



*CONSORTIUM FOR
SERVICE INNOVATION™*

Knowledge-Centered Supportsm Operational Model

Version 5.0

Knowledge-Centered Support

The Changing Landscape of Product Support

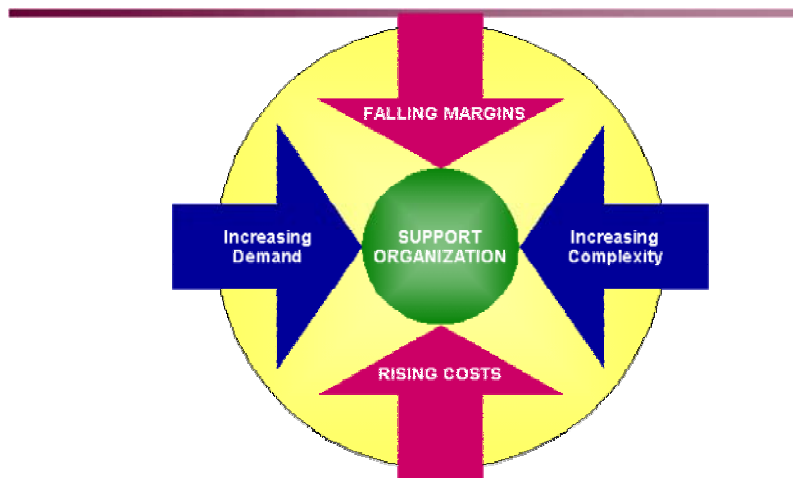
Whether you support products for a corporate help desk, a product manufacturer, a channel or a third party provider, chances are you're under the gun to better manage your resources and improve your service levels. **Knowledge-Centered Support (KCS)** is a business methodology that was developed and put to the test by members of the Consortium for Service Innovation. *The goal of KCS is to solve a problem once . . .and use the solution often!* Adoption of KCS has improved operational efficiency, employee moral and customer satisfaction. This brief examines the need for a knowledge-centered strategy as well as the organizing principles of KCS and its benefits.

Addressing the Challenges: Everyone Wants a Piece of You!

The service organization's primary goal is customer productivity and satisfaction within the constraints of a shrinking budget. This mandate is getting increasingly harder to achieve. Whether our customers are technologists with sophisticated problems or neophytes who are confused by the technology they must use to get their job done, the need is the same. There's an incredible demand for top-quality support delivered in a clear and efficient manner. The challenge of keeping up with advancements in technology is also daunting. Each new product is more complex and must be integrated into an increasingly complex environment. And tough competition has narrowed profit margins all along the supply chain. The challenges have never been more intense

THE CRITICAL CHALLENGES

Critical Challenges



When these challenges go unmet, the consequences can be severe.

- Customers or end-users lose confidence in the company and the products. That's particularly dangerous when competitive product vendors are standing by ready to attract disgruntled customers.
- The support staff gets overwhelmed and discouraged, loses faith in management, and leave the company...taking their valuable knowledge with them.
- The support organization, and eventually the entire supply chain, suffers from waning expertise, higher training costs, decreased responsiveness and a negative image with customers or end-users.

Clearly Intranets and the Internet offer a significant opportunity to serve these increasing demands. Use of the web to deliver answers to customers' questions can reduce the number of calls received and change the economics of delivering information. A web-delivered solution typically costs less than a dollar, while phone calls cost \$15 to \$50 or more per call. But, how do we economically populate a web support site with relevant, useful and accurate content? KSC can help.

THE VALUE OF KNOWLEDGE

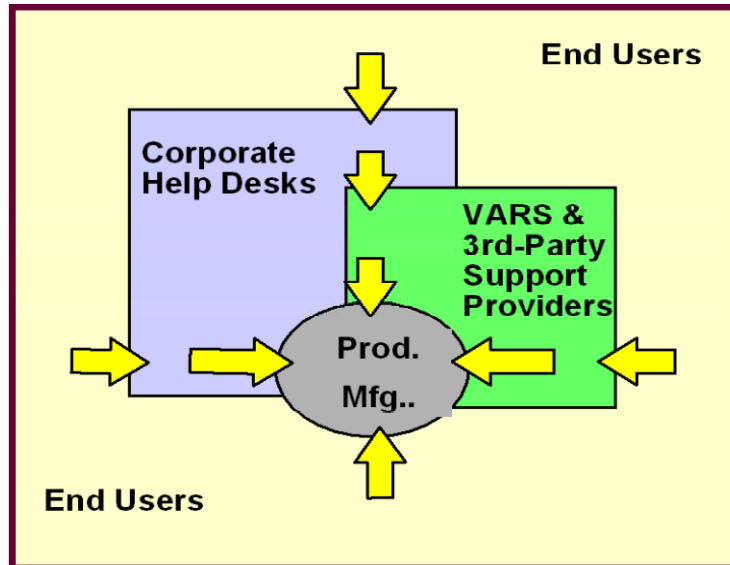
Service organizations have adopted sophisticated telephone switches and call management systems to track and route support calls. However, these tools don't help much with the knowledge needs of the organization. They concentrate on call administration without addressing the issues of teamwork and collaboration. They can't help capture, organize or evolve valuable content.

Meeting the challenges of today's support environment requires more than technology. Customer service organizations have spent millions on technology only to be disappointed with the return. KCS is about people, process, and content - not technology. KCS represents a shift in how we think about and manage customer service.

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. We must recalibrate our measurement systems to measure the creation of value, not just activity. We must rethink the role of people, information, management, and customers to take full advantage of the knowledge that emerges from the experience and interactions of the service organization.

In most companies, the service department is the hub of a tremendous influx of vital product information, streaming in daily from customers and partners.

The Players



The SUPPORT SUPPLY CHAIN

Fig 1-2

In fact, customer service is often the primary contact customers have concerning the products they are using. Their productivity and satisfaction with the product will be influenced by their service interactions, which in turn will impact their future buying decisions. Keeping track of how the customer uses the product is also vital for providing feedback to all those involved in product design, development, deployment, marketing, and sales.

The opportunity to learn from our service interactions is huge! First because of the "redundancy factor" - support organizations report that 60 to 90 percent of the problems they solve have been solved before, they are reinventing answers and fixes that already exist somewhere in the organization. There is significant time to be saved if they had access to each other's experience. Second, the product improvements based on continuous customer experience and feedback can drive customer loyalty and market relevance with very little wasted effort.

Knowledge is the by-product of experience and interaction.

We learn by assimilating meaning from and remembering our interactions and experiences. Suppose we were able to create a "collective memory" so we could benefit from the interactions and experiences of others? KCS is a methodology used to capture the experience of solving a problem in a "collective experience base" or knowledgebase. This is the essence of Knowledge-Centered Support - creating organizational learning through a collective memory.

THE
PREMISE
OF
KCS

For most organizations the adoption of KCS represents a transformation. It requires a shift in the organization's culture (i.e. values and focus). It requires a shift in focus from:

- Individual to Team
- Activity to Results
- Completion to Evolution
- Escalation to Collaboration
- Content to Context
- Knowing to Learning

KCS takes teamwork to a new level. The organization must shift to a perspective that sees knowledge as an asset owned and maintained by the team, not an individual. The focus of the team is to capture and improve the collective knowledge, not just to solve individual customer problems, but to improve organizational learning.

ITS ABOUT
THE HEALTH
OF THE
INTERACTION

The organization must find ways to support and nurture interactions, connecting people-to-content and people-to-people based on their needs, context and legitimacy. The health of the organization is directly related to the health of the interactions within the organization. If the organization focuses on creating relevant interactions and capturing the knowledge that is created it will drive unprecedented organizational learning. This in turn will drive higher levels of efficiency and enable new capabilities in the organization.

The transition to KCS is not easy; it requires both persistence and patience. The benefits, however, are profound.

Consortium members who have implemented Knowledge-Centered Support in their customer service organizations are reporting dramatic improvements in call resolution and training times, in customer satisfaction, and in support analyst job satisfaction. As a result, they are realizing substantial savings in operating costs at the same time they are seeing improvements in service levels.

FROM
THEORY
TO
PRACTICE

Some of the companies that have implemented KCS:

- | | | |
|--------------|-------------|------------|
| • 3Com | • HDS | • Oracle |
| • Attachmate | • HP | • Nortel |
| • Compaq | • Legato | • Novell |
| • Ericsson | • Microsoft | • QAD |
| • EMC | • NCR | • VeriSign |

The benefits of KCS:

HERE'S
THE
BEEF...

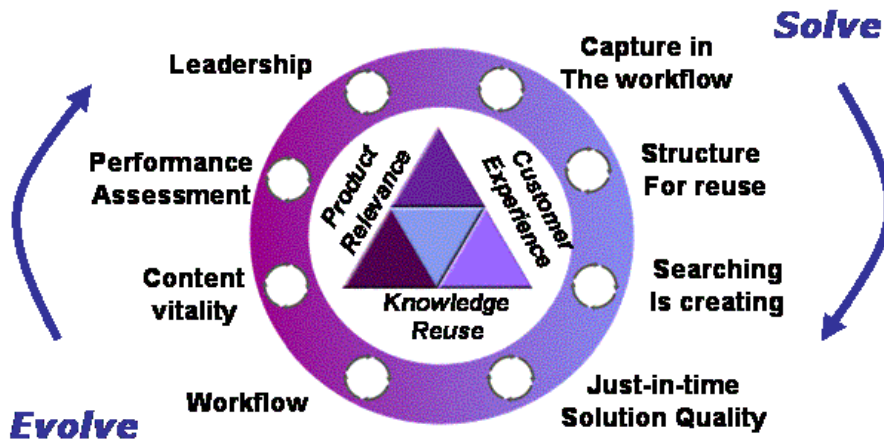
- **Solve Cases Faster**
 - *50 - 60% Improved Time To Resolution*
 - *30 - 50% Increase in First Call Resolution*
- **Optimize Use of Resources**
 - *70% Improved Time To Proficiency*
 - *20 - 35% Improved Employee Retention*
 - *20-40% Improvement in Employee Satisfaction*
- **Enable eServices Strategy**
 - *50% Case Deflection (solved via web self-help)*
- **Build Organizational Learning**
 - *10% Call Reduction due to Root Cause Removal*
 - *20% Increase in Lower Tier Resolution*

"Knowledge management is a critical competency for technical support organizations," says Mike Lyons, VP & General Manager Customer Services, Novell. "Successful implementation of a knowledge management practice requires more than technology. It requires a comprehensive business strategy that focuses on culture, process and content. And ultimately it will involve the entire organization."

Ok. . . so how do we do it?

It's a two loop job...

KCS Processes



The objective of the KCS practices and processes is the creation, use and evolution of knowledge. The knowledge created becomes a key asset of the organization and enables a support organization to increase its operational efficiency, improve the customer experience and productivity and drives product improvements based on the customer's experience.

KCS is a double loop process. There are those things individuals do to solve problems; this is the event level, in KCS we call it the *Solve* Loop. There are four key Practices that make up the Solve Loop:

- Capture in the workflow
- Structure for reuse
- Searching is creating
- Just-in-time solution quality

The second loop is made up of the organization level processes that occur across a collection of events or a collection of content. This is the *Evo/ve* loop and it is made up of the following processes:

- Workflow
- Content vitality
- Performance assessment
- Leadership

**KCS IS NOT SOMETHING A SUPPORT ORGANIZATION DOES
IN ADDITION TO SOLVING PROBLEMS, KCS BECOMES
THE PROCESS FOR SOLVING PROBLEMS.**

Content is King – Creating and evolving solutions

KCS captures and evolves the organization's collective experience through a knowledge object we call the *solution*. Our goal in creating solutions is to make them findable and usable by a target audience. Solutions are more than just answers; it turns out answers in the absence of the question are not very useful! A few important concepts about solutions:

- A solution captures the entire experience of answering a question or solving a problem.
- Solution creation should start as close to the point of demand (user/customer) as possible.
- Solutions include the question or problem in the users/customer's context (vocabulary)
- Solutions are not verbose, they are made up of brief statements that represent complete thoughts, like a good outline
- A solution is structured; the problem or question being addressed is distinct from information about the environment (i.e. hardware/software products, release levels)
- Solutions have a life cycle; they evolve through use and the visibility of the solution is based on its state. Solution states like work-in-progress, draft,

verified and published influence the solution's visibility (not everyone can see everything in the knowledgebase)

- Solutions are not static, they are dynamic; every time a solution is used it should be updated and improved
- Solutions are not complete until they are obsolete!

The KCS practices and processes focus on solution creation, reuse and evolution.

The solve loop - The KCS Practices

- **Capture in the workflow** - context and content are captured as the problem is being solved. In the case of web-based self-help, the customer begins the capture process as they are looking for a solution in the knowledgebase. Their search statements become a framed solution that is submitted to the support center in the event they decide to request assistance. Then, as the support analyst interacts with the customer the key points are captured in the solution. When the support analysts closes the incident or hangs up the phone there is a reusable solution in the knowledgebase. If the problem was resolved, others have immediate access to the solution; this avoids re-creating answers to problems that have already been solved. If the problem was not resolved, the solution is available to others so the organization knows that the problem is being worked on.

Solutions are reviewed based on demand (re-use). As others find solutions in the knowledgebase that are valuable, they are responsible to ensure the solution is complete and appropriate to deliver to the customer, a judgment they make every day in the call-centric environment. In this way only the solutions that are being used are being reviewed. If the solution is not reused there is no post call knowledge engineering on the solution, this is very important to the economics of the KCS methodology. Support analysts are trained to create well structured solutions in the workflow.

- **Structure for reuse** - there are two elements to structure, the Structured Problem Solving Process and the structure of content. The Structured Problem Solving Process is about managing the conversation with the customer to separate the administrative elements of the call from the problem solving elements of the call. Structured problem solving also emphasizes three phases of problem solving; literal, diagnostic and research. The literal phase involves listening to the customer and framing the problem in their terms (this may be done by the customer via a web interface). This is also the phase where the knowledge base is engaged to determine, as early in the process as possible, if the problem is known. We often find that analysts jump too quickly into the diagnostic and research phases in their desire to solve the problem. When this happens we miss capturing the

customer's context and determining if the problem is known. This results in wasted effort, solving problems that have already been solved.

The second part of structure refers to the content of the solution. Statements in the solution are complete thoughts, not complete sentences (we are not expecting the support staff to become technical writers). Statements have roles; the problem description, the environment and the fix or resolution. This simple structure gives the statements in the solution context and greatly improves the relevance of what people find when they interact with the knowledgebase. Simple structure also adds to the readability and usability of the solutions.

- **Searching is creating** - As people interact with the knowledgebase their search statements are preserved. There are two outcomes of searching, a solution is found that resolves the problem or a solution for this problem does not yet exist. In the case where a solution is being reused, the statements that were used to search are possible updates to the existing solution. In the event no existing solution is found the search statements become the basis for a new solution. This preserves the context (language) of the situation in the requestors' terms. The unsuccessful search statements become a framed solution that is submitted to the support structure for resolution. When the answer is determined, the framed solution is finished by adding the resolution. The process of framing and finishing solutions draws people into using the knowledgebase as the basis for problem solving, which in turn ensures the collective experience of the organization is being captured and applied to solving problems.
- **Just-in-time solution quality** - The culture of the KCS environment is such that people take responsibility for what they see in the knowledgebase. If a solution is considered good enough to give to a customer (in the judgment of the analyst it meets the requirements of the situation) it should be immediately available to the peers of the analyst who delivered it. If that solution is found by another analyst, they must review it for appropriateness for the situation they are working on, they may modify or update the solution to ensure it is appropriate for their specific situation. If a solution is unclear or incomplete, they fix it or flag it for review by someone who can fix it. Solutions are reviewed and evolve in the workflow based on demand.

We know from experience that 80% of what is in the knowledgebase will never be reused, 20% of what is in the knowledgebase will be reused and some of that 20% will be reused a lot. A process that requires review of 100% of the solutions that are created is therefore a huge waste of time

and money. The demand driven review process is a critical factor in the efficiency of the KCS methodology. This system works best when the analysts are trained on KCS as a problem solving methodology.

It is important to note that different players have different levels of authority in the system for visibility and update, not everyone can see or update everything. The companies that have been successful with KCS have implemented an internal KCS certification or licensing program that links a Support Analysts rights and privileges within the system to their demonstrated KCS competency. KCS proficiency management is part of the performance assessment processes in the evolve loop.

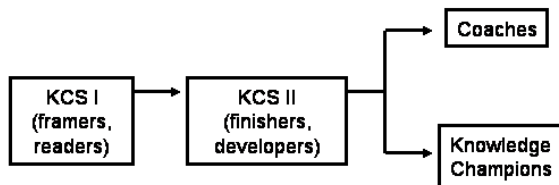
A program to develop and maintain the support agents KCS skills is critical.

KCS Practice competencies - skills and abilities

(Certification criteria for individual roles within the organization)

- KCS I (framer, reader/commenter)
- KCS II (finisher, knowledge developer)
- Coach (KCS practice expert, proficiency development of KCS I & IIs)
- Knowledge Champion (content monitoring and improvement)

KCS Competency Evolution



The Evolve loop – The KCS Processes

- **Workflow** – We want a repeatable process that creates and updates content as problems are solved. This requires tools and technology that support the Structured Problem Solving Process. In the support center environment, it is important that the call management system be integrated with the knowledge management system such that it is easy to put content in correct fields without duplication or excessive navigation. Following are some key considerations in the area of workflow:
 - Processes and tools must support Structured Problem Solving -
 - Start with the literal, move to diagnosis then to research
 - Search early, search often
 - Integration of call management, knowledge management and problem solving systems with the process
 - Infrastructure/tools must align with the workflow and function at the speed of conversation
 - Ideally the knowledgebase enables/facilitates access to both content and relevant resources (people)
 - Feedback is captured as part of the interaction with content and people
 - Content is both reviewed and improved in the workflow based on demand

- **Content and the content life cycle** – Our goal is to create Solutions (content) that are findable and usable and that are migrated to new audiences based on demand. As Solutions are captured in the workflow they are built to adhere to the content standard for the organization and made available to the peers of the person who created the solution. For example, a level two analyst creates a solution, that solution is immediately visible/searchable by other level two analysts. If the solution is reused by a peer (and therefore reviewed) it would be flagged as a candidate to be made available to level one analysts. In this way, solutions are constantly migrated closer and closer to the customer based on demand.
 - A content standard for each collection of content that defines rules for solution structure, preferred vocabulary, solution states and visibility and defines what a good solution looks like for a product family (or collection)
 - A process of sampling the knowledgebase for solution quality and feedback to the creators and modifiers of solutions
 - Content evolution; the migration of content to new audiences based on demand, content that is being reused should be reviewed for context and made available to an ever broadening audience.
 - A process to identify overlap and gaps in collections of content to drive improvements to the content standard and workflow
 - Identification of patterns and trends in collections of content to drive product/application improvements that will eliminate the source of the problem (this most often involves development/engineering)

- **Performance assessment** – The organization must facilitate and encourage participation in the KCS practices and then recognize and reward those who create value. Most organizations find they must shift their performance assessment

practices from individual and activity focused measures to team and value creation measures. A very helpful concept, from the book "The Balance Scorecard" by Kaplan and Nolan, distinguishes performance drivers (understanding why) from leading indicators (activities) from outcomes (the results). We have found, without exception, that when an organization places goals on leading indicators (activities), such as Solution creation, reuse or modification, it compromises the quality of the knowledgebase. In a KCS environment, management must take responsibility for the performance drivers, goals should be set for the desired outcomes and the knowledge developers (support agents) must have visibility to responsibility for the leading indicators and trends.

Some of the critical considerations for performance assessment are:

- Monitor leading indicators(activities) and make them visible to the players
 - Proficiency management, license metaphor (application of the KCS Skills and abilities)
 - Persistent Feedback, integration of objective and subjective feedback
 - Panoramic attention for those who are creating value (reputation model)
 - Rewards, recognition and compensation linked to the creation of value (not activities)
- **Leadership** - The adoption of KCS is transformational and requires strong leadership. Understanding the relevance of KCS to the organization, how it links to the organizational goals and what it means in terms of changes to the management practices is critical. The leadership of the organization must have a vision and be able to articulate that vision in terms that each of the layers of the organization can relate to. A clear understanding of the organization's purpose values and goals is required in order for the players in the organization to make the right decisions on accomplishing the goals. Leadership should focus on what the organization needs to accomplish and the people doing the work should be allowed to determine how.

**INVITING
Vs
IMPOSING**

Key considerations for leadership include:

- Creation and communication of a vision and a purpose
- Alignment of the organization, understanding and agreement to the purpose
- Definition of success
- Definition of the scope
- Encourage, support, recognize and reward innovation and the creation of value.

How does an organization make the transition to KCS?

A few things we have learned about knowledge that may seem counter intuitive:

- Knowledge is not pristine, it is messy and chaotic. How well organized is our own knowledge?
- It is not static, it is dynamic. Do any of us feel we are done learning? Do we have complete knowledge about anything?
- It is as much about context as content. Information out of context is useless. We have a lot to learn about context.
- It is not about technology, it is about people, values, connections and creating knowledge flows.
- "Knowledge is the by product of experience and/or interaction" Livia Wilson.
- Customers know more than vendors give them credit for - we have created an arbitrary boundary between us and our customers which is not helpful.
- "We don't know what we know until someone asks us." David Snowden.
The most valuable stuff we know becomes clear as a result of demand.
- "Companies don't own the knowledge ... at best, they lease it from the employees." Hubert Saint-Onge.
- Knowledge is personal. How important is what we know to who we are? Knowledge is a significant element in our identity.

David Snowden from IBM's Knowledge Management Institute points out "Knowledge can not be conscripted - it can only be volunteered." The theme in a successful adoption of KCS is an invitation to engage. Successful adoption requires the creation of new heroes; a new role model in the organization. Equally important is an invitation to engage in something that creates an emotional connection for people. It requires alignment to a purpose that people can relate to and value. Knowledge is personal - business, generally, is not. The business model must engage the hearts and minds of the people, as they are the source of knowledge and therefore the source of value in a knowledge-based economy.

According to Steve Young, Compaq's Vice President of Consumer Product Support, "focusing attention on knowledge and the team shifts the organization from an escalation model to a collaboration model."

The adoption of KCS inevitably changes the nature of interaction between the levels/tiers in the traditional support model. The distinction between support levels diminishes, creating a sense of one team aligned to a common purpose.

KCS adoption requires strong leadership - not strong management

In Summary

1. KCS is not in *addition* to the process of solving problems, *KCS becomes* the problem solving process.
2. Content (solutions) are created as a by-product of solving a problem.
3. Demand driven content creation and review, done in the workflow, focuses the organization on improving the valuable content and not investing time on content that is not being used.
4. Just in time training - The solutions in the knowledge base help speed the delivery of answers to known questions and problems as well as help analysts solve new problems faster because of the shared experience. It is just-in-time training Vs just-in-case training.
5. Wholly beneficial - KCS does not compromise anyone, all the stakeholders; customers, employees and the business benefit from the KCS methodology.

You can learn more about the Consortium for Service Innovation's Knowledge-Centered Support program and how it might be of value to you or your company by visiting our website at www.serviceinnovation.org.

If your organization would like to participate in the continuing evolution of the Knowledge-Centered Support models or other programs under way, consider joining the Consortium for Service Innovation. Information on membership is also available on our website.

The Consortium for Service Innovation is a non-profit alliance of customer service organizations that are working together to solve industry-wide challenges.

The Consortium's Mission is to drive innovation for the customer service industry through participation of industry leaders and cross industry perspectives. The Consortium is dedicated to improving the customer's experience with service and support through the development of innovative strategies, business models and standards.

The Consortium strategies, business models, standards and guidelines are produced through the activities of Consortium program teams. The program teams produce white papers, business frameworks, specifications, implementation guides, best practices based on experience and results from member implementations. The work and results of the program teams are reported at the annual member conference held each year in October.

The Consortium also offers executive briefings, opportunity assessments, workshops and coaching for early adopters of the Consortium models.

**So . . .
WHAT'S
DIFFERENT
ABOUT
KCS?**

**ABOUT
THE
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SERVICE
INNOVATION**

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