knowledge utilized?
      3.6.7 What are the key knowledge issues?
3.7  Organization’s Goals
   a. Identify the goals and Key Success Indicators (KSI) of your organization. Are they balanced?
   b. Identify the goals and KSI of your entity that support the mentioned above. Are they balanced? Do they support those at 3.7.a?
   c. For each one, answer the following:
      3.7.1 Identify the data/information/knowledge required for each one of the goals and KSI for its successful development, management, implementation and measurement.
      3.7.2 Who is collecting, storing, managing, diffusing this data/information/knowledge?
      3.7.3 How are they collecting, storing, managing, diffusing this data/information/knowledge?
      3.7.4 Where is this data/information/knowledge stored?
      3.7.5 Who are the users of this data/information/knowledge?
      3.7.6 How, when, and where is this data/information/knowledge utilized?
      3.7.7 What are the key knowledge issues?

4.  Knowledge Management Strategy

4.1  Company Strategy and Knowledge
   4.1.1 Is your industry knowledge intense? In what areas?
   4.1.2 What specific areas of knowledge are extremely important to your company? Why? To your organization/entity? Why?
   4.1.3 What are (might be) your company’s key benefits of active Knowledge Management? Which benefits are critical for your company’s success?
   4.1.4 What are (might be) your organization’s/entity’s key benefits of active Knowledge Management? Which benefits are critical for your organization’s success?

4.2  Knowledge Management strategic issues
   Identify and describe how your entity is:
   4.2.1 Developing strategy to exploit new knowledge.
   4.2.2 Leveraging knowledge at all levels.
   4.2.3 Integrating knowledge from various areas.
   4.2.4 Integrating Knowledge Management with the overall business plan of the company.
   4.2.5 Improving knowledge of company goals at all levels.
   4.2.6 Identify SWOT of knowledge areas.
4.3 Levers of Knowledge Management

Identify and describe the following:

4.3.1 Knowledge of people, processes and technology used currently as Core Competencies.

4.3.2 Knowledge of people, processes and technology to be used in the future as Core Competencies.

4.3.3 Knowledge of people, processes and technology used currently as Competitive Advantages.

4.3.4 Knowledge of people, processes and technology to be used in the future as Competitive Advantages.

4.3.5 Information Technology tools/platforms enhancing the organization’s knowledge base.

4.3.6 Is the organization well organized to generate new knowledge? To share and diffuse existing knowledge?

4.3.7 Perceived value of:
  4.3.7.1 Formal knowledge offices.
  4.3.7.2 Organizational knowledge base.
  4.3.7.3 Demonstrable knowledge leadership.

4.3.8 Are there formal knowledge offices? If yes, identify.
  4.3.8.1 Are there good communication and working relations between knowledge offices and other offices?
  4.3.8.2 Are knowledge offices able to plan profitability and effectiveness or only projects and expenses?
  4.3.8.3 Is there a need for more training, motivation or evaluation for any of the knowledge offices/officers?

4.4 Knowledge Management Challenges

Identify and describe the:

4.4.1 Biggest obstacles/challenges in your organization to knowledge transfer; to acquisition of external knowledge.

4.4.2 Biggest obstacles/challenges in your organization to disseminate knowledge; to create new knowledge.

4.4.3 Culture of the organization as challenge/supportive.

4.4.4 Measures of success as creating value/cost oriented.

4.4.5 Major risks in your organization to managing knowledge.

4.5 Culture

Identify and describe how your organization is:

4.5.1 Developing a sharing culture.

4.5.2 Developing and implementing appropriate behaviors.

4.5.3 Developing and implementing appropriate reward systems.

4.5.4 Supporting informal networks.

4.5.5 Developing a continuous learning environment.
4.6 Knowledge Leadership
4.6.1 Does your organization have an explicit vision for Knowledge Management? If yes, what is it?
4.6.2 What is the framework (if any) for the knowledge agenda?
4.6.3 Do people understand Knowledge Management?
4.6.4 Describe the commitment of your organization’s top executives to Knowledge Management.
4.6.5 Identify the knowledge champions.
4.6.6 Do you have a knowledge team/s? If yes, describe.

4.7 Knowledge Roles and Skills
Identify and describe how your organization is (if any):
4.7.1 Developing and implementing new knowledge specific roles at the following levels:
   4.7.1.1 Individual.
   4.7.1.2 Team.
   4.7.1.3 Organizational.
   4.7.1.4 Inter-organizational.
4.7.2 Developing and implementing new knowledge specific skills at the following levels:
   4.7.2.1 Individual.
   4.7.2.2 Team.
   4.7.2.3 Organizational.
   4.7.2.4 Inter-organizational.

4.8 Intellectual Capital
4.8.1 Describe the ways your organization identifies/quantifies the value of knowledge.
4.8.2 Describe the ways your organization links knowledge to the bottom line.
4.8.3 Describe how your organization invests/allocates resources that increase its knowledge base in a measurable way.

4.9 Knowledge Processes
Describe the systematic approaches your organization has to:
4.9.1 Create new knowledge.
4.9.2 Acquire new knowledge.
4.9.3 Codify knowledge.
4.9.4 Warehouse knowledge.
4.9.5 Diffuse knowledge.
4.9.6 Measure knowledge.
4.9.7 Protect knowledge.
4.9.8 Exploit knowledge.
4.9.9 Disseminate knowledge.
4.9.10 Describe the use of Knowledge Management in your organization’s decision making.
4.10 Knowledge Mapping
   Identify and describe how your organization is:
   4.10.1 Developing a classification for existing knowledge.
   4.10.2 Developing a classification for desired knowledge.
   4.10.3 Identifying and mapping knowledge gaps.
   4.10.4 Identifying and mapping gaps in knowledge strategy.
   4.10.5 Building knowledge repository.

4.11 Infrastructure
   Identify and describe how your organization is:
   4.11.1 Developing IT/IS/KBS systems to support knowledge management.
   4.11.2 Developing IT/IS/KBS structures to support knowledge management.
   4.11.3 Budgeting for KBS.
   4.11.4 Allocating time for knowledge management.

4.12 Security
   Identify and describe how your organization is:
   4.12.1 Securing knowledge when restructuring/transferring personnel.
   4.12.2 Securing knowledge when involved in alliances.
   4.12.3 Securing knowledge when involved in Electronic Commerce.

4.13 Intellectual Property
   Identify and describe how your organization is:
   4.13.1 Identifying its Intellectual Property and its value.
      a. Brand Name.
      b. Reputation.
      c. Trademarks.
      d. Patents.
      e. Copyrights.
      f. Topography rights.
      g. Rights in protectable data bases.
      h. Regulatory approval and authorizations.
      i. Trade secrets.
   4.13.2 Managing the value (and the taxation) of its Intellectual Property.
      a. Brand Name.
      b. Reputation.
      c. Trademarks.
      d. Patents.
      e. Copyrights.
      f. Topography rights.
      g. Rights in protectable data bases.
      h. Regulatory approval and authorizations.
      i. Trade secrets.
4.13.3 Protecting, managing the risk and insuring its Intellectual Property.
   a. Brand Name.
   b. Reputation.
   c. Trademarks.
   d. Patents.
   e. Copyrights.
   f. Topography rights.
   g. Rights in protectable data bases.
   h. Regulatory approval and authorizations.
   i. Trade secrets.

5. Knowledge Projects/Initiatives
5.1 Describe current (if any) initiatives your organization is developing and/or implementing.
5.2 Identify the roles/positions currently leading those initiatives.
5.3 Describe the most difficult aspect of these projects.
5.4 How management is/will be assessing the outcomes of these projects.
5.5 What knowledge projects are planned for the near future.
5.6 What knowledge training efforts are planned for the near future.

6. Summary
6.1 Conclusions
   6.1.1 The current stage of your organization’s experience with knowledge management is?
   6.1.2 The current status of knowledge management offices is?
   6.1.3 The most valuable aspects for your organization, of knowledge management are?
   6.1.4 The critical gaps in knowledge strategy are?
   6.1.5 Other most important findings are?

6.2 Implications
Where and when should your organization go from here, in regards to:
   6.2.1 Knowledge strategy.
   6.2.2 Knowledge processes.
   6.2.3 Knowledge value measures/Intellectual Capital.
   6.2.4 Leadership/roles/skills.
   6.2.5 Culture.
   6.2.6 Infrastructure/KBS.
   6.2.7 Resource allocation.
   6.2.8 Intellectual Property.
   6.2.9 Security.
   6.2.10 Knowledge Initiatives.

6.3 What else did you learn? What other suggestions, proposals might you have?
6.4 What would you add or change in this audit?

7.0 Methodology
7.1 Define Scope
7.2 Resources used:
    7.2.1 Interviews
    7.2.2 Secondary sources
7.3 Vocabulary/dictionary

The following chapter (by Phillip Mattek) is an example of how the audit process can be used and will illustrate the potential value created by such a process.

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6 See example at Schilling, 2002.
7 See example at Smith and Alexander, 1988.
8 See endnote 1.
9 See example at Prahalad, 1993.