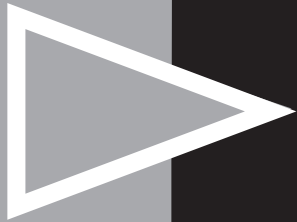




ACTIVATE BUSINESS WITH THE POWER OF I.T.™



Unleashing the Power of Collective Knowledge to Improve Support Quality

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Executive Summary

Today, many if not most employees in just about all industries rely on IT in their jobs. This presents a significant challenge for IT professionals. They must continually enhance and expand the IT services offered, and deliver these services at agreed on levels of performance and availability. What's more, IT must meet the demands of its customers in the face of flat or even shrinking budgets.

IT professionals are responding to the challenge. They are continually improving the IT infrastructure with new and enhanced applications, and with new technologies. They are continuing to deliver business services at or above agreed on performance and availability levels. And, they have been able to do all this while keeping costs under control. How? By taking advantage of continually evolving IT service management tools and solutions to increase efficiency and effectiveness in managing the IT infrastructure.

Regardless of how sophisticated the IT infrastructure or how efficiently IT manages it, in the eyes of the organization, the perceived value of IT is determined in large part by the quality of user support provided by the IT staff. Users need to get their questions answered and their problems resolved quickly and competently.

One of the key determinants of support quality is how effectively IT is able to leverage its vast collective knowledge in helping users. To take full advantage of this valuable information requires a comprehensive knowledge management solution that provides three important functions:

- > Helps IT aggregate, refine, and manage collective knowledge
- > Helps IT make the knowledge easily available to the IT support staff to help them in supporting end users
- > Helps IT make the knowledge easily available to end users to permit them to answer questions and solve problems on their own

The advantages of knowledge management are compelling. According to the Consortium for Service Innovation — a nonprofit alliance of customer service organizations — using its Knowledge Centered Support (KCS) model (which has knowledge management as its foundation) organizations have enjoyed significant benefits. These include a 50 to 60 percent improved time-to-problem resolution and a 30 to 50 percent increase in first-call resolution. These dramatic improvements translate into higher support quality, higher support staff productivity, lower support costs, and greater customer satisfaction.

This paper:

- > Discusses the need for high-quality support
- > Describes how knowledge management can help organizations improve their support quality
- > Examines the criteria for an effective knowledge management solution
- > Presents the BMC Software knowledge management solution, a solution that meets the criteria
- > Discusses why IT organizations need to transition to Business Service Management (BSM) to gain full business value from knowledge management

¹ "The KCS Operational Model (Knowledge Centered Support)," The Consortium for Service Innovation, www.serviceinnovation.org.

The Importance of High-Quality Support

Quality support is key to unleashing the full potential of IT to add business value. That's because it helps business users take full advantage of IT services to attain their organizations' business goals. Maintaining quality support, however, presents a major challenge for a number of reasons. The complexity of the IT infrastructure is high and increasing rapidly as the number of business services grows and new technologies appear. This increasing complexity makes support more difficult. What's more, IT budgets are flat or even shrinking, limiting the resources available for support.

The penalties for failure to meet the challenge are significant and impact the IT staff as well as other employees, business partners, and customers. The IT support staff becomes overwhelmed and that lowers morale. This could result in high staff turnover causing the organization to lose knowledgeable and hard-to-replace support people. Employees spend more time attempting to solve computer problems, which brings down their productivity. To make matters worse, employees may solicit help in solving problems from their colleagues, multiplying the time lost. Finally, poor quality IT support may hamper customer-facing employees' ability to service customers, resulting in lower customer satisfaction and lost revenue.

Consider the following examples:

Example 1 (Before)

A company has just implemented a new sales information system, which promises to make life easier for sales people. A sales person at a client site needs to get a price quote for the client immediately. The client needs the quote to place an order but has only a few minutes to spare. The sales person tries connecting to the new sales information system to get the quote, but encounters a problem and is unable to proceed.

The sales person telephones the company's help desk. A technician answers but is unable to solve the problem. The technician promises to research the problem and call back right away. At this point, the customer terminates the meeting because of another urgent appointment.

About 15 minutes later, the technician calls the sales person and says that IT is aware of the problem and is making a permanent fix; he offers to give the sales person a temporary solution to work around the problem. Unfortunately, by this

time, the sales person has left the client's office. Without the price quote, he was unable to leave with a sales order and, now, may potentially lose the order. As a result, he doesn't see any value from the services provided by the new sales information system, but rather sees the system as a hindrance.

Example 2 (Before)

An employee in the human resources (HR) department needs to install a new printer on her laptop computer. The employee calls the help desk and is put on what seems to be an interminable hold. In frustration, she decides to bypass the help desk and asks her colleague for help (the colleague has a reputation for being computer savvy).

The employee and the colleague spend the next two hours attempting to install the printer. Finally, they get the printer installed. Neither the employee nor the colleague sees any value in IT support services.

Improving Support Quality Through Knowledge Management

The increasing complexity of the IT infrastructure and flat or shrinking IT budgets make the delivery of quality support a significant challenge. The good news is that IT organizations have a major asset that can help them meet the challenge — the collective knowledge of the IT organization.

In performing its normal job functions, the IT organization accumulates a tremendous amount of valuable knowledge that can be brought to bear on user support. Unfortunately, this knowledge is typically scattered across the organization in people's heads, notebooks, private files, and other non-sharable storage mechanisms. It's not consolidated and certainly not readily accessible across the enterprise.

According to the Consortium for Service Innovation, "In order for our service organizations to deliver higher value to its customers, we must focus on the source of the value: knowledge. We must transition from a call-centric, transaction-oriented model to a knowledge-centric, relationship-based model."² To make this transition and leverage the wealth of collective knowledge requires a comprehensive knowledge management solution. Such a solution would empower the IT staff to find, add to, and manage the collective knowledge

² *ibid.*

of the IT staff. It would also permit end users to tap into the knowledge to help them answer questions and solve problems on their own — without needing to call the help desk.

A knowledge management solution would have helped greatly in both of the previous examples. Here's how things might have gone with a knowledge management solution in place:

Example 1 (Before Knowledge Management)

The help desk technician queries the knowledge base while on the phone with the sales person. The technician quickly finds the workaround solution and also sees that the problem will be fixed by noon the next day. He communicates this information to the salesperson. With the workaround, the salesperson is able to connect to the sales information system and get the price quote. He gives the quote to the customer, and secures the order.

As this example illustrates, by making collective knowledge available to IT support personnel, a knowledge management solution can help organizations achieve higher employee productivity, greater customer satisfaction, and increased revenue.

Example 2 (Before Knowledge Management)

The HR employee connects to the user self-help site on the corporate intranet. She queries the knowledge base using natural language and quickly finds step-by-step installation instructions for her particular printer and laptop combination. Following the instructions, she successfully installs the printer, by herself, in a matter of minutes.

The self-help capability provided by the knowledge management solution has saved the employee a considerable amount of time; not only her time, but also that of her colleague because she doesn't need to solicit help. It has also resulted in a decreased load on the help desk because the employee doesn't need to call the help desk for assistance. That translates into increased employee productivity and lower support costs.

Compelling Business Benefits

According to the Consortium for Service Innovation,³ organizations using knowledge management have realized a number of improvements, including:

- > *Faster problem resolution.* Companies have experienced a 50 to 60 percent faster time to resolution and a 30 to 50 percent increase in first-call resolution. By resolving calls faster, IT support technicians can handle more calls. By resolving more incidents on the first call, IT reduces the number of calls to the help desk. Combining these two factors means that IT can service many more users without increasing the help desk staff.
- > *Optimized use of resources.* Support organizations report a 70 percent improved time-to-proficiency, 20 to 40 percent improvement in employee satisfaction, and 20 to 35 percent improved employee retention through the use of knowledge management. This results in more highly motivated employees, which reduces employee turnover.
- > *Lower support load.* By permitting end users to access the knowledge base through Web self-help, support organizations report a 50 percent case deflection. That means 50 percent fewer calls to the help desk and it

Table 1. Sample savings calculation

Assumptions	
Number of employees	5,000
Number of employee first-level calls per month	0.5
Percent of calls escalated	32%*
Cost of first-level support call	\$25*
Cost of second-level support call	\$100*
Percent reduction in first-level calls because of self-service capability	5%
Percent reduction in first-level to second-level call escalation because information supplied to service technicians is better and more complete	5%
Percent reduction in first-level and second-level call length because information supplied to service technicians is better and more complete	10%
Results	
Total employee first-level calls per year	30,000
Annual savings from reduction in first-level calls	\$37,500
Annual savings from first-level calls not getting escalated to second-level calls (due to reduction in first-level calls from self service)	\$48,000
Annual savings from first-level calls not getting escalated to second-level calls because issue is resolved on first call (better and more complete information)	\$48,000
Annual savings from reduction in first-level and second-level calls because information supplied to service technicians is better and more complete	\$375,000
Total annual reduced costs	\$508,500

³ *ibid.*

⁴ HDI 2004 Practices Survey, Help Desk Institute, November, 2004.

results in higher user satisfaction because users are able to get what they need on their own.

- > *Lower support costs.* Through knowledge management, organizations are reporting a 10 percent call reduction due to root-cause removal and a 20 percent increase in lower-tier resolution. By resolving more problems at the first tier, IT saves a considerable amount of money. According to the Help Desk Institute,⁴ a first-level support call costs \$25 whereas a second-level call costs \$100.

Table 1 shows an example of the significant cost savings that an organization can realize with knowledge management. The example shows how an organization with 5,000 employees can save more than \$500,000 per year on support costs through the use of knowledge management.

The power of knowledge management is by no means limited to internal help desks or, in fact, to IT. For example, an externally facing customer service desk can use knowledge management to improve service quality, reduce costs, and increase customer satisfaction. That goes right to the bottom line in the form of increased revenue and higher profits.

Criteria for a Knowledge Management Solution

Because of the importance of high support quality to the business and the ability of knowledge management to improve that quality, an organization should exercise great care in selecting a knowledge management solution. This section presents some important criteria to use in evaluating knowledge management solutions.

Comprehensive Knowledge Base

The foundation of a knowledge management solution is a knowledge base — an experience base that consolidates the collective knowledge of IT. The knowledge base is a living information source that is continually added to and refined as new knowledge is acquired by the IT staff. A knowledge management solution should permit easy addition to and management of the information in the knowledge base, and enable fast searching for needed information.

In most organizations, there is considerable knowledge stored in databases across the enterprise — help desk solutions, help desk trouble tickets, and IT asset databases. That's why it's essential that the knowledge base be built on a federated architecture that permits the consolidation of information from several knowledge sources, without needing to move the information to a single database.

Easy but Controlled Knowledge Aggregation

Today's IT environment is dynamic, with new and enhanced services continually being added and new technologies constantly emerging. As a result, the collective knowledge of the IT staff also is continually growing and changing. It's important that the knowledge management solution permit the IT staff to keep the knowledge base current through a controlled authoring process that requires the refinement and approval of content before adding it to the knowledge base. This ensures the accuracy and consistency of information. The solution should accommodate rich content in the knowledge base — such as rich text HTML, linked documents, and graphics — to simplify information communication.

Authoring facilities are important to facilitate information collection and refinement. For example, automatic harvesting of information from support interaction with users, such as through the automatic collection of information from help desk trouble tickets, facilitates knowledge collection. In addition, editing tools and industry-specific authoring templates help speed the refinement of new content to ensure information consistency and usability.

It is essential to automate the authoring process workflow such as by routing information for refinements and approvals. Automation helps ensure consistency in authoring. In addition, automatic notification to refiners and approvers for new content that requires their attention helps ensure timely approval cycles.

Fast and Easy Knowledge Searching

IT support personnel and end users must be able to quickly and easily search the knowledge base, such as through natural language query and sophisticated Boolean searches. Look

for a solution that permits searching across multiple information sources and consolidates the returned information for viewing in an integrated "hit list."

It is important that the solution ensure the security of the knowledge base to protect sensitive information. This can be done by permitting users to access only the information they are authorized to view according to their relationship to the organization and their function within that relationship.

Integration with Other IT Service Management Applications

One of the key factors in ensuring high-quality IT services is to integrate IT service management processes. This requires integration of the applications and tools that support these processes. Consequently, it's essential that the knowledge management solution integrate easily with other IT service management solutions, such as incident and problem management, and change and configuration management.

Integration must be seamless, well beyond merely providing the capability to launch the knowledge management application from within another application. For example, a help desk technician should be able to search the knowledge base directly from within the help desk application, and the solution should integrate data from the help desk database.

Seamless integration provides a number of important benefits to the help desk, including:

- > *Speeds problem resolution.* The help desk technician does not need to continually switch between the help desk and knowledge management applications to resolve an issue.
- > *Minimizes training requirements.* The technician does not need to learn an additional user interface to search the knowledge base, but rather works from the familiar interface of the help desk application.

A Solution that Meets the Requirements

BMC offers an advanced knowledge management solution that meets the criteria discussed in previous sections of this paper. The BMC solution provides seamless integration out-of-the-box with both the BMC® Magic Service Desk Suite and BMC® Remedy® Help Desk. What's more, the solution can be quickly integrated with all other BMC Remedy AR System® based applications, including custom applications, BMC® Remedy® for IT Service Providers, BMC® Remedy® Customer Support, and BMC® Remedy® Citizen Response.

Many customers are already reaping the benefits of BMC Remedy Help Desk and BMC Magic Service Desk Suite. These customers can leverage their investment in these solutions with the added capabilities and advantages of knowledge management.

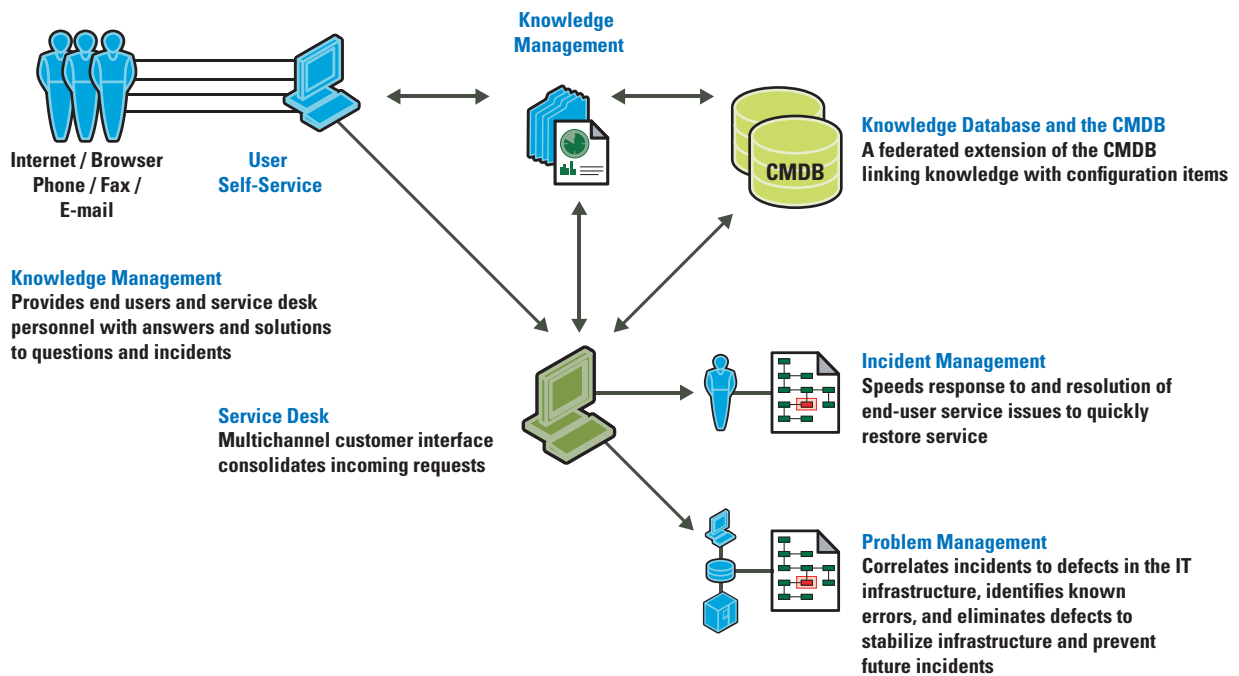


Figure 1. Knowledge management empowers the service desk

Empowers the Service Desk

As Figure 1 illustrates, the BMC knowledge management solution empowers the service desk team with knowledge. Armed with this knowledge, the team can competently and efficiently handle customer requests that are coming in from multiple channels, including Web, e-mail, telephone, and fax. The solution includes, in its federated knowledge base, information on configuration items contained in the BMC® Atrium™ Configuration Management Data Base (Atrium CMDB); and it associates other knowledge, such as documentation, with the configuration items.

The solution provides support personnel with quick, natural language searches through the latest approved knowledge. It also permits the IT support staff to easily author new knowledge solutions from incidents, pass them through an approval process, and publish them for use — all from within the service desk user interface. Because the solution plugs in as part of the service desk or help desk application, using the same user interface and platform, support personnel can take immediate advantage of collective knowledge without incurring the time and expense of additional training.

The solution also offers a self-service option that empowers end users to help themselves with 24x7 Web-based natural language searches through an approved knowledge base. If customers cannot find immediate solutions, they can forward an incident submission that includes a history of viewed solutions, so the service desk technician can begin with the knowledge of what already has been tried.

Leveraging Knowledge Management Value through BSM

To take full advantage of knowledge management, IT needs to transition from an IT-centric mode to a mode of managing IT service delivery based on business priorities using an approach called Business Service Management (BSM). The following example illustrates the concept.

A recurring problem within a system affects a large cross section of users. Because many users call in to the help desk to report this problem, the help desk technicians have become quite adept at helping users work around the problem.

In gauging the quality of support services, IT has traditionally looked from the inside out, relying on internal metrics such as call wait times, problem resolution times, and first-call and first-tier resolution rates. In this example, in looking at support service metrics from the inside out, IT would probably assume it was doing a good job on this particular problem. Resolution times are low, and first-call and first-tier resolution rates are high. But this data can be quite misleading.

According to the Consortium for Service Innovation, “We must recalibrate our measurement systems to measure the creation of value, not just activity.”⁵ If in this example, IT were to look at service delivery from a business perspective rather than an IT perspective, things may not appear so rosy. From a business perspective, with so many users calling the help desk, the problem is adding up a lot of wasted time, negatively impacting employee productivity.

IT should focus on finding the root cause and creating a permanent solution to the problem. This would eliminate the need for users to call the help desk in the first place, resulting in increased employee productivity and a decreased load on the help desk.

By transitioning to BSM, IT receives another important benefit. In any business, the quality of customer service is equally important — or, perhaps, even more important — than product in determining customer satisfaction. IT is no exception. In the case of IT, “product” is the collection of business services provided by IT, and “customer service” is the support provided, both by the help desk and by user self-service facilities. By delivering high-quality support through these channels, IT can more effectively demonstrate and communicate its business value to the organization.

⁵ op cit, Consortium for Service Innovation.

Conclusion

IT organizations today face the challenge of continuing to deliver high-quality support in an environment that is characterized by high and increasing IT infrastructure complexity, continually evolving technology, and flat or even shrinking budgets. To meet the challenge, the IT support staff needs to harness the power of the valuable knowledge it collectively generates in its daily operations. To do so, IT needs to consolidate, refine, and make this knowledge readily available to the support staff and to end users.

A knowledge management solution that meets the stringent criteria presented in this paper can help IT fully leverage its collective knowledge to improve support quality, increase IT staff job satisfaction, increase end-user satisfaction, and lower support costs. Moreover, by combining knowledge management with a BSM strategy, IT can increase its business value contribution and more effectively demonstrate that contribution to the organization.



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About BMC Software

BMC Software helps IT organizations drive greater business value through better management of technology. Our industry-leading Business Service Management solutions ensure that everything IT does is prioritized according to business impact, so IT can proactively address business requirements to lower costs, drive revenue, and mitigate risk. BMC solutions share BMC Atrium™ technologies to enable IT to manage across the complexity of diverse systems and processes — from mainframe to distributed, databases to applications, service to security. Founded in 1980, BMC Software has offices worldwide and fiscal 2005 revenues of more than \$1.46 billion. BMC Software. Activate your business with the power of IT. For more information, visit www.bmc.com.

