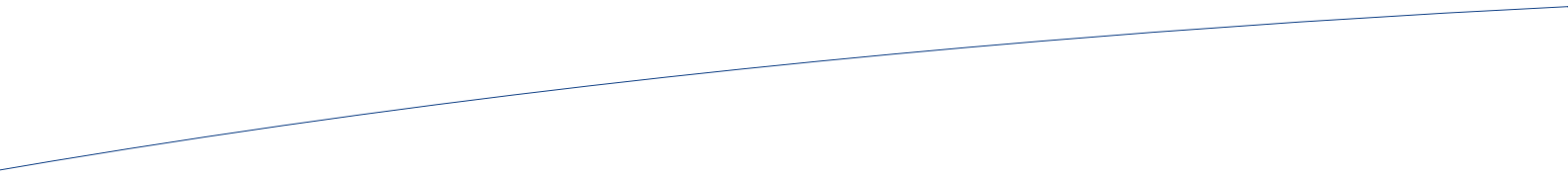




Knowledge Bases in Call and Service Centers

A Whitepaper from USU





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The service chain is a knowledge chain

Setting your business apart from the competition through service is the core of the growth strategy at many companies operating in saturated markets, for example in the telecommunications or investment goods sectors. Providing top-quality services for both external and internal customers in an economical and personalized manner is a key challenge. It's also the basis for improved customer satisfaction and sales. It requires not only having competent employees, but also having the precise information needed for the various service workflows available and being able to process it as required.

In this respect, there are three core aspects that need to be considered:

- How can companies provide solid, reliable product and service know-how in first-level support practically irrespective of who takes the call?
- How can companies transfer the knowledge generated by experts to the workstations of their customer service representatives (CSRs)?
- How can organizations meet these challenges both economically and efficiently?

Service organizations usually attempt to meet this requirement through standardization, not only when it comes to processes but also in terms of content. Standards such as DIN EN15838, ISO 9001 or ITIL® provide an effective framework for organizing processes and functions. However, in actual practice there are deficits when it comes to developing and communicating content. Essentially, it's a matter of finding the best way to organize documented sources of information. This addresses the fundamental requirements of call and service centers and includes the following objectives:

- Increasing the first-call resolution rate (and thus reducing the workload at second-level support)
- Reducing call-processing and incident-handling times
- Minimizing the time required to train newly hired service personnel
- Being able to reapply the solutions to previously solved problems, thus avoiding costly repeated analyses
- Supporting problem and solution documentation
- Ensuring a uniform and high level of quality

In the meantime, service quality has come to be seen as the most important competitive factor. For instance, in the telecommunications industry 90% of the specialists and managers consider providing excellent customer service to be their greatest challenge. However, despite this, only 27% of such organizations feel that they have really achieved this goal. In order to close this gap between aspiration and reality, standards such as EN15838 define corresponding Key Performance Indicators (KPIs), which are based on an ideal provision of information, such as resolving customers' concerns during the first contact, average processing times, or level of accuracy.²

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In order to provide the best support for the knowledge-intensive processes in call and service centers, companies need a holistic concept and a central tool that bundles all applications and information access points to act as an IT knowledge center: all in one system.

.....

The following describes the concept and functions of the USU KnowledgeCenter product line based on actual practical examples.

USU KnowledgeCenter

USU KnowledgeCenter is a professional tool kit for the intelligent provision of knowledge at the point of contact. With Release 5, USU is setting the new standard for knowledge bases. The development of this new product generation was significantly influenced by the analysis of customer workflows and integrates important Web 2.0 elements such as feedback mechanisms. By serving as the central information hub, KnowledgeCenter 5 thoroughly and consistently supports practice-based application of all knowledge-intensive data-usage and data-updating processes at service organizations. The system not only serves as a basis for a zero-error quality strategy, but also allows a demonstrable increase in productivity of some 30% compared to traditional knowledge bases.



To ensure fast provision of top-quality information, USU KnowledgeCenter 5 offers CSRs different ways of accessing knowledge and information, as required, such as by means of intelligent searches, information objects depicted as folders, „one-click navigation“ to the right solutions or integration of information from various sources. In doing so, processes such as quality assurance, problem management, incident handling and ticket management are all directly integrated. This means that the amount of manual intervention that may have to occur during self-learning processes is kept to a minimum. All functions and features in USU KnowledgeCenter 5 are designed to significantly reduce the administrative effort. Well-known companies in all sectors have been using USU products in their call centers and service centers for many years now. Municipal service centers in Cologne, Berlin and other cities also work successfully with KnowledgeCenter. USU KnowledgeCenter also provides the knowledge management technology behind Germany’s standard nationwide, direct-line telephone number (115).³

Organizing content professionally

Customer support personnel are faced with a series of challenges, including the following:

- **The variety of applications and knowledge sources available:** On the one hand, the agents work with operational systems such as ticket-handling and CRM systems, yet, on the other, they have a vast variety of information sources available to them such as the company intranet, the file system, e-mails, and so on.
- **Different language levels („registers“):** This aspect of knowledge transfer is a challenge for the service personnel every day. For instance, what is known in German bureaucratic „officialese“ as „person-separation system“ is known by the average person simply as a „turnstile“. Everyone knows the difficulties on the content side. There's technical jargon everywhere.
- **The range of topics covered:** For instance, the municipal call center in Cologne, Germany deals with a total of around 4,000 individual topics. And even if questions are repeatedly asked about the same topics, no-one can simply answer all inquiries off the top of their head.
- **The narrow time window:** CSRs have to be able to respond within seconds. This means that fast and ready access across all sources to relevant content is critical to providing targeted information.
- **The quality and reliability of the information:** Wrong answers or different information provided in response to the same question can have serious consequences especially in sensitive areas such as medicine.
- **Personnel growth and turnover:** New employees in particular struggle with the wide range of topics and their lack of experience. Structured workflows and fast access to knowledge in quality-assured documents enable even new employees to become productive within a very short space of time.

Creating a central information channel to the CSR and for the CSR is the key to mastering these challenges.

USU KnowledgeCenter

USU KnowledgeCenter is the hub for supplying all the knowledge required and is thus the primary tool for CSRs: all in one system. To enable access to all relevant information, the following functional areas are particularly important:

a) Needs-based user interface

The application bundles the various communication and information channels on one platform. It supports CSRs along their individual daily work processes. The interface can be configured as required, e.g. through information objects such as indexes or telephone lists. The integration of third-party systems, different search paths and the typical interaction options found at the service centers allow direct access across all sources to content related to the information required.

b) Individual information access

There are a wide variety of search situations and requirements depending on the prior knowledge or the frequency of searches for the given topic. USU KnowledgeCenter 5 therefore offers the following search options:

- An intelligent meta-search that incorporates homonyms and synonyms.
- The ability to individually select the required data sources.
- One-click navigation for fast navigation to the right documents by simply moving the mouse.
- Important information objects are displayed directly on the CSR's screen.
- So-called automatic info objects display documents that are used particularly frequently by other CSRs. A CSR working the late shift can thus see the topics that were inquired about during the early shift.
- A personal search and access history ensures fast access to recently used documents.

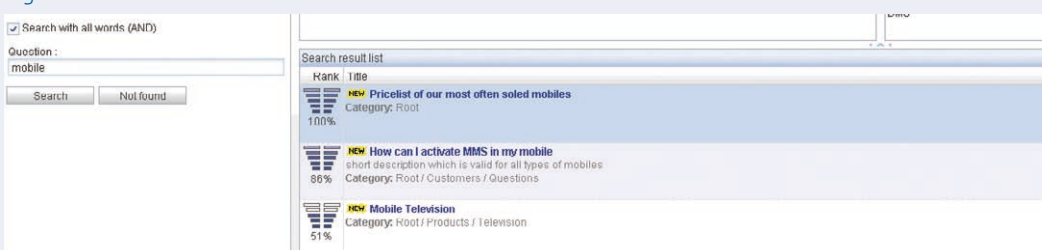
Fig. 2: Fast navigation to solution documents



c) Self-learning searches

What sets the USU KnowledgeCenter 5 apart are its self-learning functions. The learning algorithm continuously works to place more relevant documents higher up in the list of search results („hit list“). In a feedback field, CSRs can also confirm that a located document proved to be helpful to them. In this way, the system also always finds new terms in context or synonyms. By interacting with the CSRs, the search engine thus learns to correlate terms from different subject areas). The result: In actual practice, the right document is at the top of the „hit list“ in well over 80% of all searches. This ensures a uniformly high response quality. The system even learns the FAQs.

Fig. 3: List of evaluated documents



d) Not found

Another key aspect of quality assurance is a continuous improvement process (CIP). By clicking a „Not found“ button, CSRs can create a list of searched-for yet not-found topics. The search terms used without success are then automatically forwarded to the system administrator. This allows new content to be added in a targeted manner. Administrators are thus able to specify major changes so that relevant documents don't have to battle their way to the top of the hit list through numerous reconfirmations.

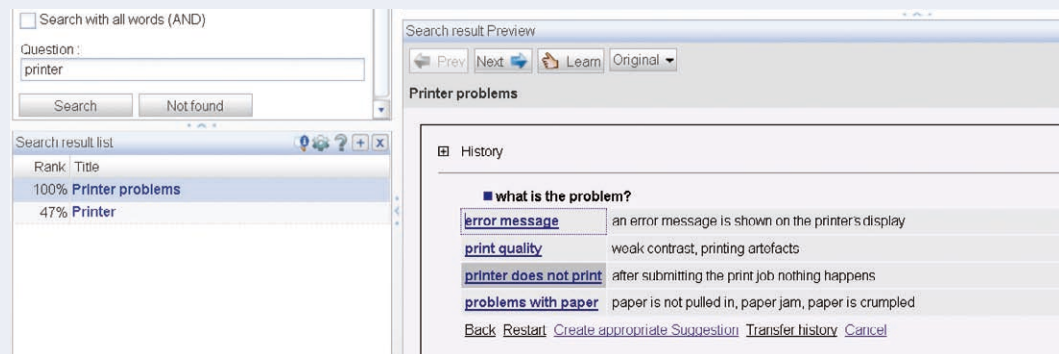
e) Document pinning

Everyone knows those practical yellow „Post-it“ notes used in daily office life. „Sticking“ notes on frequently used documents also works electronically and allows direct access to their contents. As a practical aid to making a decision, users are also shown the „pinned“ documents of other users.

f) Guided dialogs

Self-learning, dynamic decision trees support CSRs in finding the fastest route to quality-checked answers or solutions. This applies to both inbound and outbound call centers. The system asks and the user answers – and finally USU Knowledge-Center presents a selection of suitable solutions. Editors can then flexibly intervene at various dialog steps. After completion, the logged dialog is automatically saved, allowing you to clearly keep track of dialog usage and success rates. The system learns from its interaction with users. This feature ensures that you'll get to an appropriate answer in the shortest number of dialog steps and that those questions that most often produce successful results are moved further up in the process and thus asked earlier on in the problem-solving workflow.

Fig. 4: Decision trees provide fast access to solutions



Always up to date: successfully integrating news and reports

CSRs always have to have the latest information at hand. In practice, this means they can be flooded with information: New work instructions, telephone numbers, contact persons, language conventions, and so on. However, many types of information are only valid for a limited period of time and may only be up-to-date for a few hours, a day, or perhaps weeks, such as messages about a system failure or the contents of promotional campaigns. What's more, most of this information is sent globally to all employees, whether it actually concerns them or not.

In particular, employees back from vacation or those who work part-time are often inundated with a host of e-mails, most of which are either not or no longer relevant to them. Experience shows that the number of e-mails containing relevant information can be reduced by up to 80% through the use of process-integrated, professional message management.

Being daily bombarded with news not only hinders the productivity of the CSRs, but also leads to the provision of incorrect information, for example, due to the inadvertent use of out-of-date information for a new promotional campaign. The integration of changes and new information is therefore an essential part of a practice-proven knowledge base.

But how can you bundle the flood of data and channel it as really needed?
And how do you keep your employees free from data garbage?

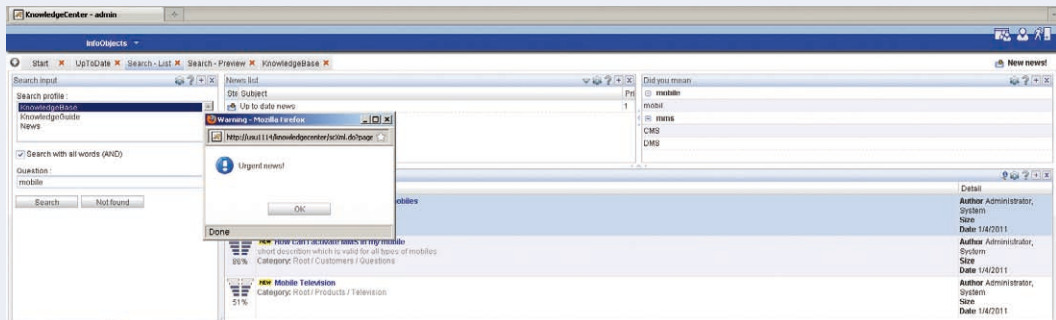
USU KnowledgeCenter

By means of its integrated reporting model and change system, it controls the life cycle of information and thus minimizes the effort involved in providing, selecting, using and updating new information.

a) Reporting function

New information is sorted based on urgency and always has a period of validity until its expiration date, when its status changes to „inactive“. This information is displayed either in a pop-up window or on a news ticker, either automatically or within the context of a topic being researched. It may also be displayed as a list of all currently active reports and news items. The editors have corresponding configuration options, but the CSRs themselves can also individually control the reports that they receive. In addition, reports are managed in their own areas known as news pools. In practice, this model of selective provision of new information usually provided by e-mail cuts down the amount of news a user actually has to read by over 80%.

Fig. 5: The integrated news concept



b) Up-to-date searches

A news function ensures that the latest and role-specific information is distributed as needed. Documents that have been changed within the last x amount of days are quickly selected and the relevant sections highlighted.

c) Messenger

The Messenger is a reporting service. It informs users about new or modified documents pertaining to a given topic area. The basis for this function is a search that can be saved with its selected terminology and topic networks, as well as selected data sources. These searches are carried out periodically, usually every night, and supply the given users with documents in their area of interest as links in an e-mail. If necessary, public or group-specific messengers can be set up in addition to personalized ones.

d) Marketing and sales campaigns

Using a document list, the „Marketing Activities“ information object provides information on the latest campaigns, such as ongoing advertising campaigns, clearance sales or other limited-time offers and promotional campaigns.

Increasing the quality of information

Documents are the linchpin of a call and service center. The quality of the information provided rises and falls with the quality of the solution documents. That's why structured preparation of the relevant knowledge is mission critical. This requires an infrastructure with established processes and roles, along with creating personal advantages for every user. In order to keep the contents up to date and maintain the process of knowledge transfer, the various roles must permanently interact: from the authors to the info team and the specialist departments, etc. In fact, in many service centers having an editing process dedicated to creating, using and updating documents has really proven its worth.

Documents of high quality must meet the following criteria:

- Up-to-date
- Technically correct
- Complete: (As a general rule), every question has one answer that covers all relevant areas.
- Easy to read and quick to interpret, with a standardized structure, not to mention being the right document: Is the title accurate or misleading? Is the structure easy to follow, for example, with the main information at the top followed by the details further down?
- Easy to find: Scanned-in leaflets, pictures, etc. cannot be found by commonly used search engines without corresponding descriptions.

Experience shows that editorial processes, document structures and document responsibilities need to be defined in good time, ideally during the design phase and, in any case, certainly before the system is rolled out. High first-call resolution rates can only be achieved if solution documents are created in a separate documentation process and the incident tickets are used solely for the purpose of transparency and not documented with the intention of using them again. The basis for achieving this is allowing enough freedom for the respective experts to create the solution documents and assure their quality. However, experience also shows that the effort required for organized provision of information is significantly less than for the otherwise usual and less organized procedure. The bottom line is that the operation of a knowledge base thus requires not more but less effort.

USU KnowledgeCenter

USU KnowledgeCenter supports the creation, use and maintenance of high-quality documents with numerous functions. A central feature of KnowledgeCenter is the clear assignment of responsibilities for the documents.

a) Feedback

By means of a feedback function, users can inform the responsible editorial team whether a document located during a search was actually helpful or not. In practice, a simple text field is sufficient to accomplish this task. The number of comments in a feedback document is not only an indication of the quality of the document, but also of the quality of the search itself. This type of feedback often results in the creation of new documents or the revision of existing ones.

b) Not found

When it comes to new topics or campaigns, it is often the case that there is still no or insufficient specific document content available in the knowledge base. That's why it's important to have a „not found“ function which documents unsuccessful searches and which is used as a basis for creating new or revising existing content.

c) Evaluations & reports

Which documents are frequently opened but never confirmed? Answers to this and other questions are provided by numerous evaluations in USU KnowledgeCenter. For each search conducted, the system anonymously logs a wealth of information such as the search term(s) used or the terminology networks accessed. This means, for example, that the knowledge requirements of users or system usage can be analyzed. A host of preconfigured reports covers the most important analysis topics.

d) Mailbox

The mailbox function provides automatic updating of the task list for each editor. At a glance, the respective editor can see which documents need to be revised and resubmitted, what feedback is available for which documents, or which links are no longer valid. Control mechanisms for the creation and release process as well as appropriate escalation processes ensure compliance with agreements.

e) Templates

Format templates are available for each document type, ensuring a uniform, ergonomic structure and enabling its relevant content to be found quickly. If, for instance, a fee is charged for a service, then the amount for this fee will always be in the same, predefined place in the document.

f) Creation and release process

Flexibly designed workflows in USU KnowledgeCenter allow a simple „one-step document creation“ process, but also support role-specific workflows, as required. This ensures that the tasks – from the specialist departments and editors down to those of the actual user – are supported on a process-oriented basis.

Fig. 6: Managing the creation, maintenance and usage of documents

The screenshot displays the 'KNOWLEDGEbase' interface. At the top, there is a navigation bar with 'New document', 'Postbox', 'View', 'Editorial', and 'Administration' options. Below this is a 'Document search - specify criteria:' section with various input fields for 'Fulltext', 'Title', 'ID', 'Type', 'Class', 'Workflow', 'Status', 'Supervisor', and 'Change date'. There are also checkboxes for 'show active documents only', 'Include sub categories', 'Show previous versions also', and 'Show own documents only'. A 'Search' button is present.

Below the search criteria is a 'Result list of document search:' section. It shows a table with 42 documents found. The table has columns for 'All', 'ID', 'Action', 'Title', 'Type', 'Status', 'Creator', 'Supervisor', 'Change', and 'Attachment'. The first few rows of the table are as follows:

All	ID	Action	Title	Type	Status	Creator	Supervisor	Change	Attachment
<input type="checkbox"/>	24		Brojke Novocondens SOB 22 C	Common	Info free	Administrator, S	Authors	17.11.2010	
<input type="checkbox"/>	25		Budens Logano plus SB105	Common	Info free	Administrator, S	Authors	21.01.2010	
<input type="checkbox"/>	23		Manual (english) Viessmann Vitotrans 300-C (19,3 kW) Common	Common	Info free	Administrator, S	Authors	21.01.2010	
<input type="checkbox"/>	22		Manual (english) Wolf System No COB-20	Common	Info free	Administrator, S	Authors	21.01.2010	
<input type="checkbox"/>	45		Christmas Campaign	Hutchison Camj	free	Administrator, S	Administrators	04.01.2011	
<input type="checkbox"/>	34		Citymap NY	Frequently used	free	Administrator, S	Authors	03.11.2010	
<input type="checkbox"/>	40		FAQ list	Frequently asked	free	Administrator, S	Authors	12.11.2010	
<input type="checkbox"/>	10		Step by step guide for basic system	Lösungen	free	Administrator, S	Administrators	21.01.2010	
<input type="checkbox"/>	41		Log	Automatic Info	free	Administrator, S	Administrators	19.11.2010	

g) Link Checker

The link checker function checks whether the links provided in the documents are still valid and, if necessary, informs the responsible editor.

Minimizing editorial costs, promoting information provision

There are many companies that are put off by the initial effort involved in establishing a knowledge base. That's because implementing the technology is one thing, the accompanying change processes in the organization are another. In addition, the quality-assured creation and maintenance of contents and solutions represent a significant cost factor, not only during implementation but also in normal operation. However, practical experience shows that only a few call centers, that primarily provide information on trivial issues or simply provide telephone exchange services, can afford to do without a knowledge base. For instance, if the same question is asked every 30 days in a 20-person service center, then it won't usually be possible to provide the answer from memory.

In service organizations, there is often an abundance of documented information, which, however,

- has different document types (solutions, workarounds, manuals, training documentation, guidelines, etc.)
- is in various formats (PDF, Word, Excel, PPT, etc.)
- sometimes describes the same issue again
- is distributed in heterogeneous data source (e-mail, file systems, Wiki, Notes database, personal archive, etc.)
- is searched for using different search functions (Outlook search, Explorer search, Wiki search, navigation, etc.).

This makes providing information inefficient. What's more, there are often no set rules as to who provides the CSRs with which information and in what form. In practice, this leads to a lot of effort being spent in providing and using information. Thus, to achieve considerably more efficiency, structured and bundled information channels, a central 360° view of all data and direct access to all relevant information are indispensable.

USU KnowledgeCenter

USU KnowledgeCenter reduces editorial costs and keeps information transfer to a minimum.

a) Meta searches

USU KnowledgeCenter is a meta search engine in two senses. First, the system employs several search engines at once, that is, it initiates and controls parallel searches by means of several search engines. This means that different data sources are simultaneously searched for relevant content. In addition, information from topic-based and terminology networks can be used to detect relationships between terms (e.g. synonyms, homonyms) or to correct spelling mistakes. It's also possible to simultaneously access structured and unstructured data. Users also benefit from proven problem solutions already identified by other users.

b) Integration of external applications

External applications such as ticket or CRM systems, product databases or financial calculators can also be very flexibly linked as information objects. USU KnowledgeCenter thus ergonomically combines all relevant resources on one interface.

c) Meta documents

“What's new in nursing care insurance?” “How high is the funding for private housing by the national government?” CSRs often only need selective content from a detailed manual or general information from an extensive document, which is why USU KnowledgeCenter allows a meta document to be set up consisting of individual documents. The overall document is generated automatically from the subdocuments through references.

e) Guided dialogs

USU KnowledgeCenter creates dialogs in the form of „dynamic decision trees“. This approach allows structured expert knowledge to be stored and reused as needed. Users are guided through complex topics, can quickly find quality-checked solutions and are thus able to make decisions faster and more reliably. An automatic generation mechanism reduces the need for manual intervention dramatically, by up to 80% compared to alternative products. That's what makes the use of decision-trees so economically attractive. Customers can also use guided dialogs as a self-service module on the internet.

Making daily work easier: deployment scenarios

Whether it's a customer hotline, ordering service, an information telephone line or an IT service center – there's a vast range of reasons for deploying call centers in different business sectors, organizational forms and company sizes. Frequently, mixed forms are encountered, such as one call center for accepting orders and one for the technical help desk. In practice, each of these service units has its own systems. In the most extreme case, there are isolated solutions for the service center, customer service, IT service, personnel service, logistics service or the technical service center. These service teams usually work with

- different user interfaces
- different external applications
- a different design
- different data

For instance, let us consider the situation of a vast multi-service financial institution with 45,000 employees: It offers services in the areas of building savings plans, insurance and banking. There are service centers, for example, for the building-fund savings department, subdivided into the specialized sections for building savings, regular savings and loans. Similarly, the insurance service center is subdivided into specialized sections for life insurance and property insurance. Added to all this are outbound call centers for scheduling appointments, marketing campaigns, customer surveys, etc. So, overall, there are seven or eight different service teams dealing with the concerns of both internal and external customers. In practice, these area-specific, acting as isolated systems, require a lot of support. The same contents are often kept several times over since each specialized group has its own copy. As a rule, there are no automated workflows for a defined process of creating and maintaining quality-checked documents.

The core requirements of a supporting knowledge and solution base concern not only the technical functional scope but also primarily the ability to integrate into and adapt to a wide variety of deployment scenarios. In short, there has to be a flexible, client-capable system that can grow to meet increasing needs.

USU KnowledgeCenter

USU KnowledgeCenter offers a centralized information infrastructure for different service groups. The respective environment is available in a flexible and client-compatible manner with a simple mouse click. Everything is included in one installation and one system.

a) User interface and client capability

USU KnowledgeCenter addresses the challenges that arise due to the presence of different service groups within companies or due to different customers served by service providers. The tool provides the right infrastructure for each user group. Whether it's a matter of design, color scheme, relevant information objects or associated data sources, each application area has its own dedicated, customized environment at its disposal.

Fig. 7: USU KnowledgeCenter in the customized design



b) Multi-service skills

Some CSRs and users work for several areas. Whenever employees change their application area, the structure and design of the user interface also changes automatically. For instance, CSRs for the City of Cologne, Germany are thus able to select among different clients in order to be able to also efficiently answer questions from citizens in the nearby cities of Leverkusen or Bonn.

c) Software as a Service (SaaS)

USU KnowledgeCenter is also available as a web-based service solution. Customers can subscribe cost-effectively to the SaaS version as a web application. This dispenses with any software installation directly on the servers or workstation computers, and USU KnowledgeCenter adapts dynamically to usage behavior. The knowledge base is available on the internet anytime and anywhere via a standard web browser. The USU solution thus guarantees high flexibility and cost transparency.

Staying on the safe side: differentiated access rights

Instructions for opening an accidentally locked vehicle are important documents for the roadside service personnel of an automobile club. However, it's quite clear that such sensitive information should not be available to just anyone.

Information is the heart of any enterprise. Not everyone should be able to

- view
- modify
- release
- archive
- delete

every document. Protection against misuse is a matter for top management. Different security levels in companies therefore place great demands on access-rights models and their representation in the corresponding systems. It is not only major companies, international enterprises and publicly traded companies listed on the stock exchange that are affected by this situation, but also the CEOs and managing boards of SMEs who must take this critical aspect of IT risk management into careful consideration.

The issuing of access rights is thus a critical function, and their issuance has to be reviewed for each change project. It is necessary to define clear specifications, adapt user role models and implement compliance requirements.

In order to keep up with the dynamics of different access-rights models for both processes and system technology, the tools used to do this also have to provide a flexible and easily implemented system for access-rights management, one that can handle any kind of access-rights assignment process, such as granting access at category or document level or on the basis of the workflow or document type concerned.

USU KnowledgeCenter

USU KnowledgeCenter incorporates different access-rights models that can meet the needs of different-sized organizations. This model allows comprehensive access rights to be quickly and individually configured. A user can select from rights to access only one object type (documents) or more than 10 objects, such as categories, document types, data sources, etc.

The access rights available include the following:

- **Read only:** The document can be viewed by the user. Contents can be read but not modified.
- **Read/Teach only rights:** Changes may be made to contents within the context of a training course. This means that such users have the option of making suggestions, which may then be implemented by a manager in charge of that topic.
- **Read/Write only rights:** Contents can be modified both during training courses as well as at an administrative level. For example, such users have the option of adding terms to a terminology network.

Even in complex installations, the access-rights wizard offers the option of generating complete access-rights structures based on input made on only one page. This powerful feature means that access rights can be quickly and easily granted, even to large user groups.

Continuous improvement: reports and controlling

In order to make it easier to handle information and knowledge within service organizations, the primary issue is not simply to make more information available, but to match up the right answers to the right questions. However, topics and terminology change frequently, and new material is constantly added. This means that the paths to accessing relevant information have to dynamically change as well. Successful monitoring of information provision is thus dependent on a permanent analysis of defined parameters. This allows quantifiable statements to be made about the usage and benefits of the systems.

For instance, statistical evaluations of user behavior will help to detect knowledge gaps and thematic dependencies, thus revealing ways in which the system can be improved. Reporting functions allow corresponding KPIs to be graphically displayed. For example, they can be used to document what was searched for or what was found, how often a certain search was made and how many documents were offered in the „hit list“, etc. Having this kind of information available allows reliable statements to be made about the following:

- The usage process
- The amount of results („hits“) found
- Frequently searched topics
- The quality of the information offered.

As a continuous improvement process, refined, targeted reporting methods should be employed to uncover weak points in the system, such as missing content, and take appropriate countermeasures. Such mechanisms for monitoring and controlling knowledge contribute to a continuous improvement of the existing knowledge base. In addition to analysis reports, the information available can also be managed on a user-centered basis by means of cooperative technologies. The machine learns from the user.

USU KnowledgeCenter

USU KnowledgeCenter logs all defined interactions between man and machine with the aim of closing the gap between knowledge demand and supply. This is done by means of practical knowledge controlling and self-learning mechanisms

a) Standard reports

The reporting functions allow numerous evaluations, for example, about the knowledge requirements of users or system usage. FAQs are readily available thanks to preconfigured reports. The reports can be used to analyze user behavior, for instance. For this purpose, a great variety of information is logged for each search, including such aspects as the application area, the search term(s) used, the terminology network accessed, the number of „hits“ returned, and the like. This is carried out anonymously, so that there is no way to determine the user in a given case.

b) Customized reporting

USU provides standard reports. However, many customers like to use their own report generators so that they can flexibly generate individual reports. USU offers support for this.

c) Self-learning functions

Its ability to learn from the results of user experiences fundamentally distinguishes USU KnowledgeCenter from traditional knowledge bases. With increased system use, the search results returned continuously improve because they are aligned to the specific information needs of the users. A self-learning process is triggered whenever a document located is confirmed as being a helpful solution. As a result, the system teaches itself the following:

- Terminology and relationships
- The assignment of documents to terminology
- Questions and solutions

Whenever a document is confirmed as being useful, this step triggers workflows in other applications such as the transfer of a solution to a ticketing system. USU KnowledgeCenter thus supports collaboration and the common availability and use of knowledge.

All in one system: interfaces and integratability

Whether telephone lists, conversion calculators, CRM systems or Microsoft Access databases: There are many specialized applications and workflow systems that support service units in performing their daily tasks. However, these resources usually have different interfaces, standards, user interfaces and a specific application logic. These solutions concentrate primarily on individual work steps. This means that the focus is on the individual action, not on users and their ability to have a seamless workflow. The content required for processing is available in different sources and formats and can only be activated separately. This wastes a lot of time, time that the CSR simply does not have available during a support call.

That's why it's a good idea, and a necessary one, to reverse the work method: all in one system. CSRs need to have all the tools they need available at a glance in order to be able to access the relevant information as required and dependent on the respective process step. Hence the basis for optimized service workflows is end-to-end IT support with smooth interaction of all the technologies, applications and files used.

This works with a comprehensive solution model and a highly integrated application whose various interfaces offer an infrastructure that serves as the hub and linchpin for completing daily tasks within all service units in a company.

USU KnowledgeCenter

USU KnowledgeCenter is designed to specifically reduce administrative effort. For this to fully succeed, an essential prerequisite is the integration of the knowledge management system into existing processes, the existing IT environment, and existing data sources and applications.

a) Integratability

Processes such as CRM, self-service, quality assurance, problem management, incident handling and ticket management are integrated by means of Simple Object Access Protocol (SOAP) interfaces. The necessary tools can be assembled, as required, as information objects and selected and activated directly from the system.

With SOAP services it is possible to create documents in the USU KnowledgeCenter from an external workstation, to access documents and reports, or search in the connected data sources and use other search functions, such as „not-found“ documents, confirmation and feedback. The degree of flexibility available to CSRs when dealing with callers increases considerably.

b) Customer adaptations

The seamless interactions made possible by SOAP interfaces enable customers to easily integrate USU KnowledgeCenter into their own environment.

Self-service: between myth and reality

According to the results of the latest studies conducted by the Gartner research company, around 40% of all contact volume in a call center could be handled by means of self-service processes. According to Gartner, this self-service level is currently at an average of only 5%.

In general, a well-functioning self-service option is an important driver for cost savings and greater productivity in call centers due to the significantly reduced levels of call and incident handling. In this respect, Gartner assumes that a standard call to a service desk incurs transaction costs averaging 7.50 USD. According to Gartner, although self-service costs cannot be exactly calculated in most cases, there is no doubt that they are likely to be far below those of telephone-based services involving interaction between a caller and a CSR. This is confirmed by assessments conducted by other analysts.

However, self-service has many aspects to it. Examples are creating a service request ticket, reviewing the processing status of your own tickets or obtaining your own solutions to problems without the support of the service center – sometimes even by making corrections by way of „self repairs“. However, successful use of self-service options requires the following in practice:

- A model that indicates which solutions are suitable for self-service, such as seasonal solutions or preventive topics such as system failures.
- A knowledge database filled with relevant documents that can be easily searched through for required information.
- Self-service actions are documented and integrated into the processes. For example, a ticket is automatically generated after an unsuccessful search attempt.

In their study, the analysts at Gartner were able to expose four myths about IT self-service:

- **Myth 1:** IT self-service cuts costs.
The truth is: The portals only save costs in first-level support.
- **Myth 2:** IT self-service is a one-time project.
The truth is: The portals require constant attention.
- **Myth 3:** Users will use IT self-services in droves.
The truth is: User acceptance varies greatly.
- **Myth 4:** IT self-service solutions are easy to install.
The truth is: Auxiliary support tools and processes are indispensable for success.

In particular, the first aspect cited by Gartner deserves closer attention. That's because the argument that cost savings are only realized at first-level support does not go far enough. Experience shows that users, when provided with an ergonomic service portal with an intelligent knowledge base, can also find more complex solutions that go

clearly beyond trivial problems such as „Reset password.“ In addition, through being freed up from routine tasks, first-level support can take on additional tasks. This means that in actual practice, cost savings can also be achieved at second-level support.

However, these days a comprehensive self-service model must be based on much more than the simple desire to avoid personal contact with callers 24x7. Self-service is a major factor in a customer-based added value strategy. That's because it changes the models for interacting with customers in the following ways: Service organizations are closer to the user; IT products and IT services become more transparent and tangible. Status tracking, integrated complaint and feedback management allow greater influence to be exercised on the customer side. On one hand, this increases service quality and, on the other, it increases the awareness that IT products and services represent real value in doing business with your IT customers. Trend analyses for faults/malfunctions or information on training requirements are some of the positive aspects of a well implemented self-service model.

USU KnowledgeCenter

USU KnowledgeCenter offers extensive self-service functionalities that service organizations can integrate directly and individually into the technology and layout of their intranet/internet.

The effort involved in creating and updating documents is only required once. Interfaces created on the basis of modern SOAP technology can provide numerous functions through a self-service portal, including application cases such:

- Searches for a solution
- Access to a solution, confirmation of a solution
- Feedback and „not-found“ function
- Compiling and displaying a list of reports
- Use of dialog-driven diagnosis and decision trees
- Display of an FAQ list
- Documentation of user activities as an attachment when creating a ticket

The consulting model

The implementation of a knowledge base can only be successful if the application works in harmony with the organizational processes and takes account of the real problems of the users. This generally entails changes to the responsibility and organizational structures. The process therefore starts with an initial inventory of the service organization. The key aspect here is the analysis of the usage and maintenance processes. That's because those in charge need to make sure that new knowledge ends up in the system and old, no-longer-valid information is removed from it. The hard truth is that many projects fail when they reach the operational phase because the knowledge bases were designed without the analysis of actual usage.

If you look at the workflows for creating and updating solution documents, the following basic questions arise:

- Is there a documented updating process?
- What roles are involved?
- What steps are taken until the new/updated document is actually available (proposal, application, creation, release, etc.)?
- What categories and formats are available?
- At what intervals are the documents reviewed/revised and resubmitted?

Experience has shown that the time and effort spent in defining and implementing an editorial process is worth it because it forms the basis for the transfer of updated and quality-assured document knowledge.

Just like the updating process, the usage process must also be organized. For instance, the situations in which the use of the knowledge base is mandatory and those for which the use is optional must be clearly defined. Furthermore, the confirmation or non-confirmation of reports and the responses to feedback must also be defined.

The USU consulting model for implementing knowledge bases

The USU consulting model has been developed from the consolidated experience acquired in over 250 knowledge management projects. Through many on-site visits to see how our products are actually being used by our customers, these best practices are continuously further developed and will ensure success in actual practice. Furthermore, our support doesn't end after the USU KnowledgeCenter has officially been launched. Upon request, we will conduct reviews at service organizations. These reviews provide a current assessment of the situation at the respective location and serve as the basis for continuous improvement.

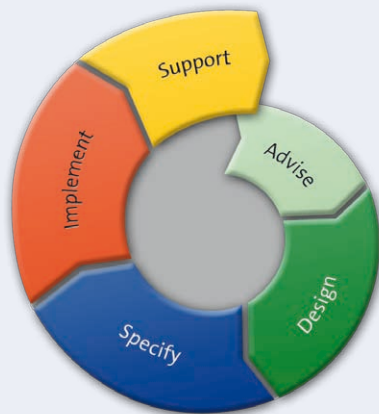


Fig. 8: consulting model

a) Implementation model

The strategy to be followed in implementing USU KnowledgeCenter in call and service centers is thoroughly discussed in a detailed project manual, which is available free of charge upon request.

b) USU KnowledgeCenter „Maturity Day“ program

This free offer is aimed at customers with an existing maintenance contract. Working on-site with the local service team, USU experts will analyze topics such as the efficiency and quality of the maintenance process and document usage.

The aim of the Maturity Day program is:

- to help customers learn their own current operational status
- to be able to compare their service organization with others in the same or similar business sector
- to discover and derive potential for improvement based on one's own relative position and benchmarking

The results, jointly developed and documented on the basis of a structured methodology, are subsequently made available to the customer.

Information logistics as the basis for knowledge-intensive services

The traditional service desk is now undergoing a transformation from a conventional call center to a comprehensive service center that acts as a central control center for information and coordination. The primary requirement placed by internal and external customers on their service center is that it should preserve the business and value-added processes for both the internal and external customer organization. The main focus is on minimizing downtimes and disruptions that diminish added value. Meeting these demands requires the best combination of know-how and tools.

Accordingly, Evelyn Hubbert, Senior Analyst for Infrastructure & Operations at Forrester Research, sees parallels between the maturity level of a service organization, starting from the use of simple incident ticketing systems all the way up to a process-oriented service center that also views customer feedback as a beneficial experience in support of a continuous improvement process, and the use of knowledge management tools.

The main task in implementing a knowledge management system in service organizations lies in shaping the workflows, integrating the system into the existing infrastructure and providing change management. In doing so, structured knowledge preparation and maintenance, as well as the establishment of an infrastructure, processes and roles are of central importance, along with creating personal advantages for every user. For example, in order to keep the contents of the knowledge base up to date and maintain the process of knowledge transfer, the various roles must permanently interact: from the authors to the info team and the specialist departments all the way up to management. Commonly used, relatively static knowledge bases are insufficient to meet these latest criteria.

An „ideal“ system must make daily work significantly easier in order to be accepted and used as intended. As a centralized tool, this holistic solution organizes, evaluates and bundles all the information and optimizes its communication paths. It offers information logistics all from one source, thus yielding personalized, high-quality and very economical services.

What makes USU different from its competitors?

Since 1995, USU has been intensively focused on the integration of knowledge in business workflows and processes. This effort has resulted in its own proprietary process model and produced a comprehensive line of products for integrating intelligent knowledge bases within service organizations. These solutions are continuously developed and improved based on the practical experience gained in working on many customer projects. In addition to providing strategic and specialized consulting, USU has also set the new international standard for intelligent knowledge bases: USU KnowledgeCenter 5. It's a modular solution that provides its own infrastructure. Users can use it to control all information flows from one central interface.

USU KnowledgeCenter 5 offers powerful functions, such as the following:

- Fast creation of a knowledge base through integration of all types of external data sources
- A flexible, process-oriented and user-focused interface suitable for the greatest variety of deployment scenarios
- The integration of external applications as information objects
- Fast, accurate, need-based access to all relevant content
- A comprehensive reporting model
- Self-learning mechanisms, reports and feedback tools
- A comprehensive, flexible access-rights model
- A variety of self-service functions
- A scalable license model that can be readily and flexibly adapted to meet the needs of growing organizations, such as through Software as a Service (SaaS).

USU KnowledgeCenter provides concrete benefits through:

- Significant increases in efficiency and quality in service centers through higher resolution rates, shorter call handling times and better documentation quality
- Quick access to relevant information in both internal and external data sources through self-learning searches
- Significantly decreased workloads for second-level support
- Improved answer quality through standardized and constantly updated sources of information
- Significant decreases in the time and effort required for updating and providing information
- Dramatic drops in the times required to equip and train service personnel, especially when integrating external or new employees and part-time staff
- Simpler outsourcing of subtasks to external service centers.

Sources

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