Introduction:

This paper describes a methodology to help assess the health and effectiveness of a support organization's KCS practices. The goal of KCS is to capture and reuse the knowledge gained through customer interactions; solve it once – use it often.

The benefits of KCS are realized at multiple levels. The first is the efficiency gained by the support organization through re-use of knowledge. Second, is the delivery of knowledge (known issues) to customers and improving customer use and success with self-service. And third, is identifying opportunities to improve products and services based on the customer experience.

Ideally, we would like to use our support resources to solve new issues, not known issues. As an organization adopts KCS and integrates use of the knowledge base into the problem solving process we see the internal reuse of knowledge increase and we can establish a baseline for the new Vs known ratio. As we start to deliver knowledge to customers through a self-service model, external re-use increases and internal re-use should decrease; we are solving known through self-service. Understanding the ratio of new Vs known cases being handled becomes an indicator of the health of the knowledge flow and the effectiveness of the self-service model.

The KCS Practices Guide describes a double loop process; the solve loop and the evolve loop. The solve loop practices enable support organizations to capture and reuse the collective experience of the organization in supporting customers. The evolve loop enables organizations to learn from that collective experience and identify improvements in both the support processes and the products. The evolve loop is a continuous improvement process and the New Vs Known methodology an example of an evolve loop practice.

Objective:

Identify opportunities to reduce the resources spent on known issues and accelerate the resolution of new issues.

- Reduce the resources spent on known issues; this is a function of improving customer use and success with the self-service model.
- Improve the speed and accuracy in solving new issues; this is a function of getting the right resources working on the issue as quickly as possible.

By looking at cases closed from the perspective of new Vs known and analyzing cases in each category we can identify:

- The percentage of new Vs known issues being worked on in the support center, this creates a baseline against which we can measure the impact of future improvements

- Determine the characteristics of known issues and assess why they were not solved through self-service.
- Determine the characteristics of new issues and identify opportunities to improve the speed and accuracy of the problem solving process.

Scope:

The scope of the analysis should include the following:

- Support centers for internal and/or external customer support
- First point of contact (level 1), first point of escalation (level 2) and the second point of escalation (level 3)
- Hardware, software, networking, services

The Approach

The new Vs known study is something that should be done periodically over the course of a year, probably not more than once a quarter.

The study is done by product area or product family, it is a sampling technique. It is recommended that you do a pilot with two or three product areas to get a feel for the process. For the pilot it is ideal to have the group of SMEs together in a conference room for a day. This allows you to discuss and resolve points of confusion quickly. For follow on analysis it can be coordinated via conference calls.

Four steps

1. Scope definition
    a. Identify the product areas
2. Data collection
    a. Cases closed over the last 30-60 days in the product family being examined.
    b. Build a report that lists all cases/incidents closed. This report should include cases with and without Articles linked. If possible this report should exclude no trouble found or canceled by customer types of cases. Ideally the report has the following fields (see the example new Vs known spreadsheet):
        i. Case/incident ID (links to the case)
        ii. Case title or summary
        iii. Case close code
        iv. Article ID of linked Article/document if there is one (links to the Article)
        v. Article title
        vi. Article resolution summary (if available)

vii. (links to the cases and Articles means the team members doing the analysis can click the ID to see the case or Article, if this is not possible than a cut and paste of case IDs and Article IDs can work)
viii. Fields to capture analysis

3. Case Analysis:
    a. Identify 2-3 Subject Matter Experts (SMEs) for each product family you are focusing on
    b. Develop alignment and understanding with the SMEs on the purpose and intent of the analysis
    c. SMEs will need access to both the case management system and the knowledge base to review cases and Articles online.
    d. Work through a few examples together to get a feel for the process and a common understanding of the analysis categories (this is critical and always requires some discussion and examples)
    e. SMEs review cases and Articles in their product area and categorize them using the "New Vs Known" spreadsheet (4-6 hours)
    f. We want a random sampling of closed cases (with and with out Articles linked), usually a sample size of 10-20% is sufficient. It is amazing how quickly the trends and patterns emerge. Doing a larger sample size is only interesting if the trends and patterns have not stabilized.

4. Identify and discuss opportunities:
    a. What is the percent of new Vs known being handled?
    b. What things can support do to remove known issues from the incoming case workload?
        i. Analyze and sort the data in the spreadsheet, following are some common findings:
            1. **Knowledge capture**; Is the collective knowledge of the organization being captured and reused? Is there an opportunity/need to increase the capture rate?
            2. **Link rate**; Is the KB being used and are Articles being linked to cases? Do the number align with/validate the participation rate?
            3. **Link accuracy**: are the Articles that are being linked relevant to the case? (Organizations that put a goal on linking almost always have lower link accuracy than those who don't)
            4. **Publish rate**; How many Articles are being used internally that are not available to customers? Is there an opportunity to publish more or publish faster?
            5. **Customer use of Self-Service**; how often do customers use self-service before they open a case? Can we improve the rate at which customers use self-service
            6. **Findability**; Are there issues with findability of Articles that are available to the customer, they use self-service but were unsuccessful? Test: using the customer perspective or case information to search can you find the Article externally?
            7. **Navigation**; If the self-service model involves a web support portal is the navigation of the site aligned with the customer intent? Are there choices

for customers on how they access content; index, FAQs, search? Is there an easy way to move from self-service to assisted support; click to open a case, click to chat?

8. **Diagnostics**; how often are diagnostics required to identify the issue as known? Is there an opportunity to improve the information the product provides to help customers be more successful with problem identification/resolution? Or, to help the support center resolve issues quickly?

c. Improvements to the problem solving process used for new
    i. Analyze and sort the data in the spreadsheet to see what it took to fix it;
        1. Escalation?
        2. Diagnostics?
        3. Recreation?

d. Feedback to development about product improvements that would have a significant impact on the customer experience, the case volume or the problem isolation and solving process

Typical agenda for the analysis session

9:00 Welcome and objectives
9:30 Work through a few examples as a group
10:00 Work in teams on assessing/categorizing cases
Noon Lunch
1:00 Check in on where we are, numbers of cases done
1:30 Continue categorization
3:00 Review and analyze the trends that have emerged and discuss opportunities
4:30 Adjourn

Key concepts and definitions:

- What constitutes known?
  - For the purposes of this study known means captured and findable
  - Case closed with existing content (linked to a pre-existing Article)
  - In some environments it may be interesting to identify "known but not captured", this would be helpful if there is a lot of "tribal knowledge" (things that are known by all) that are not in the knowledge base. (Note: if this condition exists it is an indicator that they are not really doing KCS, if the question is being asked it should be in the KB)
- What constitutes a Article?
  - A KCS Article resolves the question or problem raised by the customer
  - In its simplest form an Article is a KCS knowledge base object. However, as search engines have become more sophisticated and documentation is indexed and linkable at the word or sentence level some organization are linking a sentence or paragraph that resolves the issue to the case as the resolution.
  - Expanded criteria for "Article"; a resolution that is specific to the issue, findable, linkable and resides in a maintained repository

Guidelines and definitions for assessing cases (columns in the spreadsheet):

- **Primary fields (relevant to most organizations and important to the analysis)**
  - Relevant case? n=no or blank
    - Is this case relevant to the new Vs known study
    - This is a way for people to flag cases that should not be included in the study data. For example, case is written in a foreign language (can't be read), case was closed by customer without resolution, case was duplicate, case was administrative
  - Case has a Article linked- Yes or no?
    - Yes; a Article is linked to the case (doesn't mater if it is correct or not)
    - No; nothing is linked to the case
  - Pre-existing Article or document linked to case (known) - yes or no?
    - The Article linked to the case existed before the case open date (the Article was not created as a result of this case)
  - Known but not captured (optional) – yes or blank
    - Tribal knowledge (things that are known by all) but are not in the knowledge base. Capture the obvious ones, it is hard to know what is known but not captured, don't spend a lot of time trying to figure this out.
  - Correct Article or document linked to case – yes or no?
    - Yes, the Article is relevant to the case Does the resolution in the Article solve the issue documented in the case? Diagnostic Articles may be linked but a Y should be entered only if an Article is linked that includes the resolution

        - Linking to a "formal document" (like a diagnostic guide or installation guide) is fine so long as the support agent didn't added any value to the answer and the link can be done to the specific sentence or paragraph that provides the resolution
      - No, an Article is linked but it is not specific or relevant to the case
      - Blank, no Article linked to this case
    - No Article linked but one existed – yes or blank
      - A Article was in the knowledge base when this case was resolved/closed
    - Article linked is "internal use only"– yes or blank
      - the Article will never be visible to customers, it is a security risk or technically too complex for customer user, it is visible only to support agents
    - Correct Article was visible to customer y=yes, n=no, blank=no Article
      - Yes, resolution to the issue documented in the case is in a Article that is visible to customers
      - No, Article exists but was not publish to the web, still in draft or approved state, Article has not made it through the life cycle to be visible to customers yet
      - Blank, no Article exists
    - External Article or document – yes or blank
      - A Article for this issue is available/visible to customers (may or may not be linked to case), Articles you know are available or you can find using the customer search tool
- **Secondary fields (may not be relevant to all organizations and not critical to the objectives of the analysis)**
    - Diagnostics run
      - Diagnostics include any diagnostics; general systems diagnostic tools or product specific diagnostics that had to be run to collect additional information. Do not include the use of system logs or data the system normally captures
    - Required problem recreation
      - Support recreated the problem in a lab
    - Required problem recreation by the customer
    - Required collaboration with others
    - Escalation required
    - Multi-vendor (MV) information/documentation required
    - Multi-vendor (MV) contact required
    - Hardware, field dispatch required
    - Hardware, parts ordered
    - Issue type:
      - How to or usability questions
      - Installation
      - Configuration
      - Defect
    - What it took to fix
      - Time to resolve (work minutes, if available)
      - An escalation (L1 to L2, L2 to L3)

- Collaboration (conversation, IM, email, other)
- Research
- Recreate the issue
- Ran diagnostics