Knowledge Management process design guide

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Introduction

This process guide will provide a detailed explanation on how the knowledge management process is enabled within the Now Platform. It is intended that this process be followed as closely as possible regardless of the level of maturity of the customer. ServiceNow® encourages simple, lean ITSM processes and that is reflected in the out-of-the-box design. Customers may add additional functionality to that offered however this should only be in scenarios where there is a required business outcome gained that could not be achieved using an out-of-the-box method. Following this approach should also ease customer upgrade paths and the ability to expand their use of the platform.

Knowledge-Centered Service (KCS)

Knowledge-Centered Service is a service delivery method that focuses on knowledge as a key asset of the organization implementing it. KCS practices and the tools that support them must be integrated with other support and business systems, including incident management, change management, and service level management processes and systems to get the most value from this approach.

The degree to which we can integrate use of the knowledge base into our processes will dictate the benefits realized through KCS.

KCS strives to:
- Integrate the reuse, improvement, and (if it doesn’t exist) creation of knowledge into the problem-solving process
- Evolve content based on demand and usage
- Develop a knowledge base of collective experience to date
- Reward learning, collaboration, sharing, and improving

KCS will not be described in detail here the KCS principles the ServiceNow aligns to will be used to structure this document.

We will focus on the KCS Solve loop.

Capture knowledge – When a customer request comes in, those answering the request create an article as a by-product of solving the customer’s problem.

Structure knowledge – Using a template or form for writing an article keeps the knowledge base consistent, making it easier for customers

Reuse knowledge – Search the knowledge base when solving a customer issue, and they can link it to other relevant articles they may have used when solving a problem.

In addition, we will also look at aspects of ServiceNow that support the KCS Evolve loop.

Content health – This measures the effectiveness of each article.

Process integration – Usage stats indicate which articles are the most popular and requested.

Performance assessment – Tracking searches helps to identify missing knowledge and high usage.

Leadership and communication – Knowledge authors are guided by coaches who review articles so the authors’ competency can increase.
Knowledge management using ServiceNow

Knowledge management (KM) is the process of creating, sharing, using, and managing the knowledge and information of an organization. It refers to a multidisciplinary approach to achieving organizational objectives by making the best use of knowledge. To achieve this, there must be a framework that KM can operate within.

A knowledge management framework must address:
- Governance
- Roles and responsibilities
- Process
- Technology

Governance

Overview
Governance is a vital component of the knowledge management framework.

Without governance, there is no assurance that the Knowledge Management system will ever be used.

The three main elements of knowledge management governance are:
- A clear set of corporate expectations for how knowledge will be managed in the organization, including accountabilities for the ownership of key knowledge areas
- To ensure that people are delivering on their accountabilities
- To provide support for knowledge management, including a support team, reference material and training

Controls

Process controls are activities that are performed to ensure a process is stable, repeatable, and operating effectively and efficiently with only normal variations. Knowledge Management controls include the following:
- Set up formal Knowledge Management procedures to handle in a standardized manner all requests (including maintenance and updates) for knowledge on services, applications, procedures, processes, etc.
- Review all adds or updates to knowledge in a structured way to ensure consistency of article format, readability of content, and storage requirements.
- Establish a process for accessing, using, validating usefulness, and recommending updates to knowledge. This includes actioning Knowledge Feedback Tasks (if in use).
- Establish a tracking and reporting system to track requests for new and use, maintenance, and retiring of existing knowledge.
- Whenever knowledge is published (new or modifications), communicate its availability to all applicable stakeholders.
Roles and responsibilities

There are three main roles defined in the ServiceNow process:

Knowledge manager
- Manages and coordinates the day-to-day Knowledge Management processes and activities
- Defines knowledge categories
- Reviews submitted knowledge articles to ensure the content is valid and that the quality standards are respected
- Obtains appropriate subject matter expert (SME) validation, where needed
- Identifies new content and/or solutions needed to support the end users’ needs
- Encourages people to contribute knowledge articles
- Creates and maintains knowledge templates
- Pins important knowledge articles to appear at the top of search results
- Gathers and reports on process metrics

Knowledge contributor
- Submits new knowledge articles
- Updates the content of submitted articles
- Completes knowledge feedback tasks (if in use)

Knowledge user
- Uses knowledge in day-to-day activities
- Provides feedback on existing knowledge
- Identifies missing knowledge needed in day-to-day activities
- Identifies knowledge that needs to be updated
ServiceNow processes and technology

Following the KCS principles the processes and technology that ServiceNow supports can be mapped.

<table>
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<th>Structure knowledge</th>
<th>Capture knowledge</th>
<th>Reuse knowledge</th>
<th>Improve knowledge</th>
<th>Content health</th>
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<tbody>
<tr>
<td>Multiple knowledge bases</td>
<td>Create knowledge articles</td>
<td>Subscribe to knowledge</td>
<td>Provide feedback and rate articles</td>
<td>Report on the usage of articles</td>
</tr>
<tr>
<td>Separate, customizable workflows for each knowledge base</td>
<td>External content integration</td>
<td>Search for knowledge articles</td>
<td>Ask and answer questions</td>
<td>Article Quality Index</td>
</tr>
<tr>
<td>Category structure with any number of levels; each knowledge base has a unique category taxonomy</td>
<td>Create knowledge from incidents and problems</td>
<td></td>
<td>Report knowledge gaps</td>
<td></td>
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<tr>
<td>Permissions defined per knowledge base using user criteria</td>
<td>Import Word documents into knowledge articles</td>
<td></td>
<td></td>
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<tr>
<td>Request a knowledge base</td>
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Knowledge Management process flow

Knowledge Management Process Overview

- Incident Management
- Problem Management
- Case Management
- Change Management
- External Management

- Review Knowledge Article
- Draft Knowledge Article
- Published Knowledge Article
- Retired Knowledge Article
Structure knowledge

Structuring knowledge is critical to creating, sharing, using, and managing the knowledge and information within the organization.

Steps to structure the knowledge base

With the participation of the different service/business stakeholders:

• Determine the number and name of knowledge bases, what content will be in each, and who will have access to each.
  – The primary manager of a knowledge base is the owner of that knowledge base.
  – Each knowledge base must have one owner. There may be any number of additional managers for each knowledge base.
  – Each knowledge base can have a publish and retire workflow specified appropriate to the required approval levels. These may differ depending on the type of content, for example, HR versus marketing versus technical.
  – Determine content ownership, security, and access rights.

• Determine how the knowledge base content will be organized by topic and category to facilitate the easiest access and use by all users. Each knowledge base can have its own multilevel taxonomy that is independent of the other knowledge bases.
  – When considering the taxonomy and number of knowledge bases, consider also the use case for search, which is likely to be the majority use case.

• Determine the various views that will be needed (for example, end users, service desk, network support, or others).

• Determine the various configurable aspects.
  – Use templates to aid knowledge creation. There are four templates available out of the box through the Knowledge Management Advanced plugin: How To, What Is, KCS Article, FAQ.
  – Use UI extension points to customize knowledge article headers and footers.

Differing types of feedback are available for articles. It’s important that there is a process in place to take this feedback and action it. This will help develop the knowledge base based on collective experience.

If the Group Ownership system property is enabled, user groups can be created and listed on individual knowledge articles to define a group of people who are responsible for maintaining specific articles.

Request a knowledge base

Requesting a knowledge base is something that is possible through the service catalog for users. When considering whether a new knowledge base is required, all the steps to structure the knowledge base are applicable. In addition, a knowledge article can only appear in a single knowledge base. Therefore, if the information is required in multiple knowledge bases, then multiple knowledge articles must be created.
Capture knowledge

Knowledge Management lifecycle

States in any ServiceNow application serve a specific purpose. They are designed to make it clear where in the process a record currently resides and to display its progress. States should represent a unique phase in a process when a specific set of related activities are grouped together and designed to achieve a particular outcome in order to move to the next phase of the process. For example, in Knowledge Management, the **Published** state should contain all activities required to understand what was done to publish the article. It would not be expected that resolution explanation activities would occur during other states. Out of the box, Knowledge Management has the following state model:

- Draft
- Review
- Published
- Retired

**Draft**

When a knowledge article is first created, it is in the **Draft** state. The mandatory fields are:

- Knowledge base
- Short description

The draft article does not appear in the knowledge base (KB) for users until it is reviewed and published. The **Category** field is selectable once the knowledge base has been selected. In addition, the following field may be filled out automatically:

- **Source task** – Relates to the task if applicable, for example, an incident that the knowledge article was created from

Before creating a new article, the recommended practice is to search for duplicates. This can save time and gives the author the option on whether to create a new article or to update an existing one.

The action after an article is submitted is dependent on the workflow selected for that knowledge base.

- **Approval Publish** – The article is moved to the **Review** state for a knowledge manager to review and publish, if it’s acceptable.
- **Instant Publish** – The article is moved to the **Published** state.

The use of templates within ServiceNow is recommended to drive consistency of approach in style for different types of articles. This helps the user consuming the information within the article.

Encryption can also be set up on specified fields when the knowledge base is created. This will hide the information in the field unless the user has the appropriate role to view.
Review
The knowledge base article is now available to review. The knowledge base manager and owner may choose to:

- **Update** – State remains at Review
- **Approve** – State moved to Publish
- **Reject** – State moved to Draft
- **Delete** – State moved to Draft

As part of the review process, the approvers can provide comments relating to the article and their decision.

Published
In this state, the article is available to users who have appropriate permissions. These permissions are best determined through user criteria.

Retired
Moving an article to retired removes the visibility of the article from the knowledge base. There may be an approval process for retiring articles specified depending on the knowledge base.

External content integration
Information required to solve issues often exists outside of formal knowledge bases, such as documentation, internal project files, or error databases. Using federated search solutions that rely on search engines of the individual sources and combine on the UI lead to poor relevancy/user experience. These sources often have different processes owners within the enterprise and have different classification and standards.

ServiceNow can be linked to external content such that it can be searched within ServiceNow. The configuration determines whether the selected article is displayed within ServiceNow or the system of record. The external content cannot be modified within ServiceNow and is only available as read only.

Harvest knowledge from a community
Harvest knowledge from a community and create structured knowledge articles from unstructured discussions about a question.

Creation of knowledge within processes
Reuse of knowledge that is created while solving a case avoids time spent "reinventing the wheel" while solving cases.

KCS methodology requires the ability to capture knowledge from cases:

- Captured in the context of solving an issue
- Captured in the customers’ language
ServiceNow out-of-the-box supports article creation from an incident or a problem. The short description from the incident or problem becomes the knowledge article title and are added to the knowledge base specified in the configuration. Depending on the configuration, knowledge created from an incident or problem may require additional approval.

There is also the option to create a submission record instead of a knowledge article. A user with the knowledge role must approve the submission to create a knowledge article. Approving a submission creates a new knowledge article using the submission content.

Retire knowledge

Knowledge articles should be reviewed at least annually. Periodic reviews of the knowledge base content need to be conducted to ensure its usefulness and relevancy. During these reviews, updates may be identified or the article may need to be retired. Knowledge articles can also have a valid date showing when they are created. This helps the review process and allows for time-bound articles (such as an article associated with a public holiday).

Improve knowledge

Having closed loop feedback on the knowledge articles is critical to supporting the health of the knowledge base and to direct further work.

Provide feedback and rate articles

You can submit feedback for knowledge articles in these ways:

- Flagging an article as incorrect or inappropriate
- Providing a rating value for the article
- Marking an article as helpful or not helpful
- View comments, add a new comment, or reply to existing comments.

Whether these various feedback options are available to the users can be configured within the system.

Knowledge Feedback Tasks

Manage high volumes of article feedback by enabling task generation for negative feedback. When an article is rated poorly or marked as unhelpful, a feedback task is generated and assigned to the author or reviser of the article.

The task assignee can update the article, create a new article, request additional feedback, or reassign the task and receives notification after the feedback is updated or resolved.

Note: Feedback tasks are only generated if feedback is given on the Knowledge Service Portal.

Ownership groups

When knowledge articles are created, ownership groups can be associated to them. Ownership groups manage article approvals and feedback and can edit and retire knowledge articles that they are associated with.
Knowledge group managers can edit ownership groups managed by them by adding or removing members without the need for approval. You can also create an ownership group from an existing group.

**Knowledge base Q&A**

If Social Q&A is activated for a knowledge base, you can ask questions and respond to questions from other users. All questions and answers are associated with a knowledge base. Social Q&A uses knowledge access controls, search, and the knowledge homepage.

Questions appear along with knowledge articles organized by knowledge base, category, and tags. Click a question to view the question details, responses, and comments.

**Capabilities:**
- Vote on helpful questions and answers
- Browse and search for questions from the knowledge homepage
- Add responses and comments
- Share questions
- Edit your own questions and answers from the question details

You are automatically subscribed to any question you ask, so you receive notifications when another user votes on, comments on, or answers the question. If you want to receive notifications for a question asked by another use, you can manually subscribe to the question.

**Content health**

Critical success factors (CSFs) identify key process objectives that must be met in order to be successful.

Key performance indicators (KPIs) evaluate the success of an activity toward meeting the CSF. Successfully managing KPIs can be either through repeatedly meeting an objective (maintain) or by making progress toward an objective (increase/decrease).

- **Knowledge Management delivery**
  - Reduction in mean time to repair (MTTR) due to improved knowledge availability
  - Increased use of documented knowledge articles
  - Improved value of documented knowledge article
  - Increased maintenance of knowledge articles

- **Standardized knowledge procedures followed**
  - Maintain or increase number of knowledge articles
  - Maintain or increase knowledge articles created from an incident or a problem record
  - Increased first time approval on submitted knowledge articles

- **Knowledge Management process**
  - Maintain or increase effectiveness of the knowledge management process.
  - Maintain or increase efficiency of the knowledge management process.
  - Continually improve the knowledge management process
Dashboards and reporting

Process KPIs

The effectiveness of a process refers to the usefulness of the process output in relation to the expectations and needs of the customer. Process KPI’s need to:

- Provide information on the effectiveness of the process and the impact of continuous improvement efforts
- Are best represented as trend lines and tracked over time
- Monitored by the process owner

<table>
<thead>
<tr>
<th>Item</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of knowledge articles viewed versus used</td>
<td>Measures the usefulness and value of the content; helps understand the usefulness of the article</td>
</tr>
<tr>
<td>Average article rating (if used)</td>
<td>A subjective measure of the quality of the output of the knowledge management process</td>
</tr>
<tr>
<td>Number of new articles contributed</td>
<td>Measures the knowledge support commitment of the organization</td>
</tr>
<tr>
<td>Number and percentage of articles not accessed for X (amount of time)</td>
<td>Measures how well the knowledge base content is being maintained</td>
</tr>
</tbody>
</table>

Operational data

Knowledge articles that need attention and/or intervention are best tracked on a dashboard or homepage that is monitored by the Knowledge Manager.
<table>
<thead>
<tr>
<th>Item</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of articles in <strong>Draft</strong></td>
<td>Provides quick view of articles that need to be reviewed.</td>
</tr>
<tr>
<td>List of user feedback to be reviewed</td>
<td>(Depends on feedback options selected) All user feedback must be reviewed and the follow-up action determined</td>
</tr>
<tr>
<td>List of articles not accessed for X (amount of time)</td>
<td>Articles that are not used must be reviewed for deletion or relevance</td>
</tr>
</tbody>
</table>

**Reports and homepages**

There are numerous default reports available in ServiceNow that can be used to generate charts, can be published to a URL, or can be scheduled to be run and distributed at regular intervals. Users can also create custom reports.

In addition to reports, each user can create a personal homepage and add gauges containing up-to-the-minute information about the current status of records that exist in ServiceNow tables.

**Performance Analytics content pack**

This plugin enables out-of-the-box Performance Analytics Dashboard for Knowledge Management KPIs.

**Article Quality Index (AQI)**

KCS methodology encourages agents to contribute to the process of article creation as part of their case resolution. Therefore, authors may not be professional content editors.

To maintain a high quality of content in the knowledge bases, an article quality evaluation mechanism is required to enable customers to review and evaluate the quality of articles and the performance of the authors. This enables constant improvement in the content and authors’ content editing skills.

The knowledge admin would create the AQI checklist, adding true/false questions and defining the order and weight of the questions. The checklist would be assigned to the knowledge base.

The knowledge coach and knowledge domain expert would perform AQI reviews, the results of which would be emailed to the author. Finally, the author would review the scores and comments and take corrective action as required.
Other service management processes

Knowledge Management

Knowledge is a vital part of the incident process. It is available using the contextual search feature embedded into the incident record and record producers to display relevant knowledge articles as the incident is being created. Contextual search will use text entered into the Short description fields or other text fields to search for close matches in the knowledge base and display these on the screen.

<table>
<thead>
<tr>
<th>Process</th>
<th>Relation description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incident management</td>
<td>Knowledge can be created from an incident to ensure the diagnostic details and resolution activities are communicated to other knowledge users.</td>
</tr>
<tr>
<td></td>
<td>The Incident form displays contextual search results based on text entered in the Short Description field. These search results provide targeted knowledge to the incident analyst.</td>
</tr>
<tr>
<td>Request fulfillment</td>
<td>Knowledge should be used to document the activities required to fulfill service requests.</td>
</tr>
<tr>
<td></td>
<td>Knowledge should be used to fulfill service requests.</td>
</tr>
<tr>
<td>Problem management</td>
<td>Knowledge can be created from a problem or known error to ensure diagnostic details, workaround, and resolution activities are communicated to other knowledge users.</td>
</tr>
<tr>
<td></td>
<td>Knowledge can be used in Problem Management to identify potential workarounds that have been used to resolve incidents or identify change implementation activities in problem analysis.</td>
</tr>
<tr>
<td>Change management</td>
<td>Change Management can use knowledge to help in risk assessment as well as to obtain information on activities to be performed to implement a change.</td>
</tr>
<tr>
<td></td>
<td>Change Management can use knowledge to track change plans (testing, implementation, backout, etc.)</td>
</tr>
<tr>
<td></td>
<td>Change Management should use knowledge to keep details of activities to be performed on standard changes.</td>
</tr>
<tr>
<td>Community</td>
<td>Can be used for knowledge creation by taking community solutions and creating a knowledge article</td>
</tr>
</tbody>
</table>

User experience

Mobile platforms and virtual technology can have a positive impact on how end users interact with the end-to-end process and ultimately how the entire user experience is perceived. Consider which touchpoint in the process can use the mobile platform to minimize delays in the process. Tasks such as finding knowledge and chat can all be performed on mobile devices. Consider also how Virtual Agent can be deployed to assist users in common actions and tracking progress.