Vanderbilt University

IT Service Management Project

Knowledge Management Process Specification
## Document Revision History

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ITSM – Knowledge Management Process Specification

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Introduction

This document is provided as a reference for Vanderbilt University staff that create, update, approve, or use information contained within collective Vanderbilt IT Knowledge Management. It establishes the guiding policies, roles, and processes for Vanderbilt IT Knowledge Management.

Ownership of Knowledge Management Process
Vanderbilt IT Knowledge Management is owned by the Knowledge Process Owner. The maintenance of this document and the corresponding processes are the responsibility of the Knowledge Process Owner, in compliance with Vanderbilt’s IT Service Management program goals.

What is IT Knowledge Management?
For purposes of this document, IT Knowledge Management refers to the capture of data (discrete facts) and information (contextual information about the factual data) which is combined and distilled into knowledge (observations, ideas, and insights) for consumption by IT Service Providers and End-Users in support of their strategic, tactical, and operational decision making processes.

Objective
The continuous growth and increased complexity of IT systems present significant challenges for IT Service Providers and End-Users. Vanderbilt IT Knowledge Management supports the Vanderbilt community by transforming collective information from across the enterprise into usable IT knowledge that is aggregated in one location. IT Knowledge Management facilitates expedient responses and resolutions to IT Incidents, Requests, and Problems, and it encourages collaboration between IT End-Users.
Definitions and Terms

**IT Knowledge Management**
An IT based system to manage IT knowledge in organizations. It supports the creation, capture, storage and dissemination of IT information and knowledge.

**Knowledge Centered Support (KCS)**
“A set of best practices for IT Knowledge Management that results in enhanced quality of service, improved efficiencies, and higher customer and employee satisfaction.”

**Knowledge Article (KA)**
A distinct entry or record in IT Knowledge Management: a solution to an End User Incident or Request, a “sanctioned” Work Around for an existing Problem, or a link to reference material about an IT Service.

**Knowledge Request**
A request to create a new Knowledge Article, which may in turn be included in the Knowledge Management System. A Knowledge Request can originate from any user of IT Knowledge Management.

**Subject Matter Expert (SME)**
An individual who is considered to be an expert in a particular area or topic.

**IT Service Provider**
(ITIL Service Strategy) An individual, group, or “organization supplying services to one or more internal customers or external customers. Service provider is often used as an abbreviation for IT service provider.”

**IT End-User**
(ITIL Service Transition) “A person who uses the IT service on a day-to-day basis. Users are distinct from customers, as some customers do not use the IT service directly.”

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1. Knowledge Management Foundations: KCS Principles, version 4.2 (Unit One)
2. ITIL Service Strategy, 2.1.2 (Services and Service Management – Service Management)
3. ITIL Service Transition, 4.7.3 (Knowledge Management – Value to Business)
Goals, Benefits, Scope and Assumptions

Goals
The goal of IT Knowledge Management is to capture, categorize, and make available organizational IT knowledge in order to improve efficiency, service quality, and customer satisfaction while reducing the cost of service provisioning. A working IT Knowledge Management process fosters the gathering of facts, the contextualization of facts by gathering information about environment and perspective, and the distillation of these facts into transferrable and communicable knowledge about the IT environment. Ultimately, these pieces of knowledge (in the form of “Knowledge Articles”) can be used to support accurate and high quality decision making, which can be described as “organizational wisdom”.

In short, IT Knowledge Management ensures that the right information is available to the right people at the right time to enable informed, accurate decisions.

Corresponding goals include the following:

- **Quality**
  Ensure that entries in IT Knowledge Management are accurate, accessible, and available in a timely manner.

- **Support of other IT Service Management (ITSM) Processes**
  Facilitate expedient resolution of Incidents and timely delivery of information, and allow for the dissemination of best available knowledge in support of other ITSM processes, including Incident, Problem, and Request Management.
• Single Repository
  Provide an IT Enterprise Knowledge Repository that integrates, aggregates, and stores Knowledge Objects, serving as a single point of access for both IT Service Providers and End-Users.

• Access Control
  Provide mechanisms for role based access and data classification, allowing assignment of permissions or restrictions for access to specific Knowledge Articles.

**Benefits**
The benefits of an accurate, mature, well-maintained IT Knowledge Management structure include the following:

*Improved IT Service Quality*
IT Knowledge Management facilitates consistent and timely resolutions to Incidents and Requests, increasing first contact resolution rates and improving customer satisfaction with IT Services. It also improves availability of IT Services through an enhanced understanding of the IT infrastructure, and through accurate capture of information about known errors and workarounds. Knowledge about new implementations and upgrades helps to minimize disruptions during the roll out phase.

*Decreased IT Support Costs*
IT Knowledge Management improves efficiency through reduced cost of IT operations. The amount of time needed to resolve Incidents, Requests, and Problems decreases, and issues are resolved at the lowest and least expensive support tier.

*Increased Productivity of IT Service Providers and End-Users*
IT Knowledge Management maximizes productivity of IT service providers who can reuse existing knowledge to resolve IT issues. It also minimizes contact and resolution time, improving productivity for both IT Service Providers and End-Users, and it supports faster training times and increased productivity for new IT support staff.

*Enable Self-Help Strategy for End-Users*
IT Knowledge Management lays the foundation for an End-User self-help system that can empower users to address issues before contacting an IT Service Provider.
Scope
IT Knowledge Management is intended to support IT Service Providers and End-Users with easily accessible content about IT services and systems.

IT Knowledge entries may include text or links to other internal or external sources and webpages. Knowledge entries will be designed for Vanderbilt (internal) users. Approved knowledge entries will be made available to public (external) users.

Knowledge entries about non-IT operations are not considered to be in scope for purposes of this process.

Assumptions
The underlying foundation and effective implementation of this process are based on the following key assumptions:

• IT Knowledge Management is effectively designed and configured to reflect the process specifications outlined in this document.
• Roles and responsibilities have been communicated to and are fully understood by the appropriate process stakeholders.
• Supporting technical and process documentation is complete and approved for use by relevant IT stakeholders.
• Communication and training has occurred for all IT process stakeholders and all relevant staff who have a vested interest in the IT Knowledge Management process.
• IT Service Providers and End-Users who have an interest in or insight into the information relevant to IT Knowledge Management both understand and participate in the Knowledge Management process.
• Business representatives with an interest in or insight into the IT Knowledge Management process have bought into the process and participate.
Process Overview, Roles, Concepts and Workflow

Process Roles

Process Owner

The Process Owner for Knowledge Management is the individual with ultimate responsibility for the maintenance and upkeep of the IT Knowledge Management process, including the documentation which supports the process.

The Process Owner ensures that IT Knowledge Management supports IT Service Providers and End-Users as well as other ITSM processes. The Process Owner is responsible for process maturity and growth, review of management and metrics reports, discretionary suspension or review of Knowledge Articles, recommendations for Process Improvement Plans, and education and communication about the Knowledge Management process, benefits, and tools.

Knowledge User

A Knowledge User is any individual (or group of individuals) who derive benefit from the data, information, and knowledge contained in IT Knowledge Management. Collectively, Knowledge Users contribute to the currency, accuracy, and overall upkeep of IT Knowledge Management by flagging existing Knowledge Articles for review, and by requesting creation of new Knowledge Articles.

Knowledge Author

A Knowledge Author is an individual who creates Knowledge Articles. Authors can be any Knowledge User with a valid VUNet ID account having IT expertise and knowledge to share with the Vanderbilt Community. Authors will have the ability to publish the Knowledge Article directly to internal users (at the discretion of their manager) or will consult with their manager, a subject matter expert, or workgroup for approval and publishing assistance. Publication to external users must be approved by the appropriate Knowledge Approver(s).
Knowledge Approver

A Knowledge Approver is an individual who reviews and approves publication of Knowledge Articles for a specified audience. This individual is generally a Subject Matter Expert (SME) in the area pertaining to one or more Knowledge Articles.

Knowledge Owner

A Knowledge Owner is the department or workgroup that administers one or more Knowledge Articles. This team is considered to be a Subject Matter Expert (SME) for the specific Knowledge Article and is ultimately accountable and responsible for ensuring that Knowledge Articles are reviewed, useable, and accurate. This includes ensuring that Knowledge Articles are adequately processed through the Knowledge lifecycle process, that content in flagged Knowledge Articles is verified, and that Knowledge Articles are archived when no longer relevant.

Knowledge Requestor

A Knowledge Requestor is any internal or external Knowledge User who requests creation of a new Knowledge Article.
## Knowledge Article Lifecycle and Statuses

<table>
<thead>
<tr>
<th>Status</th>
<th>Definition</th>
<th>Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft</td>
<td>A Knowledge Article that has been initiated by an individual user as a Subject Matter Expert or via the Request Management Process. A draft will have a sub-status of “not reviewed” or “reviewed.” A draft is not viewable by IT Knowledge Management Users.</td>
<td>Knowledge Author</td>
</tr>
<tr>
<td>Published</td>
<td>A Knowledge Article that is available to IT Knowledge Management Users, with a sub-status of “not reviewed” or “reviewed.” Access is initially based on the audience selected by the Knowledge Author, in consultation with his or her manager as department policy dictates, and can be reviewed and updated by the Knowledge Owner or Process Owner. Published Articles can be flagged for review by any IT Knowledge User.</td>
<td>Knowledge Owner</td>
</tr>
<tr>
<td>Suspended</td>
<td>Knowledge Articles flagged for review for more than 14 calendar days, or Knowledge Articles designated by the Process Owner. Suspended Knowledge Articles are unavailable to IT Knowledge Management Users.</td>
<td>Process Owner</td>
</tr>
<tr>
<td>Archived</td>
<td>Obsolete Knowledge Articles that are not available for searching or relating to active Communications, Incidents, Problems, or Requests, but are available for historical reporting and review. Archived Articles can be reinstated if needed.</td>
<td>Knowledge Owner</td>
</tr>
</tbody>
</table>
Knowledge Article Access Classifications
The table below outlines the classifications that are used when granting access to Knowledge Articles. Access is initially assigned by the Knowledge Author, and can be reviewed and updated by the Knowledge Owner or Process Owner. All Articles identified for external (public) access will require approval by the appropriate Approver(s), including the Knowledge Owner, Process Owner, and/or Subject Matter Expert.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restricted</td>
<td>Knowledge Article viewable by a designated individual, department or departments.</td>
</tr>
<tr>
<td>IT</td>
<td>Knowledge Article viewable by any designated member of an IT Service Provider workgroup or team.</td>
</tr>
<tr>
<td>Vanderbilt Enterprise (Internal) User</td>
<td>Knowledge Article viewable by any user with an active VUNet ID account.</td>
</tr>
<tr>
<td>Public (External) User</td>
<td>Knowledge Article viewable without VUNet ID authentication; public facing knowledge.</td>
</tr>
</tbody>
</table>

Knowledge Article Data Classifications
The table below outlines the classifications that are used when categorizing Knowledge Articles. The category is initially assigned by the Knowledge Author, and can be reviewed and updated by the Knowledge Owner or Process Owner.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>How-to</td>
<td>Step by step instructions for frequent inquiries. Assumes the system is working properly.</td>
</tr>
<tr>
<td>Workaround</td>
<td>An error condition for which a work around is required to return to an operational status.</td>
</tr>
<tr>
<td>Reference</td>
<td>Reference documentation or manuals.</td>
</tr>
<tr>
<td>Decision Tree</td>
<td>A series of steps that enable an IT Knowledge Management User to work toward resolving an Incident or Request.</td>
</tr>
</tbody>
</table>
Knowledge Article Request

A Knowledge Article Request is a request to create a new Knowledge Article. A Knowledge Request can originate from any internal or external user and will be submitted via the Request Management process. Knowledge Requests will be forwarded by the Process Owner to the appropriate Knowledge Owner, who will assign a Knowledge Author for development or deny the request.
Knowledge Article Development

If a Knowledge Article Request is accepted, the assigned Knowledge Owner will designate an author to create the Knowledge Article. Any internal user with IT expertise to share may author a Knowledge Article without a request; approval of such Knowledge Articles is done at the discretion of the author’s department manager.

Knowledge Article Review

All flagged Knowledge Articles will be reviewed within 14 days (2 calendar weeks) by the Knowledge Owner. Knowledge Articles in Draft, Published, Suspended, or Archived status can be marked for review, and Knowledge Articles can be flagged for review by any IT Knowledge Management User. Knowledge Management Users can also rate and provide feedback about individual Knowledge Articles, which is then made available to other Knowledge Management Users.

The Knowledge Owner will evaluate the Knowledge Article for completeness and appropriateness. If the Knowledge Article is found to be satisfactory, the status will be updated to a reviewed state. Otherwise, the Knowledge Owner will be responsible for correcting or updating the Knowledge Article, in collaboration with other Subject Matter Experts as needed, before updating the status to reviewed.

Events that trigger a Knowledge Article review can include but are not limited to:

- The Knowledge Article causes an incident.
  
  If the use of a Knowledge Article is suspected of causing an Incident, the Knowledge Article will be subject to immediate review. It may be placed into a “Suspended” state until the Knowledge Article can be reviewed and re-published.

- The Knowledge Article is unused during the prior twelve month period.
A Knowledge Article usage report will be run periodically, and any Knowledge Articles which are flagged as unused for the previous 12 months will be reviewed by the Knowledge Owner.

- The Knowledge Article is flagged for review by IT Knowledge Management Users.

The Knowledge Owner will assess each flagged or suspended Knowledge Article to determine the correct course of action:

- If a Knowledge Article is identified as outdated and/or irrelevant, it will be moved to an “Archived” status and will be considered as retired. (An “Archived” Knowledge Article can be reinstated as a “Published” Knowledge Article if needed.)
- If a Knowledge Article is identified as inaccurate but still relevant, the Knowledge Owner will be responsible for revision, in collaboration with other Subject Matter Experts as needed. After revision, the Knowledge Article will be placed into a “Published, Reviewed” status.

- Access Level Change

A change in Access Level can be initiated by the Knowledge Owner, Process Owner, or a Subject Matter Expert. All requests for external (public) access must be approved by the Knowledge Owner. Additionally, The Process Owner can convene an ad hoc committee, to include the Knowledge Owner and Subject Matter Experts, to review all Knowledge Articles submitted for external (public) access or to review any disputed access levels.

Knowledge Article Suspended

If a flagged Knowledge Article is not reviewed by the Knowledge Owner within 14 days (2 calendar weeks), the Knowledge Article is set to a “Suspended” state and is not available to Knowledge users until a review is completed and the status is updated to a “reviewed, published” state. The Process Owner may suspend a Knowledge Article at any time for review.
## Business Rules

The following Business Rules have been established to provide strategic guidance and to enable the execution of a successful IT Knowledge Management Process.

<table>
<thead>
<tr>
<th>Business Rule</th>
<th>Reason</th>
</tr>
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<tbody>
<tr>
<td><strong>All Knowledge Articles must have a data access classification tag: Restricted, IT, Enterprise (internal user), or Public (external user).</strong></td>
<td>To ensure that access to Knowledge is controlled by audience and level of IT expertise.</td>
</tr>
<tr>
<td><strong>Knowledge Management allows Knowledge Users to critique Knowledge Articles. Feedback will be published to other Knowledge Users.</strong></td>
<td>To allow Knowledge Users to assess the legitimacy of a Knowledge Article and to communicate that information to other Knowledge Users.</td>
</tr>
<tr>
<td><strong>Knowledge Management allows Knowledge Users to flag Knowledge Articles for review.</strong></td>
<td>To maintain the accuracy of Knowledge Articles.</td>
</tr>
<tr>
<td><strong>Knowledge Users must provide a reason for flagging a Knowledge Article for review.</strong></td>
<td>To ensure that a flagged Knowledge Article can be reviewed and validated expediently.</td>
</tr>
<tr>
<td><strong>A Knowledge Article can be suspended at the discretion of Process Owner.</strong></td>
<td>To maintain the integrity of Knowledge Management.</td>
</tr>
<tr>
<td><strong>User feedback can be suspended at the discretion of the Process Owner.</strong></td>
<td>To maintain the integrity of Knowledge Management.</td>
</tr>
<tr>
<td><strong>Temporary fixes sanctioned by Problem Management are to be documented as Workarounds even if root cause is not known.</strong></td>
<td>To enable support staff to resolve a Communication or Incident with a sanctioned fix while root cause is being investigated.</td>
</tr>
</tbody>
</table>
Critical Success Factors

Critical Success Factors (CSFs) of a process define what elements need to be in place to measure process performance. They are a gauge of whether the process is adding measurable value in the environment. Critical Success Factors are supported by Key Performance Indicators (KPIs) which define ways in which a Critical Success Factor can be realized. KPIs, in turn, have specific metrics associated with them. The table below lists CSFs and associated KPIs. These will evolve as the process matures and process reporting improves.

<table>
<thead>
<tr>
<th>Critical Success Factor</th>
<th>Key Performance Indicator</th>
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<tbody>
<tr>
<td>Engagement and adoption of Knowledge Management principles.</td>
<td>Number of new Knowledge Articles created.</td>
</tr>
<tr>
<td></td>
<td>Percentage of Incidents solved using Knowledge Articles.</td>
</tr>
<tr>
<td>Integration between Knowledge Management and other toolsets.</td>
<td>Ability to relate Knowledge Articles to Incidents, Requests, and Problems.</td>
</tr>
<tr>
<td>Availability of Knowledge Management</td>
<td>Knowledge Management availability as measured for other applications.</td>
</tr>
<tr>
<td>Capability of searching, viewing, entering and providing feedback through standard interfaces.</td>
<td>Number of web service calls to search, view, enter and provide feedback on Knowledge Articles.</td>
</tr>
<tr>
<td>Capability of defining access based on group membership or individual role assignment.</td>
<td>Ability to control access to Knowledge Articles based on VUNetID or group membership.</td>
</tr>
</tbody>
</table>
Management of Process

The Knowledge Management process will be reviewed on a regular basis to evaluate process effectiveness. This will include a periodic review of process metrics. Additionally, IT Knowledge Management User feedback will be considered and acted upon by the Knowledge Owner, the Process Owner, and the Service Management Organization (SMO). If issues are identified which indicate that a process reassessment or refresh would be beneficial, then this information will be presented to the Service Management Organization for evaluation.

Minor process improvements may be addressed by the SMO as a matter of normal operations.