

Secrets to Top Gun Troubleshooting & Knowledge Capture – Part I

By [Marybeth Kochis, Steve White and Andrew Vermes](#)

This DITY reveals the secrets top troubleshooters employee and how they go about capturing critical knowledge. Troubleshooting or "problem solving" is often considered an art as opposed to an science. The authors of this DITY pull back the curtain and show is the science behind the art.

We are presenting this DITY in two parts; part one covers the science of troubleshooting. Part two takes us through the three steps of knowledge capture.

Secrets to Top Gun Troubleshooting: Part I

Wherever you are in a support organization from CXO to individual contributor, finding quality resolutions to problems quickly, and taking correct action are critical, daily tasks. Often, immediate access to vital information, which would make you look even more professional, may be restricted due to a number of poor business practices left unaddressed across the work flow continuum.

Having limited or no access to information, including;

- an inability to find the "relevant" factual data
- inconsistent handling of issues leading to inconsistent reporting
- increased time to resolve issues delaying availability of critical information

Often this contributes to increased operational costs and the solving of the same issues repeatedly - among other undesired outcomes.

There is no shortage of available information, yet we see many individuals searching for 'more data' rather than taking meaningful action or worse, taking the wrong action. Much of the troubleshooting information goes undocumented for a number of reasons including a lack of standard setting, and often a lack of enforcement and/or encouragement by leadership to document it.

In 1955, Joseph Luft and Harry Ingham^[1] created a cognitive psychological tool-the Johari Window- to help people better understand their interpersonal communication and relationships-which has withstood the test of time.

The Johari Window is a straightforward concept that allows you to examine how much information you know about yourself and how much others know about you. The window contains four panes, as shown below. By identifying different kinds of things that are known and then increasing personal awareness, the areas not known to the individual are reduced and the understanding of the whole is increased.

	KNOWN TO SELF	NOT KNOWN TO SELF
KNOWN TO OTHERS	Arena Name, hair color, address, favorite color and music	Blind Spot That there is a piece of spinach on your teeth
NOT KNOWN TO OTHERS	Facade Computer pass codes, private thoughts about others never shared	Unknown

People "do what they do" as a result of

- their capabilities
- the human performance system they work in^[2]
- a lack of awareness of things that they do not know^[3]

In order to manage their most critical asset, leadership must align the environment with the service strategy and ensure that the individuals know enough to be able to make good choices.

In the IT Service Market, there is no shortage of expert advice on best practices, products and trends in customer support services, help desk strategies, tools, customer loyalty, or web 2.0 advancements, to name a few. Many are produced by reputable management consultants, software vendors, experienced professionals, and research groups, with great, documented detail, charts and graphs.

However, simply being advised on what to do at a computer level, or what software to buy, doesn't solve problems any faster. People solve problems. Actions fix problems. It's the way we think, act and feel that drive successful interactions. How we enable people is key to success. Having an end-to-end approach that integrates Incident, Problem and Knowledge Management through a common method for issue resolution and knowledge documentation/transfer will keep customers, make money, retain talent and, over time, increase the business' competitive edge.

Quick Check: How do you approach?

- The care, nurturing, feeding and maintenance of the Knowledge Base
- Learning and Continuous Process Improvement
- Channeling and structuring of input and influences across departments
- The customer involvement and feedback
- Interaction with the 'technology community'
- Understanding how you are doing.

Take the Johari Window out of cognitive psychology for a moment. When two more dimensions are introduced, "Known to the KM system" (i.e., the Knowledge Management system has an entry) and "Not known to the KM system" (i.e., no matter how hard you try you're not going to find the answer because it's not there) we get this three dimensional matrix of knowledge challenges.

	KNOWN TO SELF		NOT KNOWN TO SELF	
KNOWN TO OTHERS	General knowledge findable by all	Public tacit knowledge not entered in KM system	Findable with correct tag which others can give you	Private tacit knowledge to a particular group, not entered into the KM system
NOT KNOWN TO OTHERS	Privately tagged knowledge entered into KM database but only findable with private tags	Private, known only to self	Un-findable only random chance will find the knowledge	Unknown new problem
	KNOWN TO KM	NOT KNOWN TO KM	KNOWN TO KM	NOT KNOWN TO KM

This then gives us only eight challenges, only some of which need solving:

General knowledge is the business of Knowledge Management, Knowledge Re-use and Knowledge Exploitation. The explicit knowledge is information tagged correctly, that can easily be found.

Public tacit knowledge is the knowledge in the business held only in the heads of the individuals working in that business. It is not written down and if the people move on (or they are asleep) then the knowledge is not available to anyone else. This is a big business problem-how do you get people to write knowledge down-especially if knowledge is perceived to be a reason for continued employment. A current solution to this problem is to index the contents of the free text window in the customer support tool into the KM system. Anyone who has belabored under this system will know how very unsatisfying the search results can be-it turns out that support engineers write nothing, copy everything or write pretty much the same things into their case handling tool no matter what they are working on. Consequently, a search returns either nothing or everything. By driving standardized documentation of cases, and feeding that documentation into the KM system there is a smaller opportunity for knowledge to be lost.

Privately tagged knowledge is also a problem to a support organization. Knowledge has been entered into the system, but only a particular search will retrieve that knowledge. The engineers know (from repeated beatings) that they must use the KM system, but they also know that if the knowledge dribbles onto the Internet then they will take no calls, so they write the content but make it un-findable except to themselves. As managers, you won't know about this except if you were once an engineer. By driving a standardized format for the capture of content as a by-product of good thought processes, the knowledge is no longer privately tagged.

Private knowledge is a problem. It is held in the mind of a single individual and is not entered into the KM system, which means that for the rest of the business it does not exist. How to get this information documented is a challenge. Drive the

standardized format for documentation, and insist on it (after all, the employer has paid for the knowledge and is entitled to reuse it).

Findable with correct tag is knowledge that you could find if you knew what to search for, but the knowledge of the appropriate search key is not known to you. So you need to know who to contact to get a hint on what to look for. This is correctly tagged in the KM system, you just don't know what to look for. If I knew a problem was with a "salt of silver," but I didn't know which "salt" it was I might have to contact a technical expert to help me create the search string. Instant Messaging, the new Knowledge Exploitation and visualization research products from IBM [4] and others help overcome the "who do I turn to?" question in large organizations by tagging the capabilities of the individuals and making that information easily findable.

Un-findable knowledge is in there, but you're not going to find it. Perhaps it started life as privately tagged knowledge and then the users of that knowledge went away. Perhaps it was simply written badly. Effectively this is dead knowledge and periodic cleaning and validating of the KM system should notice it.

Private tacit knowledge involves others in the support organization who hold this information in their heads, but you can't find it in the KM system. As a result, you have to know who to contact, and they will have to tell or write you the answer from their head again and again, but it's a good job with no heavy lifting so that's okay for them. Codification or Articulation will capture the knowledge if the individual is willing to give it up, and the standardized documentation system will assist in reducing this kind of knowledge over time. Again, the delivery of the knowledge about the skills of the people in the organization can help make links to allow the jump to the right information.

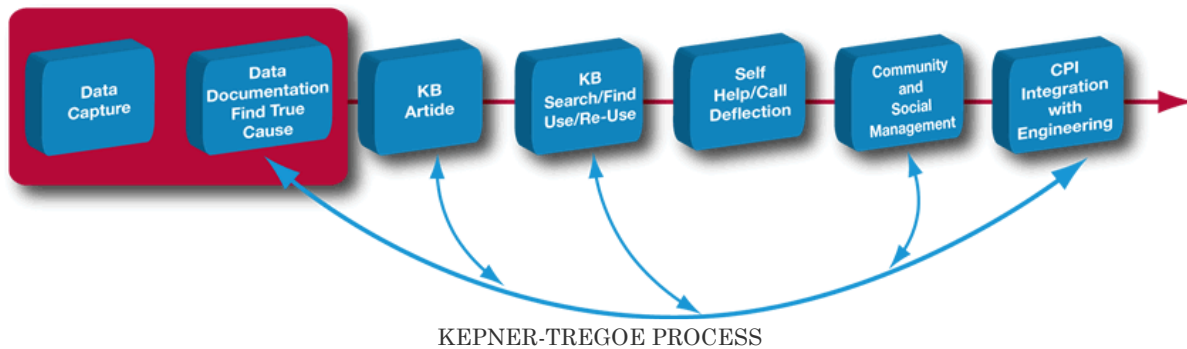
Unknown is a new problem where content does not exist yet. It is information the organization is going to have to discover from first principles. This is where the rigorous application of good quality processes and documentation techniques play a very big part-this is a journey into the unknown for the people involved. Others may need to follow, so it is essential to make sure the content is well documented and almost immediately published, so that others do not have the same struggles.

Kepner-Tregoe's Problem Solving and Decision Making processes, when installed in a support organization help on many levels^[5], specifically:

- The creation of high quality knowledge as a by-product of normal work
- The preparation of the organization to think correctly under pressure
- The ability to leverage the knowledge across the organization independent of organization, language and tooling boundaries

Kepner-Tregoe's Problem Solving and Decision Making (PSDM/KT ResolveSM) approach relies on data and logic, provides the "how" to rationally assess the situation, prioritize and resolve issues quickly under pressure. Dramatic business improvements, including those across the ITIL® Service Lifecycle, can be achieved by using a structured methodology to improve the way people solve problems, make decisions, plan ahead, and manage people and projects. KT has been the leader for over 50 years in providing this structured methodology, which is now the "front-end" to improving the quality of knowledge article creation-both in finding and re-using solutions should the same or similar issue occur again, and by providing a technology and product independent content standard.

It is essential to look at the integration of business processes and people's capabilities to be top-gun troubleshooters, and align those with tools for documenting and tracking performance to maximize the benefits of all investments made. KT's troubleshooting process, used as the 'front end' in CRM tools, captures factual information in a logical, consistent format and drives knowledge article creation, performance and trending, while promoting communication with customers and communities.



It does this by providing a logic framework for the engineers to work in—and the framework is used to marshal the thought process, the actual information about the problem and—as a by product of the process of solving the problem—valuable knowledge is harvested.

KT processes are now available commercially in Salesforce.com and IBM (Rational ClearQuest) CRM applications as a means to help users drive the business results they desire. With the help and creative talent of our Partner, Stone Cobra, a native Salesforce.com developer, there are three(3) versions available: BlackCRM (Customer Support Teams), PIIT VIPER (IT SM Incident and Problem Management teams), and KT Process, standalone KAA* (All KT Process PSDM/KT Resolve users).^[7]

In Part II

Part II of this DITY covers a three-step process for knowledge capture, which is key to the troubleshooting process.

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[1] Luft, J.; Ingham, H. (1955). "The Johari window, a graphic model of interpersonal awareness". Proceedings of the western training laboratory in group development (Los Angeles: UCLA).

[2] <http://www.kepner-tregoe.com/theKTWay/OurProcesses-MHP.cfm>

[3] Justin Kruger and David Dunning, "Unskilled and Unaware of It: How Difficulties of Recognizing One's Own Incompetence Lead to Inflated Self-assessments," Journal of Personality and Social Psychology, 1999, vol. 77, no. 6, pp. 1121-1134.

[4] <http://manveves.alphaworks.ibm.com/manveves/>

[5] <http://www.kepner-tregoe.com/servicevalue>

[6] <http://www.kepner-tregoe.com/SVMHC/>

[7] <http://www.kepner-tregoe.com/KTPPractice/Tech/KT-Accelleration-Application.cfm>