GETTING STARTED WITH KNOWLEDGE MAPPING

In its simplest form, a knowledge map is a visual representation of an organization's knowledge resources. It acts as a "snapshot in time" to help the organization understand:

♦ what knowledge is critical to a business process or focus area,
♦ where that knowledge resides, and
♦ how knowledge flows between people and systems in the course of doing business.

Knowledge maps are powerful tools to inventory an organization's critical knowledge and pinpoint areas that may be at risk. In many cases, the simple act of creating a knowledge map reveals weak links and bottlenecks in the flow of knowledge. By articulating exactly how knowledge moves through the organization, teams can identify improvement opportunities and make targeted adjustments to ensure that the right knowledge reaches the right people at the right point in the process.

In this article, you will learn how to create and use knowledge maps, the benefits of knowledge mapping, and how to overcome common knowledge mapping barriers.

WHEN POSSIBLE, START WITH PROCESS MAPPING

Process mapping is a useful precedent activity for knowledge mapping because it ensures that knowledge links to the way people work. It is not strictly necessary to map a process when creating a knowledge map, but doing so will help ensure that the organization is focusing on the right areas and will provide a classification system for the knowledge being mapped.

HOW DO YOU PROCESS MAP?

Figure 1 depicts an example of a cross-functional process map. The steps to create a process map follow. For more in-depth information on process mapping, see Building Process Maps.

♦ **Step 1**: Identify a small team that has deep knowledge of the process to be mapped; include as many functional areas as needed.
♦ **Step 2**: Label the functions that engage in the process you are mapping, starting with the customer in the boxes along the left side (e.g., for a sales process this may involve sales, sales support, marketing, and regulatory).
♦ **Step 3**: Identify the steps within the process (e.g., identify a target customer, assess the customer's need, and enter an order into system) and place these in the correct lanes on the map.
♦ **Step 4**: Sequence the steps until all within the group are satisfied that the process is adequately mapped.
♦ **Step 5**: Draw all connection lines between the steps.

Process Map Example

Manage Relationships

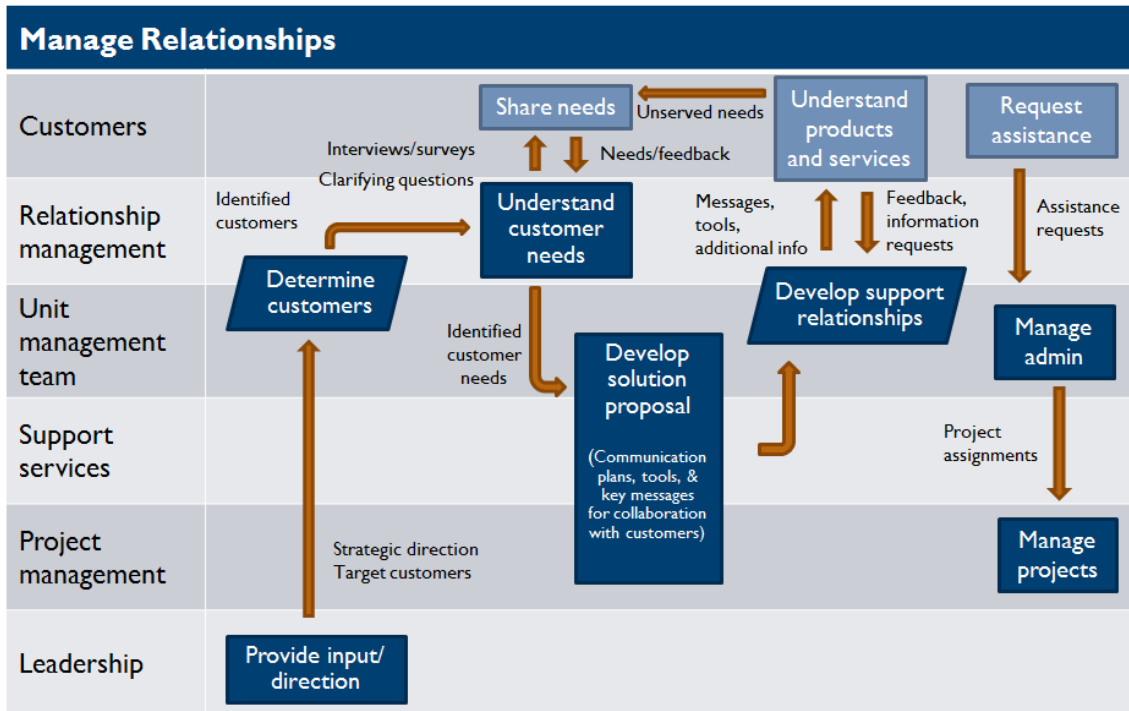|				
Customers		Share needs · Unserved needs	Understand products and services	Request assistance
Relationship management	Identified customers · Interviews/surveys · Clarifying questions	Understand customer needs · Needs/feedback	Messages, tools, additional info · Feedback, information requests	Assistance requests
Unit management team	Determine customers	Identified customer needs	Develop support relationships	Manage admin
Support services		Develop solution proposal (Communication plans, tools, & key messages for collaboration with customers)		Project assignments
Project management	Strategic direction · Target customers			Manage projects
Leadership	Provide input/ direction			

Figure 1

LINKING PROCESS MAPS TO KNOWLEDGE MAPS

Process mapping often unveils key knowledge areas to focus on when creating a knowledge map. KM teams overlay knowledge maps on top of process maps to identify knowledge gaps and barriers in knowledge flow within key process steps.

CREATING AND USING KNOWLEDGE MAPS

In a nutshell, knowledge mapping involves walking an expert, process owner, or team through key questions about their work. The goal is to understand:

1. What knowledge is required to successfully get work done?
2. Who has that knowledge, or how can it be accessed?
3. When and where is the knowledge needed?

Organizations use different kinds of knowledge maps depending on which perspectives and details are most relevant to the goal of the exercise. For example, information about the sources, recipients, format, and best delivery vehicles for knowledge help flesh out certain maps and make them more useful.

CATEGORIES OF MAPS

APQC recommends seven types of maps grouped into three categories: enterprise, cross-functional, and process- or role-based (Figure 2).

Types of Knowledge Maps

Enterprise Knowledge Maps	
Strategic Overview Map	The largest in scope, this map is used to gauge the level of knowledge or expertise an organization has to meet its strategic goals.
Expertise Overview Map	This map provides a broad understanding of what knowledge an organization has in various parts of the business and what knowledge may be at risk.
Cross-Functional Knowledge Maps	
Expertise Tacit Map	This map is used to identify specific experts and their areas of expertise. It usually works best inside a business unit or a division with similar units.
Technical/Functional Knowledge Map	This map helps an organization more clearly understand its strengths and gaps within specific technical or functional knowledge domains (e.g., ship design, component assembly).
Process- and Role-based Knowledge Maps	
Process-based Map	This map identifies specific knowledge needs and the sources, recipients, locations, and formats of knowledge within a process or domain. It is particularly useful to establish a baseline for knowledge management (KM) solutions such as communities or mentoring.
Job/Role-based Map	This map inventories the knowledge required for various jobs or roles. It is similar to the functional/technical knowledge map, but it includes the specific knowledge that each job role needs to be successful.
Competency/Learning Needs Map	This map explicitly articulates the learning or competency needs associated with a business process or job role.

Figure 2

Enterprise knowledge maps offer a high-level view of an organization's knowledge and reveal broad areas that may be underdeveloped or at risk. Cross-functional maps help an organization catalog its knowledge and experts in specific business units, functions, or topic domains. Process- and role-based knowledge maps are the narrowest in scope and the most in-depth: They outline the knowledge required to perform a job role or business process.

In APQC's experience, the process-based knowledge map, which outlines knowledge assets available and required within a business process or domain, is the most commonly used. However, there is no perfect knowledge map for all situations. Organizations have implemented knowledge maps in a variety of ways, but having a "buffet" of choices helps the team pick and choose the aspects of the maps that fit, tweaking each to the nuances of a given situation.

RISK AND GAP ANALYSIS

One of the most important steps when creating a knowledge map is to identify knowledge loss risks and gaps. APQC offers a simple tool called the Knowledge Loss Risk Matrix to prioritize knowledge areas that have the greatest likelihood and consequences of knowledge loss.

Gap analysis involves identifying discrepancies between how knowledge currently flows and how it should flow. To perform a gap analysis, team members should ask themselves the following questions:

- What critical knowledge is missing?
- What (or who) hinders the flow of knowledge? Why?
- What (or who) enhances the flow of knowledge? Why?
- What are the next steps for the knowledge map? (What is it going to be used for?)

As the team identifies knowledge gaps, it is especially important to determine why those gaps exist. The answers to these questions usually point to specific steps the organization can take to improve the flow of knowledge in the process or domain under consideration.

To learn more, see Analyzing Knowledge Risks and Gaps.

KNOWLEDGE MAPPING BENEFITS

Key benefits of knowledge mapping include:

- bringing stakeholders together to think critically about the knowledge involved in their work,
- surfacing areas where critical knowledge may be at risk,
- identifying opportunities to create value by connecting people who have not historically collaborated and sharing knowledge across previously impervious boundaries, and
- facilitating the transfer of knowledge from subject matter experts and others with in-depth knowledge of an organization's business processes to less-experienced employees.

Additionally, knowledge mapping techniques are relatively easy to apply, even by teams with minimal experience. This is especially true when compared with improvement methodologies such as Six Sigma, which require significant participant training.

To learn more, see How Knowledge Mapping Solves Business Problems.

BARRIERS TO EFFECTIVE KNOWLEDGE MAPPING

Despite the inherent value of mapping organizational knowledge, certain barriers may impede the effectiveness of this technique.

One barrier is when the team doing the mapping does not understand the knowledge flow process inside the organization. For example:

- Do functions and business units work independently?
- Are people who create knowledge able to easily collect and store that knowledge, or do they tend to hoard it?
- Does the organization have commonly accepted and widely used validation processes for maintaining the validity of expertise or content?
- Do people tend to distrust knowledge created by others or embrace it?

Without a clear sense of all of the knowledge flow components, knowledge mapping is tough because the team may miss out on important steps.

Another barrier is not having the right team members on a knowledge mapping team—the players must understand the business processes, strategic business goals, and have a good sense of what knowledge assets are needed. For detailed knowledge mapping, a skilled facilitator can help participants determine what information and expertise should be included on the map.

A third barrier is the classic "knowledge is power" syndrome that exists in many organizations. In such cases, employees are reluctant to share their knowledge with the rest of the organization because they feel threatened that sharing might lessen their importance as an employee.

A fourth common hurdle is the failure to understand the end goal. Often, this involves not having a plan to collect, validate, store, and reuse knowledge and information about a business process or domain once it is collected. Knowledge has a shelf life and requires constant updating and validating. Creating a map for the sake of doing so is not worth the time or effort; instead, the team needs to map so that it can create more efficient processes, protect and replicate critical knowledge, improve access to intellectual capital, and ultimately improve performance for the customer.

Most of these hurdles can be overcome if an organization plans effectively and articulates the "why" behind knowledge mapping. Clearly explain to participants that the knowledge map is a tool that will allow them to pinpoint critical knowledge and barriers to its flow. This, in turn, will help the participants accomplish tasks more effectively, avoid rework and errors, and position themselves for future stability and success.

USING KNOWLEDGE MAPS AND KEEPING THEM CURRENT

Knowledge mapping is a useful exercise, but it is not an end in itself. It is a tool, like a roadmap, that helps you chart a course from point A to point B. To get real long-term value from knowledge mapping, an organization must use the maps as jumping-off points to identify gaps and implement KM tools and approaches designed to improve the quality and flow of knowledge.

To learn more about using knowledge maps for business benefit, see How Knowledge Mapping Drives Knowledge Strategy and How Knowledge Mapping Drives Knowledge Transfer.

Furthermore, it's important to recognize that knowledge mapping is a dynamic activity. Knowledge maps may become dated as processes evolve, new employees replace older experts, and new goals emerge. Teams should review their knowledge maps regularly in order to chart any changes that affect the flow of knowledge and look for new gaps to address.

ABOUT APQC

APQC helps organizations work smarter, faster, and with greater confidence. It is the world's foremost authority in benchmarking, best practices, process and performance improvement, and knowledge management. APQC's unique structure as a member-based nonprofit makes it a differentiator in the marketplace. APQC partners with more than 500 member organizations worldwide in all industries. With more than 40 years of experience, APQC remains the world's leader in transforming organizations. Visit us at www.apqc.org, and learn how you can make best practices your practices.