ITIL®

Synergies between ITIL® and Knowledge-Centered Support (KCS℠)

Together, ITIL and KCS can improve IT service management

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Contents

1 Executive Summary

ITIL provides guidance to service providers on the provision of quality IT services and on the processes, functions, and other capabilities needed to support them. ITIL provides a framework for what needs to be addressed. Knowledge-Centered Support (KCS) provides detailed guidance for capturing, structuring, reusing, and improving the knowledge articles that enable processes, functions, and other capabilities that improve a service provider's efficiency and effectiveness. This contributes to the achievement of the business's goals and objectives. Thus, KCS complements the ITIL framework by providing a specific knowledge management methodology.

ITIL is the most recognized framework for the set of practices known as IT service management (ITSM), which focus on ensuring the alignment of IT services with business needs. KCS is the set of best practices that focuses on the use of knowledge—especially within support—as a key asset in facilitating the achievement of business goals. KCS extends the knowledge management description as laid out in ITIL's *Service Transition*, and they share the same core objective: improving the quality of services and service provisioning to support business processes.

ITIL is intended to foster increased value of the services provided to customers, improved services that meet business needs, improved customer experience, satisfaction, and loyalty, improved employee satisfaction and loyalty, improved productivity, and the continued ability to meet the needs of the business. The practices described in KCS can facilitate and enhance the ways in which knowledge can be used to accomplish these goals. Both ITIL and KCS continue to evolve to meet the changes faced by organizations.

Communications and meaningful processes are critical to service providers' success. With regard to knowledge management, KCS utilizes a dual-loop process to describe its practices (**Figure 1**): a *solve loop*, including the Capture, Structure, Reuse, and Improve practices, and an *evolve loop*, including the Content Health, Process and Integration, Performance Assessment, and Leadership and Communication practices. ITIL organizes its processes into five lifecycle phases (**Figure 2**): Service Strategy, Service Design, Service Transition, Service Operations, and overarching Continual Service Improvement.

Adopting KCS can augment ITIL processes, adding specific methods for knowledge management that can assist in the processes themselves, as well as in overall efforts toward Continual Service Improvement. In order to derive the full benefits of KCS, "the organization must shift to a perspective that sees knowledge as an asset owned and maintained by the team, not by an individual or a small group of dedicated content creators. The focus of the team is to capture and improve the collective knowledge—not only to solve individual customer issues, but also to improve organizational learning."[1]

While both ITIL and KCS are recognized as best practices that can help an organization achieve its goals and objectives, as well as the business's, neither ITIL nor KCS are the goals unto themselves.

Whether adopting ITIL or KCS (or both), there are two similar challenges: first, putting them into practice; second, integrating these practices with other frameworks and standards. The KCS practices not only complement ITIL, they're also synergistic, providing guidance on how to capture, structure, reuse, and improve knowledge in order to improve the quality of the IT services delivered. KCS is not something extra that is done in addition to incident, request, event, or problem management; KCS provides guidance on how the organization should integrate knowledge management with incident, request, event, problem, change, release and deployment, testing, and validation management.

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[1] Consortium for Service Innovation, "KCS Practices Guide v5.3: KCS Benefits, Measures, and Phases of Adoption" (November 8, 2012), **http://library.serviceinnovation.org/KCS_Practices_Guide/020/020**.
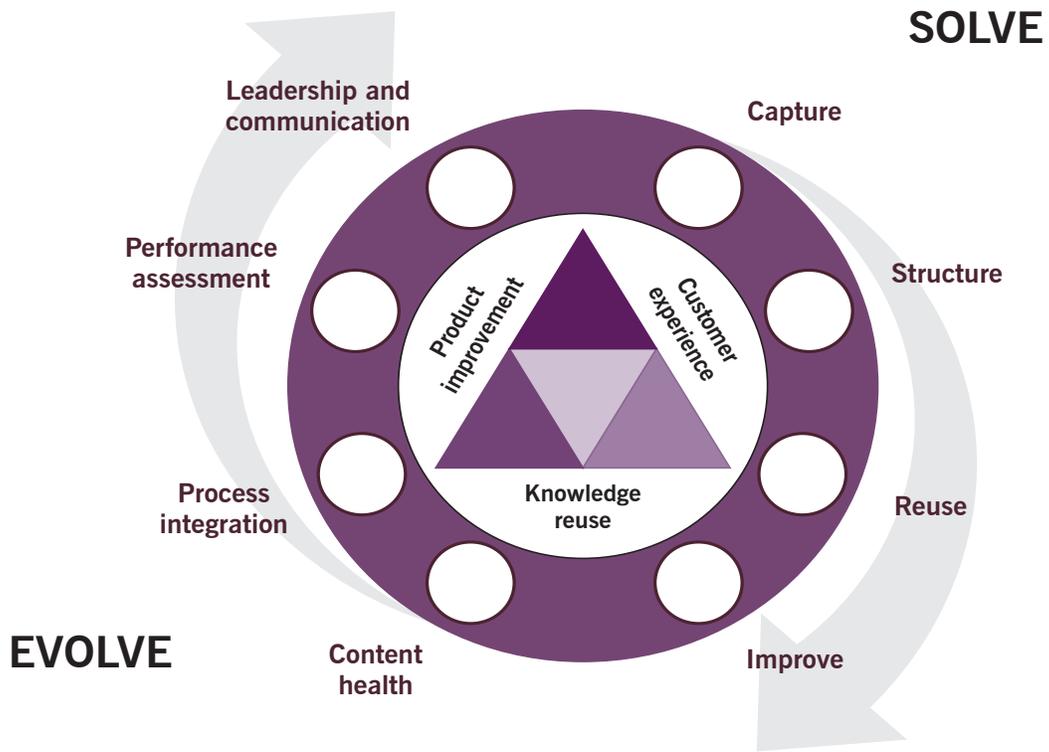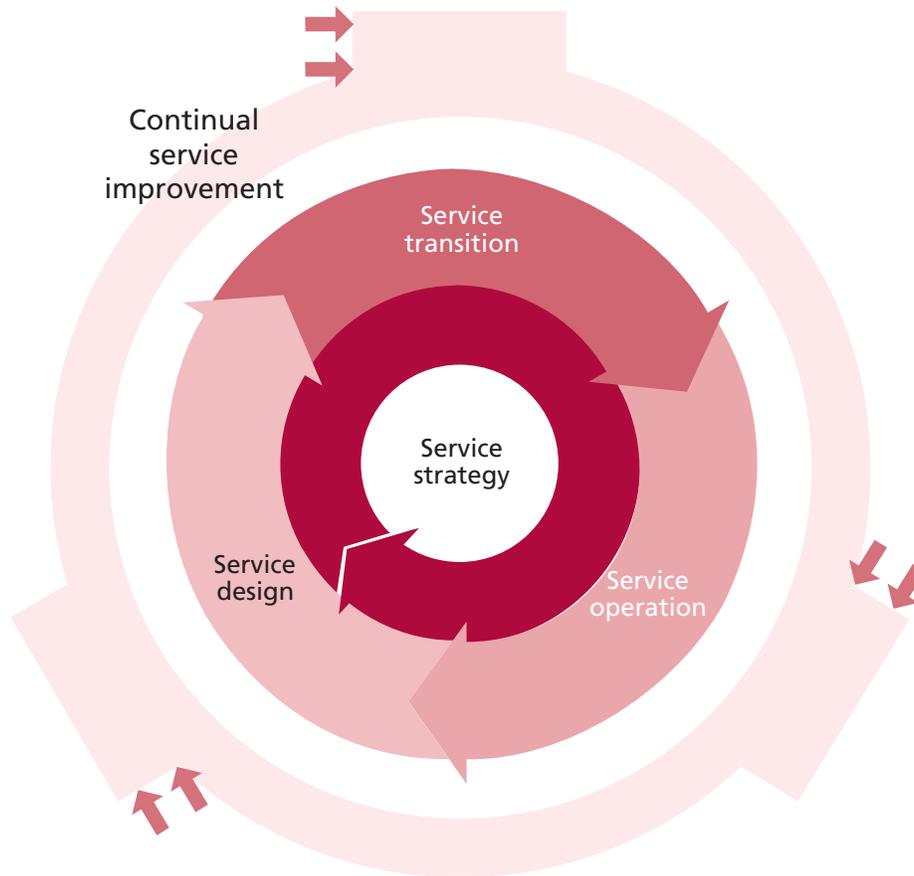
Figure 1   The KCS double-loop cycle

Figure 2   The ITIL lifecycle

2   Histories of ITIL and KCS

2.1 THE HISTORY OF ITIL

The histories of ITIL and KCS share many similarities. ITIL was initially developed in the 1980s to ensure that the UK government's IT services were providing value and IT resources were being allocated in a fiscally responsible manner. The ITIL framework addressed the management of these resources without addressing any particular technologies. ITIL was subsequently updated in early 2000s, decreasing the number of books from forty-two to seven.

As organizations began to understand the value of the framework, it was rapidly adopted by other governments and commercial organizations. However, they soon realized that training and certification were required for those individuals who would train and consult on ITSM using the ITIL framework as well as those who would work within organizations adopting ITIL. The Foundation certification, Practitioner certifications, and Manager certificate in ITSM were developed to meet this need.

In 2007, ITIL evolved into the current lifecycle approach and a consistent qualification scheme: Foundation, Intermediate lifecycle and capabilities, and Expert and Master Certifications. The ITIL framework was again updated in 2011 to clarify the lifecycle approach and evolve the framework based on the lessons learned by practicing organizations.

2.2 THE HISTORY OF KCS

KCS was developed by the **Consortium for Service Innovation**, a nonprofit alliance of support organizations, as a methodology for improving both its members' business operations and the customer experience overall. The basic premise of KCS is the capture, structure, and reuse of knowledge. As a methodology and a set of practices, KCS focuses on *knowledge as a key asset of the support organization*. It has four basic concepts:

- Integrate the creation and maintenance of knowledge into the customer exception process.
- Evolve the knowledge based on demand and usage.
- Develop a knowledge base of the collective experience of the organization.
- Recognize learning, collaboration, sharing, and improvement.

Until 2003, the KCS methodology was primarily available to members of the Consortium, and most implementations were highly customized. That year, HDI and the Consortium partnered to bring the KCS methodology to HDI members. KCS has been updated several times since—2003 (v3), 2005 (v4), 2006 (v4.1), 2011(v5, v5.1), and 2013 (v5.3)—each update incorporating the experiences of KCS practitioners. HDI and the Consortium then shared those experiences with the community.

As with ITIL, as more organizations adopted the KCS methodology, the need for training and certification became more apparent. The first KCS certification was introduced by HDI (in conjunction with the Consortium) in 2007. Similar to the ITIL certification schema, KCS has three levels of certification: a foundation level, which provides a basic awareness of the methodology and practices; an intermediate level for those who are developing the KCS practices; and an expert level.

2.3 ITIL + KCS

While ITIL seeks to ensure that IT services are aligned with business goals, KCS focuses specifically on using knowledge to support and realize these organizational goals and objectives. While ITIL's primary focus is on IT service providers, the service lifecycle concept applies to all service providers (e.g., hospitality, healthcare, human resources, facilities, etc.). The KCS methodology can also apply to and be used by IT support, customer support, and business unit support in any of these lines of business

As ITIL and KCS were developed independently of each other, some terms have different definitions.

Customers in KCS are **users** in ITIL.

In KCS, a **customer exception** represents any issue a user has where assisted service or self-service could be used to provide a resolution (i.e., enable the user to return to their original task). In ITIL, a **customer exception** could be an incident, request, or an event.

Best practices continue to evolve and change based on the experiences of the organizations using KCS and ITIL—or, more specifically, the experiences of people, the innovation of processes, and the adaptation of technology to support changes in business needs. These adaptations are documented and shared within the respective (ITIL and KCS) communities. The continued development of KCS and ITIL practices reflects the changing world.

Neither ITIL nor KCS is based on technology, yet both recognize that technology *enables* processes and practices. To effectively practice ITIL, a service management toolset is required. To effectively leverage knowledge, it must be easily captured, structured, searched for, and reused. The same service management toolset used to record incidents and service requests, and manage events, changes, and releases, needs to be integrated with knowledge across the organization. The degree to which the technology supports ITIL or KCS can impact the effectiveness or maturity of the practices, but the organization's success is not dependent on the technology; it is dependent on people and how they *use* the technology. Technology can be an enabler or an inhibitor; it cannot ultimately determine success, but it can enhance or limit an organization's ability to improve the support it provides for its customers.

2.4 KEY CHALLENGES FOR ITIL AND KCS

ITIL and KCS also share some fundamental challenges: in particular, changing the beliefs, attitudes, and behaviours of people who have been in the same job and performing the same tasks for many years. In order for an organization to realize the benefits of either of these best practices, the people doing the work must change *how* they work. Best practices—including ITIL and KCS—can be transformational, resulting in real cultural and organizational changes.

When we change how people do their jobs, we challenge the status quo, changing how organizations have traditionally worked, how people have performed their tasks and activities, and even how the organization structures and selects success indicators. People do not necessarily like change, and changing how people do their jobs, using different indicators of success, and implementing different success metrics can be very stressful. Successful change requires leaders to have organizational change management competencies, and the same skills that help organizations adapt to, develop, and consistently practice the ITIL lifecycle approach are also needed to implement and practice KCS.

3   KCS complements the ITIL lifecycle

3.1 KCS AND SERVICE OPERATIONS

Whether adopting ITIL or KCS—or both—Service Operations is probably where most organizations start, initially focusing on incidents and requests at the service desk. This is the easiest place to begin, as the operational improvements are easy to identify and can have a quick return on investment (ROI). Although it is the easiest place to begin, it may not be the appropriate place for any given organization. Each organization should consider where and how improvements produced by adopting ITIL and KCS can make the most difference.

KCS can improve the service desk's first contact resolution, handle time, and restoration time by providing easily searchable, useable knowledge articles that contain advice, information, and guidance that reduce downtime for users and improve service restoration time for requests. Knowledge reuse is even more valuable when it is implemented at levels 2 and 3, where the ROI can be even greater

than that which can be realized at level 1. Fewer interruptions for the level 2 and 3 staff should result in higher quality strategic projects, completed on time and on budget. KCS also provides guidance on moving articles closer to the point of demand—from level 3 to level 2, level 2 to level 1, and level 1 to level 0 (self-service)—resulting in higher productivity for support and reduced downtime for users. KCS also facilitates the creation of self-service articles in the context of the customer, which improving those articles' findability and usability, and increases the ROI for the KCS investment.

KCS isn't something extra; it is *how* an organization does incident management, request management, and event management. It is *how* questions are answered, articles are reused, and experiences are shared. Organizations that practice KCS effectively integrate KCS into their ITSM processes.

But KCS recognizes that not all knowledge articles are equal, and in a typical knowledge engineering approach (for support), only 20% of articles are reused. If an organization puts equal resources into reviewing, editing, and publishing each article, then there is significant waste, as 80% of these articles will not be reused. KCS is a demand-driven system; resources should only be allocated to improve knowledge *when* it is reused, not *in case* it is reused. Information from the knowledge system can then support problem, change, release and deployment, testing and validation, as well as business continuity, and can be a significant contributor to Continual Service Improvement.

KCS and incident management

One of the key incident management activities is *incident matching*, or the ability to reuse information in the service management system to resolve similar issues faster. Incident matching isn't feasible in most organizations, as the structure of the incident and request records does not lend itself to matching, and it would take too long if analysts tried. With KCS, knowledge is captured and made available for reuse during the resolution process, simplifying the incident documentation process and creating records that are more searchable, more readable, and more usable. The result is that searches will find the correct knowledge articles faster, reducing handle time and thus reducing downtime and improving productivity for the organization. It will also provide a better foundation for the self-service article; consequently, more users will be able to find the article, which will, in turn, increase self-service utilization. Additionally, KCS recommends a structured problem-solving approach, which, when followed, increases the probability of finding a match. This results in improved documentation, decreased escalations, and increased confidence in the support organization.

In most organizations, incidents, requests, and events tend to recur. To provide the best service, the following three steps are integral to improving performance, and they flow directly from KCS practices:

- Staff must first seek to find and *use* an existing knowledge article before they seek to solve the issue and create a new knowledge article. Seeking and finding existing, known articles will increase the consistency of resolutions and workarounds, decrease downtime for the organization, and decrease overall support costs.

- If the knowledge article is incorrect or could be improved, staff must take ownership for the improvement. If they have the rights to modify the article, they are responsible to *fix it* (update the knowledge article). If they do not have the rights to modify the knowledge article, they must *flag it*. As part of *flag it*, they are also responsible for commenting on the article (including the reason why it was flagged). Someone who has the authority to *fix it* completes the knowledge article modification.

- If they do not find an existing knowledge article, then they should continue to follow the steps in the incident (request, event) process: investigate, diagnose, resolve, and recover. Once the resolution (or workaround) has been identified, they *add* the new knowledge article so it is available for others to reuse.

The key to this improved performance is the adoption of the Use It, Flag It, Fix It, Add It (UFFA) mindset and the integration of these practices into the incident, request, and event management processes (**Figure 3**).
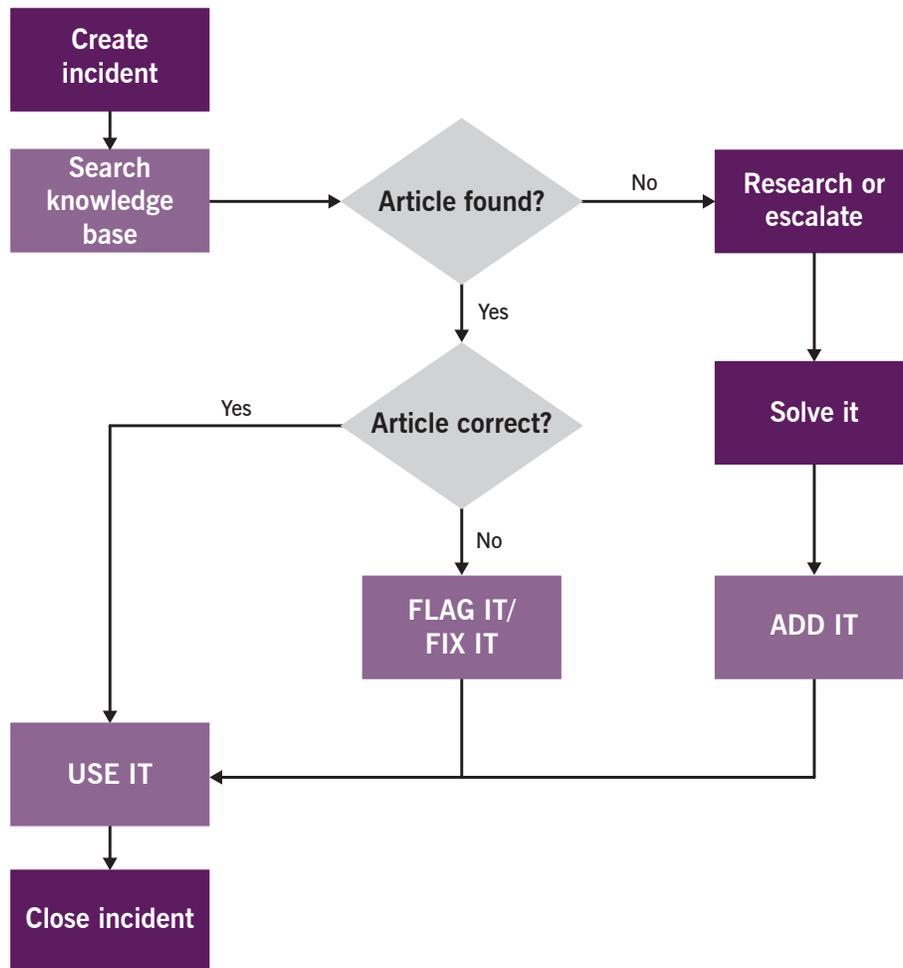
Figure 3   The UFFA workflow

KCS and request management

The highest volume of contacts for most service desks is requests—providing advice or guidance—and KCS enhances the processes used by the service desk to document, track, and understand the type of work generated by requests. These requests can be for common, repetitive questions, business process advice, or questions on standard operating procedures (SOPs). KCS supports request management processes by making relevant knowledge articles available through self-service, which enables users to better manage their time and achieve their goals by removing assisted support as a step in the path toward accomplishing their tasks.

KCS and event management

KCS also provides consistent responses for Event Management. Typically, operations management receives a large volume of alerts for review, and often each has to be reviewed manually, with appropriate action then taken based on the specific error message. Consequently, analysts often develop their own procedures for troubleshooting and verifying various events. KCS can provide a single-source repository for operations management, with information on handling each type of alert consistently, following SOPs defined by technical management and operations management. Once this information has been documented, it can then be analysed by problem management, technical management, and applications management to identify improvements, resulting in better service quality and increased productivity.

KCS and problem management

Many organizations struggle with Problem Management, dealing only with major incidents because they lack data and information about incident/request recurrence and are unable to link recurring incidents/requests to problems. With KCS practices in place, knowledge articles can be linked to problem records, or the articles themselves can contain the information Problem Management needs to understand the scope and impact of problems. Everyone in the support chain, through their use and/or reuse of articles, can improve the quality of information on problems, increasing the impact of Problem Management and the quality of the services provided.

In addition to faster resolution (through matching), KCS practices can provide information on articles reuse, the cost of support, user downtime for each interruption, and the impact of each type of interruption on the business. This information can then be used to determine which problems should have change requests (RFCs) and which problems should remain known errors (KEs)—no changes recommended—due to cost or business priorities. The improved documentation in the incident, request, and event records, plus the information from the reuse of knowledge articles, can enable better Problem Management analysis and understanding of the organizational impact, risk, and cost of the recurring issues.

Problem Management trending and analysis is often constrained by the quality of the incident records. With KCS, trend analysis shifts from incident classification to the reuse of knowledge articles, as each article is linked to the incidents that were closed using that article. In a typical enterprise organization (without KCS), trend analysis involves analysing the classification structure within the incident record, which often isn't appropriate for either incident or problem reporting. The result is that analysing incident records can be a complex task, and too often the classification data is inaccurate or incomplete for the needs of problem management. Knowledge article reuse can increase the efficiency and effectiveness of trend analysis, allowing Problem Management to spend more time identifying root causes, developing fixes, and preparing changes.

With each release, there should be a KE record for every bug, issue, or anomaly. These records need to be findable and usable, so that when someone contacts support with a question related to a KE, analysts can restore the service, provide the workaround, or add the issue to the list of symptoms for that problem. Using KCS practices, organizations can stop rediscovering problems and recreating solutions each time a KE is reported.

KCS and access management

In an era of heightened cyber-security concerns, Access Management and its underlying processes and procedures should be key areas of focus for organizations. Too often, however, knowledge management is overlooked when it comes to Access Management. There are numerous policies, compliance procedures, and work instructions involved in Access Management, and the ability to easily find the correct procedure or work instruction—and to know how often these are accessed—can provide security, access, and compliance management teams with the information they need to better understand these concerns as well as the costs of access management policies.

3.2 KCS AND SERVICE TRANSITION

One of the processes identified in the Service Transition phase is the Service Knowledge Management System (SKMS). The SKMS is a comprehensive approach to all of the knowledge needed for any ITIL process, across all the lifecycle phases. KCS can be an essential component of any SKMS solution, providing data, information, and knowledge to inform core ITIL processes in Service Operation. As KCS matures, information that can improve products and services can also be made available to Service Design and Continual Service Improvement.

KCS and change management

Change Management is the control point, where the modifications that will be made to services, infrastructure, documentation, etc. are determined. There are often many questions when a change is being reviewed, specifically when the change or fix is in response to customer improvement requests. A change request that is tied to an existing knowledge article can leverage the knowledge article reuse counter (and links to the incident records) to better understand the organizational cost of not making the change, or the return on investment if the change is made. The creation and reuse of knowledge articles related to a change can indicate the quality of the change, and this data should be included in the post-implementation review. Thus, requirements for knowledge articles, as well as the update and modification of existing knowledge articles impacted by a change, should be included in the change approval process.

KCS and release and deployment

As organizations plan releases and test deployments, they typically collect a significant amount of information that is never captured for reuse, meaning that each successive iteration requires the recreation of solutions. Similarly, during the pilot phase of a deployment, release teams make a number of discoveries about changes and releases; again, most often this information is not captured, resulting in continuing rediscovery vs. knowledge reuse. KCS practices enable the organization to quickly identify and resolve recurring issues (as many issues are recurrences of KEs) and assist with the diagnosis and isolation of new issues by identifying similar issues and resolutions already captured in the knowledge base.

When KCS is integrated into release and deployment processes, the issues identified during testing and pilot phases can be documented with knowledge articles. Knowledge articles created during these phases can then be made available for the release teams and the service desk at the time of general release. (Training staff are responsible for creating knowledge articles when asked for guidance, advice, and information on the release.[2]) This knowledge can also be analysed and used to make appropriate reporting available on the quality of changes, as well as identify opportunities for improvement within specific technical and application areas.

KCS and testing and validation

While testing and validation are often modified to meet schedules, there is the potential for significant productivity improvement with the use and/or reuse of knowledge articles, particularly with regard to common testing questions, repetitive set-up issues, etc. Testing and validation can be a significant source of articles for reuse; the pilot teams and level 1 and 2 support can capture knowledge for issues not resolved prior to deployment.

As with the Release and Deployment processes, KCS places the responsibility for capturing knowledge articles identified in Testing and Validation with that process, minimizing the impact of any KEs and making this knowledge available for reuse.

3.3 KCS AND CONTINUAL SERVICE IMPROVEMENT

Continual improvement is fundamental to the KCS methodology: knowledge articles are continually improved through *reuse* and *improve*, two of the KCS solve loop practices. Additionally, each person who reuses an article is responsible for the quality of that article, in addition to quality monitoring conducted by coaches. KCS embodies the principles of continual improvement as it contributes to the best utilization of resources, ensuring a positive return on the investment in KCS.

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[2] While KCS does not promote the creation of articles in anticipation of a need, organizations sometimes proactively develop knowledge articles based on their experience with similar releases, to minimize the impact of any issues on the business.

Knowledge articles are improved incrementally, as they are used. Doing this enhances the findability and usability of the articles, and ensures that resources are allocated only to those articles being used—which then have an increased likelihood of being reused. Knowledge is never modified in case it *might be* used; it is modified based on the *actual reuse* of knowledge articles.

Continual Service Improvement deals primarily with service improvement plans (SIPs), which are generated whenever a service does not meet the agreed-upon levels, and ongoing service improvements, which are evaluated from the improvement register. Knowledge articles can facilitate data analysis in both areas. For recurring incidents and requests, the analysis of knowledge article reuse can help Continual Service Improvement understand where there are reoccurring issues that might impact service availability and user productivity. This analysis should also be an input for product management and product engineering, as part of a justification for an SIP or as part of an overall continual improvement plan.

Many knowledge articles will provide advice, guidance, and answers to how-to questions. The reuse of these knowledge articles, as well as the reuse of knowledge articles linked to problems, should be key factors in product/service roadmaps, improving products and services based on the issues customers have experienced and reducing the cost of the downtime to the business. With training staff also contributing to the articles, better interfaces and online help can be integrated, improving the overall customer experiences.

3.4 KCS AND SERVICE CONTINUITY MANAGEMENT

The goal of IT Service Continuity Management is to ensure that the required technical and service facilities (including computer systems, network, applications, data repositories, telecommunications, environment, technical facilities, and the service desk) can be resumed within required and agreed-upon business timescales.[3] Every change has a potential impact on the procedures, work instructions, and processes that would be used in the event of a failure; this is why continuity plans are required. No one individual could remember each change and its impact on recovery procedures, so updating knowledge articles as part of the change, release, and deployment processes and testing continuity plans are critical for an organization's ability to respond.

The detailed procedures in a continuity plan will be continually impacted by changes. Consistent with the KCS methodology, knowledge articles can identify the activities necessary to restore services, which could—in the case of a failure that invokes continuity management—be different from day-to-day SOPs. Because continuity testing is typically infrequent, if an event requires the activation of the continuity plan, quick access to these procedures is necessary. Based on experience, organizations can forecast potential issues and determine which issues should be mitigated and which should be addressed when the continuity plan is invoked. Knowledge articles can minimize the business impact and increase the probability of following the correct procedure to restore the service.

3.5 KCS AND SELF-SERVICE

Self-service is defined as the ability of a user to complete tasks without the assistance of another person. ITIL recognizes the need for and value of self-help, and how it can improve the performance of incident, access, and request management. IT self-service sites are typically used for password resets, software and hardware requests, and responses to simple, repetitive requests for information, advice, and guidance. Unfortunately, these self-service sites are often frustrating to use, as articles are difficult to find or out of date. In such cases, users will opt for assisted support.

One reason that knowledge articles are difficult for users to find and understand is that they are written from the perspective of the customer representative or technical analyst, *not* from the perspective of the

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[3] "4.6: IT Service Continuity Management," *ITIL Service Design* (TSO, 2011).

user. One advantage of KCS is that *knowledge articles are written in the context of the user*, since the articles are created as part of the support process. Having the correct context in the article will make the search easier (matching), thus make the article more "findable" as it can be located quickly using the user's search terms, and the user will be able to understand how to apply the knowledge article.

4   Summary

ITIL and KCS are both recognized as best practices for ITSM, but they are not mutually exclusive. Both are *enabled* by technology, not driven by or defined by it.

As revealed in a November 2013 white paper, the leading factors influencing support spending are supporting business growth, improving customer service, improving effectiveness, improving efficiency, reducing costs, and expanding services. Typically, these benefits are goals and objectives when organizations implement their ITSM strategies. ITIL adoption can achieve these outcomes by addressing the processes, practices, people, and cultural aspects needed to be successful; KCS provides specific additional guidance for the use of knowledge management to expedite these achievements.

If the question is raised, "Do we do ITIL or do we do KCS? Which will help us better achieve our goals?" the answer can be *both*: ITIL for the full range of ITSM, KCS for knowledge management within ITSM. When incident, problem, request, and event managers understand KCS, they quickly become advocates, as KCS enables a higher level of maturity for each of these of processes, making them more efficient and effective, reducing costs and increasing the value of each service, and increasing the value to the organization.

Incident, request, and self-service are the initial focus areas for KCS, as the improvements from these processes are easy to recognize and easy to measure, and they typically have the quickest return on investment: a reduction in user downtime, a decrease in restoration times, and a reduction in escalations to level 2 and 3 (and therefore an increase in productivity for those staffs). Unfortunately, too many organizations stop here. They don't spread the use of knowledge to other areas where product improvements can be realized.

The real value to the organization is in the analysis of knowledge article reuse, and using the result of those analyses to improve the quality of the business services that support business processes. Organizations need to maintain focus on the organization's goals and not inadvertently create goals for knowledge tools or processes that aren't aligned with those organizational goals. The goal isn't to have the best knowledge system, the most processes documented, or the highest level of process maturity; the goal is to make improvements based on best practices. ITIL, with the additional guidance provided by KCS, can help the organization achieve success in this endeavour, providing services that meet the needs of the organization, its customers, and its employees. All three need to be in balance for success.

ITIL and KCS were both developed by organizations seeking to identify best practices that would improve service management effectiveness and efficiencies and enable them to meet their needs, their customers' needs, and their employees' needs. KCS and ITIL are synergistic, and organizations that adopt both practices position themselves for increased success.

[4] Roy Atkinson, "Show Me the Value: Support's Mandate," white paper (HDI, 2013), **http://www.thinkhdi.com/~/ media/HDICorp/Files/Research-Corner/RC_Business_Value_Nov13.pdf**.

Appendix

Research has shown that incident management has historically received the greatest attention from support organizations. With the adoption of ITSM frameworks, incident management has become a common process, well understood by most organizations. As more organizations have implemented and matured their incident management process, they have come to recognize that knowledge management is needed to improve productivity and increase the value of support.

The *2013 HDI Support Center Practices & Salary Report* shows that incident and knowledge management toolsets are two of the top three must-haves for support centres, regardless of type of organization or industry (outsourced services providers are the only exception). Although the table below references *technologies*, we can extrapolate and draw conclusions about the processes *enabled* by those technologies.

Industry	#1	#2	#3
Computers – Software	**Knowledge management**	Incident management	CSAT surveying
Higher Education	Incident management	**Knowledge management**	CSAT surveying
Financial Services – Banking	**Knowledge management**	Incident management	Remote control
Government	Incident management	Remote control	**Knowledge management**
Healthcare	**Knowledge management**	Incident management	Remote control
Insurance	Incident management	**Knowledge management**	CSAT surveying
Manufacturing (noncomputer)	Incident management	**Knowledge management**	Remote control
Outsourced Services Providers	Remote control	Incident management	Reporting/analytics
Retail (includes Food and Beverage)	Incident management	**Knowledge management**	Remote control
Type of support	**#1**	**#2**	**#3**
Internal only	Incident management	Remote control	**Knowledge management**
External only	Incident management	**Knowledge management**	Automated call distribution
Blended	Incident management	**Knowledge management**	Remote control
Number of customers	**#1**	**#2**	**#3**
Small (fewer than 2,000)	Incident management	Remote control	**Knowledge management**
Medium (2,000–10,000)	Incident management	**Knowledge management**	Remote control
Large (more than 10,000)	Incident management	**Knowledge management**	Remote control

About the authors

Roy Atkinson is HDI's senior writer/analyst, acting as in-house subject matter expert and chief writer for *SupportWorld* articles and white papers. In addition to being a member of the HDI International Certification Standards Committee and the HDI Desktop Support Advisory Board, Roy is a popular speaker at HDI conferences and is well known to HDI local chapter audiences. His background is in both service desk and desktop support as well as small-business consulting. Roy's blogs regularly appear on HDIConnect, and he is highly rated on social media, especially on the topics of IT service management and customer service. He holds a master's certificate in advanced management strategy from Tulane University's A.B. Freeman School of Business, and he is a certified HDI Support Center Manager (HDI-SCM).

John Custy is the founder and principal of JPC Group, a professional services company focused on the three key factors of ITSM: people, process, and technology. John has more than twenty-five years of experience working in IT services and service management, as a practitioner, educator, and consultant, and he is a well-known speaker and educator at ITSM conferences globally. He is an HDI Certified Auditor and a member of the HDI Faculty and the HDI International Certification Standards Committee, and he was a key contributor to the development of the Support Center Practices (SCP) certification, the Software Support Certified Consultant (S2C2) program, and the HDI Support Center Certification program. John received his MA in innovation and technology from Boston University and his BS from the University of Massachusetts at Lowell. In addition, he has earned his ITIL Foundation, ITIL Manager, ITIL Expert, ISO/IEC 20000 Consultant, ISO 9000 Internal Auditor, KCS Consultant, Kepner-Tregoe (KT), HDI Support Center Manager (HDI-SCM), HDI Support Center Team Lead (HDI-SCTL), HDI Support Center Analyst (HDI-SCA), and Knowledge-Centered Support (KCS) certifications.

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About AXELOS and HDI

ABOUT AXELOS

AXELOS are a joint venture company, created by the Cabinet Office on behalf of Her Majesty's Government in the United Kingdom and Capita plc to run the global best practice portfolio, including the ITIL and PRINCE2® professional standards.

The goals of AXELOS are many and varied, each one aimed at helping businesses and individuals reach success, empowering them to truly stand out in a competitive market:

- We continually promote and advocate quality training.
- We strive to encourage growth, development and progress.
- We always look for innovative new solutions to improve best practice standards and processes across the board.

The result is improved skills that are relevant to the industry as a whole, and enhanced employability for all, benefiting the global economy. The benefit to you and your business in particular: better trained employees, streamlined operations, and the peace of mind of knowing that you are working with an industry-leading organization, which provides products and services with a long-standing reputation for setting the industry benchmark.

ABOUT HDI

HDI is the professional association and certification body for the technical service and support industry. Facilitating collaboration and networking, HDI hosts acclaimed conferences and events, produces renowned publications and research, and certifies and trains thousands of professionals each year. HDI also connects solution providers with practitioners through industry partnerships and marketing services.

Guided by an international panel of industry experts and practitioners, HDI is the premier resource for best practices and emerging trends.

Acknowledgements

Trade marks and statements