

## **FAST DOESN'T FLOW**

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### **BIOGRAPHY**

Ginger Adams has more than 30 years experience in business management and administration, including 22 years in value analysis. Her VA study experience includes roads, highways, bridges, rail and transit facilities, government facilities ranging from border stations to federal office buildings to AAFES stores, petrochemical facilities, hospitals, and schools. In recent years she has become more focused on process studies, those assembled to solve critical problems related to procedural issues, timelines, costs, consensus building and, in one case, preventing a lawsuit.

In 1994, 1997, and 2000, Ms. Adams received a Certificate of Recognition from the Federal Highway Administration for her work as Team Leader on VA studies conducted for the California Department of Transportation. Ms. Adams was the *first consultant to ever receive this award*, and the only consultant to have received it three times. At the 2003 AASHTO Value Engineering Conference in Tampa, Florida, a process study facilitated by Ms. Adams was recognized as “Most Value Added” process study.

Ms. Adams is currently one of eight CVSs progressing through training by Jim Suhr in the Choosing By Advantages (CBA) Decisionmaking System.

### **ABSTRACT**

If you're a strong believer in FAST diagramming, as I am, the title of this paper may have caused you to pause and say “Hmmmmm.” And that's exactly what I hoped would happen! A common practice when doing a Value study of a process is to develop a flow chart of the baseline process, then another of the post-VA process. In some cases, even though the VA team defines functions, there is a reluctance by some to do a FAST diagram, on the premise that the flow chart represents the same thing as a FAST diagram. This paper will demonstrate the differences between functions on a FAST diagram and activities on a flow chart, and how the two tools used together help a VA team grasp not only what must be done, but how and why it must be done.

## INTRODUCTION

Speaking for myself, and I've heard others express similar sentiments, function analysis and Function Analysis System Technique (FAST) diagramming were the most challenging aspects of the value methodology for me to master. I was also exposed, as I'm sure many of you were, to those arguments about when FAST is and is not appropriate. For example, many value practitioners who work in the construction sector will tell you that FAST doesn't contribute anything to a value study on a building, because you have the building envelope, the interior finishes, the mechanical and electrical systems, the civil and structural systems, etc., all of which are common to all buildings – so what good does a FAST diagram do??? Then there are those folks who believe that when performing a value study of a process or procedure, you need not do a FAST diagram because a flow chart, *especially* if you describe activities in the VA-specific verb-noun format, represents the same thing. My experience facilitating numerous value studies on processes and procedures indicates otherwise, and I am a firm believer that FAST diagramming is not only appropriate, but very necessary, for process studies.

## THE DIFFERENCES

Using the Merriam-Webster Dictionary, let us look at some specific definitions:

**Function:** the action for which a person or thing is specially fitted or used or for which a thing exists : PURPOSE

**Activity:** the quality or state of being active

**Active:** characterized by action

**Action:** the manner or method of performing

Using these definitions, one might interpret that the *functions* of a process or procedure represent the purpose(s) for which the functions are intended, whereas the *activities* are the physical acts of performing those functions. Put another way, if you have ever facilitated a novice team attempting to develop their first FAST diagram, you have heard them talk about what functions come “first” or “before” or “after” other functions. When this occurs, I quickly remind the team that they are not putting together a flow chart – there is no first, before, or after in a FAST diagram. There is only logic. A FAST diagram arranges functions in a logical manner to answer questions like “How?” and “Why?”, to define the *purposes* for which the process or procedure is in place. The process flow chart, on the other hand, specifies what *actions* occur by people and/or equipment to accomplish the intended functions.

Referring again to the Merriam-Webster dictionary, consider that the definition of “analysis” – which we are performing as part of the Function *Analysis* System Technique diagram – is defined as “an examination of a complex, its elements, and their *relations*”.

Kaneo Akiyama, in his book titled Function Analysis, states “Things that are static, fixed, and apparent can be defined in terms of shapes and colors. This is not the case with functions, which are dynamic, *relative*, and process-oriented.” In terms of a value study, what we do when we develop a FAST diagram is break down the process or procedure into its individual elements, and

graphically represent how they *relate* to one another. A flow chart, on the other hand, is defined as “a diagram that shows step-by-step progression through a procedure or system...”. The flow chart is the graphic representation of activities which considers the before and after implications, i.e., the sequence of events.

### FAST VS. FLOW

Let me illustrate the message with some real process study examples. Figure 1 is the FAST diagram developed by a team involved in decertifying State property for use by other individuals or organizations. The VA study was requested to validate why it takes twenty months to complete the decertification process.

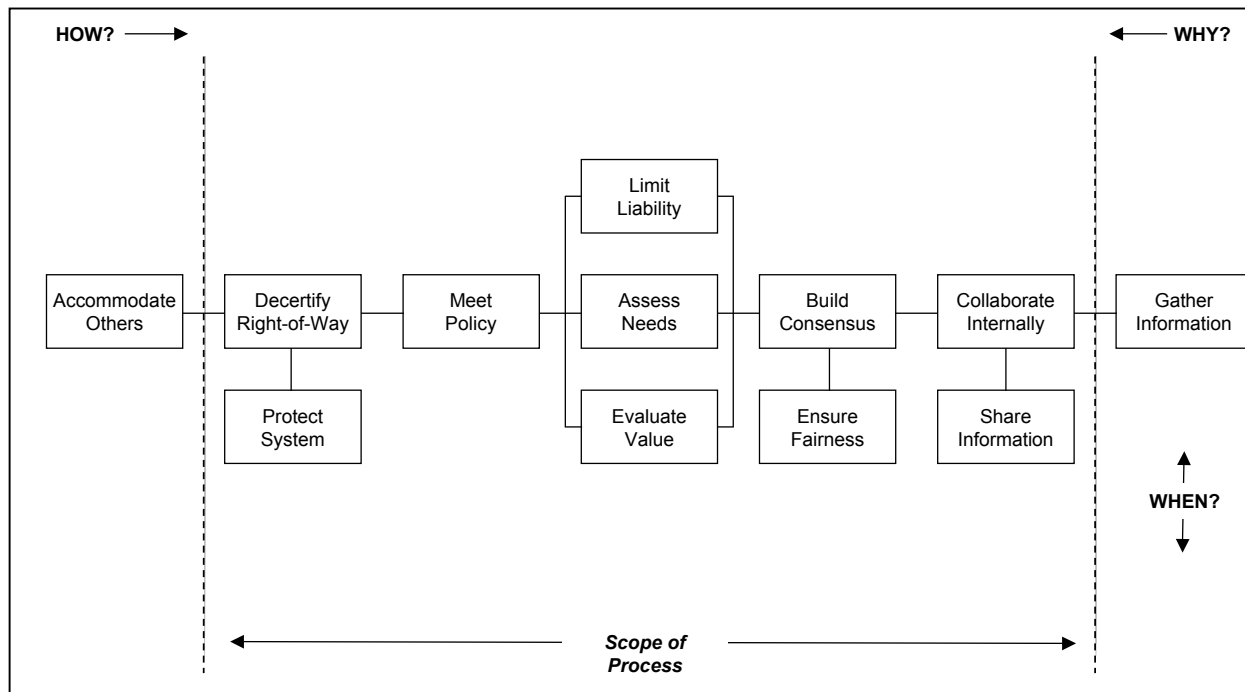


Figure 1 – FAST Diagram, Decertification Process

The team was charged with finding ways to reduce the timeline for decertification, and defining roles and responsibilities. The existing, pre-VA study process, was based on a flow chart more than a decade old, combined with input from management and VA team members during the VA study kick-off meeting. After refining the flow chart to represent the existing process, the team developed the FAST diagram.

Relating the functions above to activities on the flow chart enabled team members to eliminate, modify, or add activities, as appropriate. For example, the activities shown on Figure 2 (excerpted from the flow chart) are actions taken to *Collaborate Internally* and *Build Consensus*.

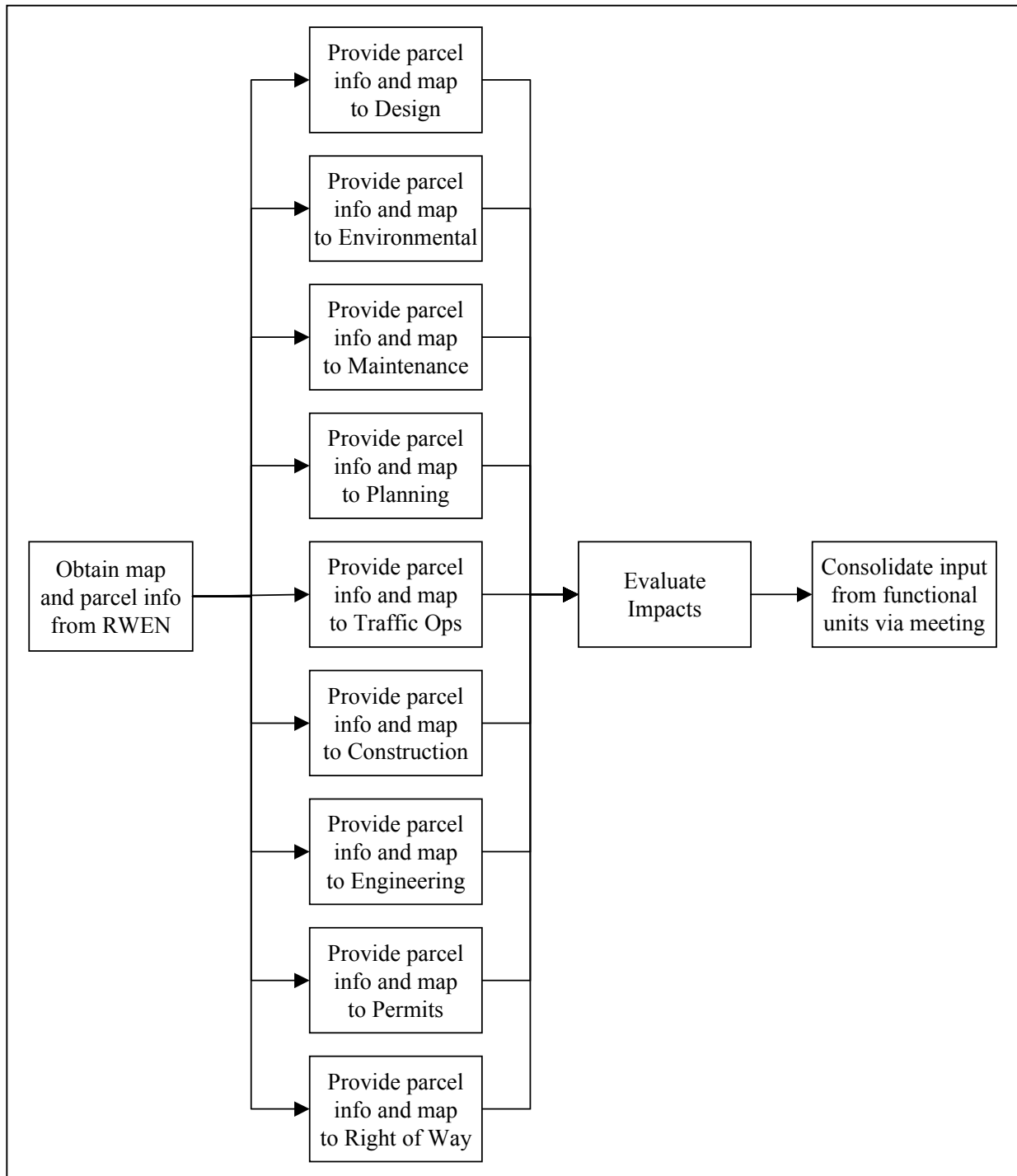


Figure 2 – Flow Chart Excerpt, Decertification Process

The pre-VA flow chart activities supporting these two functions included a lengthy checking and rechecking process, which took an elapsed time of approximately 11-1/2 weeks. Because the team was focused on the two *functions* mentioned above, they were able to modify the activities to accomplish those functions in 7-1/2 weeks. They focused on functions rather than on activities and came up with alternative ways, i.e., fewer activities, to accomplish the required functions.

The second example is from a VA study of a voluntary pilot program in a large organization, to permit lateral transfers for Administrative and Clerical personnel. In response to needs expressed by results of a personnel survey, the informal transfer process was developed with two basic functions in mind: Develop Skills, and Shorten/Simplify the Hiring Process. The program was intended to develop staff with additional skills and knowledge, create a more flexible workforce, and make staff more competitive for promotions. The VA team developed detailed flow charts to illustrate the current hiring process, who was involved, and how long it took. The group then developed the FAST diagram shown in Figure 3.

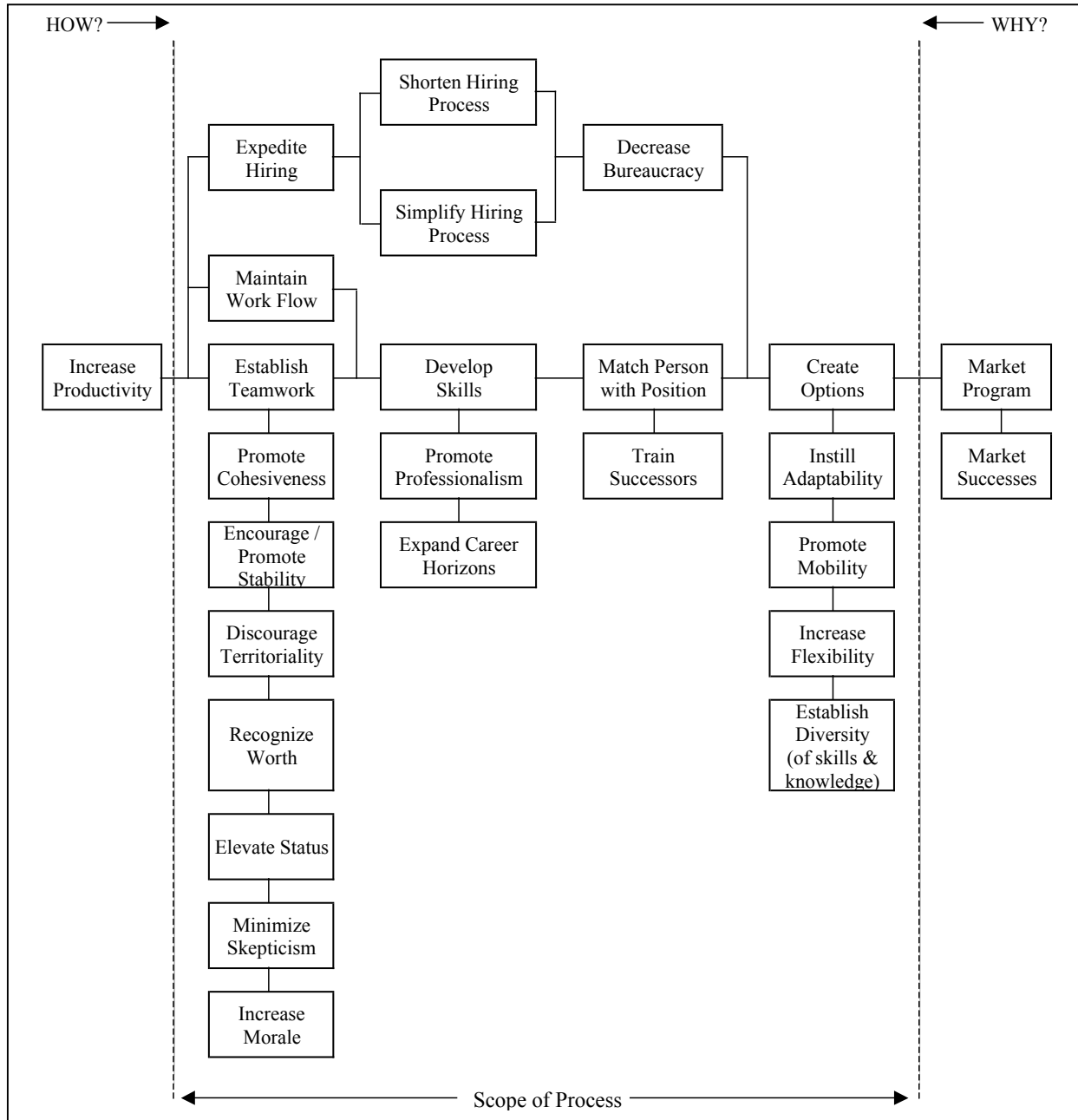


Figure 3 – FAST Diagram for Internal Transfers Process

To accomplish the basic function of *Expedite Hiring*, the team modified the activities to eliminate external advertising, and limit the pilot program to in-house, current staff. The modification clearly supported the functions *Shorten Hiring Process*, *Simplify Hiring Process* and *Decrease Bureaucracy*, and shortened the time for this portion of the process from 21 working days to 7 working days. See Figures 4 and 5 for excerpts from the pre-VA and post-VA flow charts.

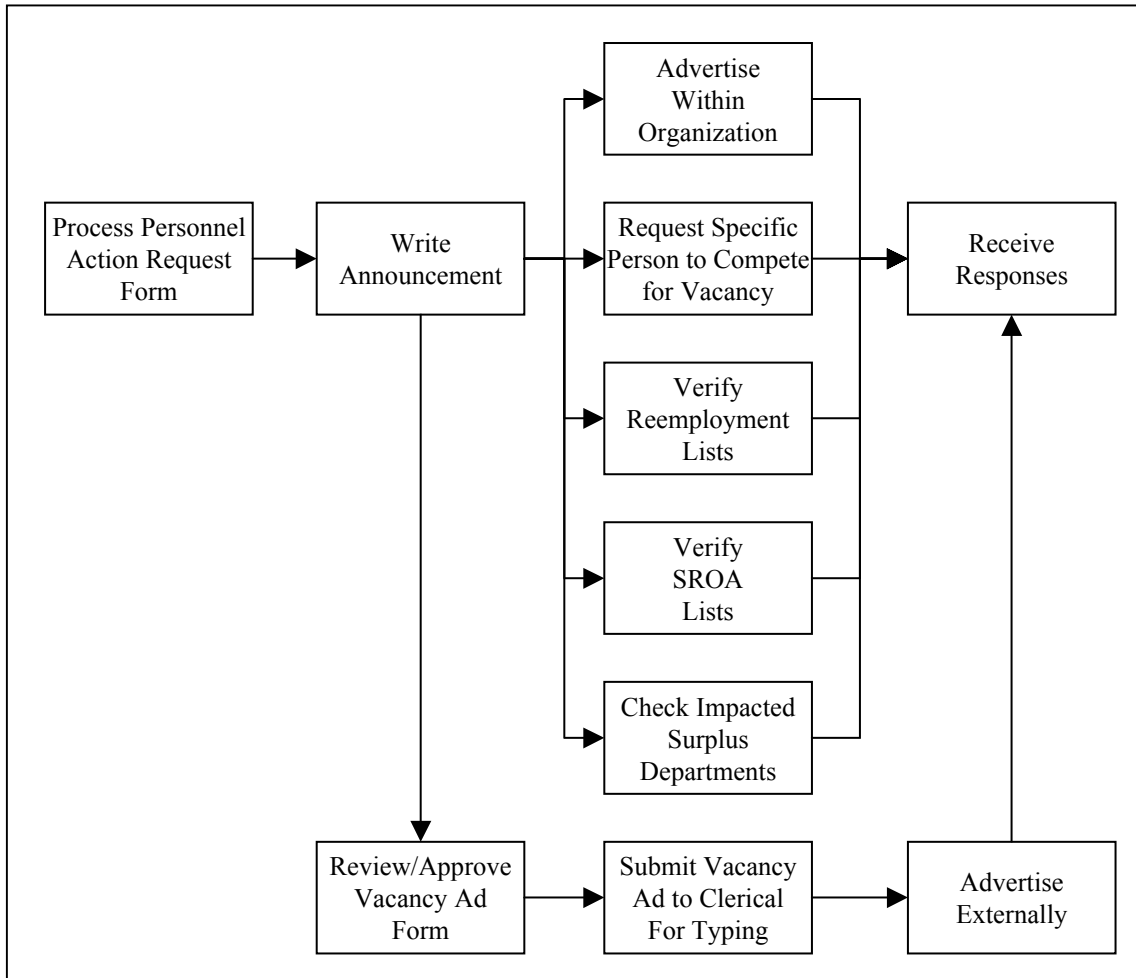


Figure 4 – Pre-VA Flow Chart, Internal Transfers

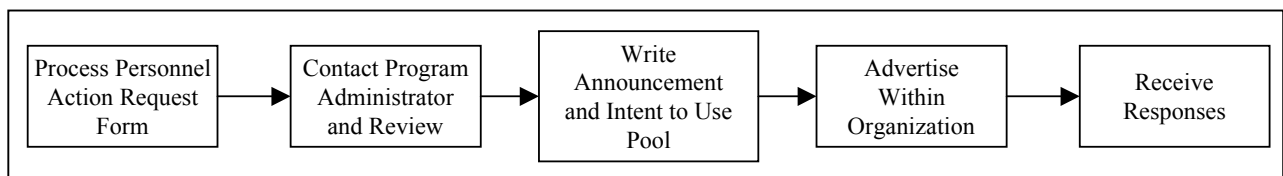


Figure 5 – Post-VA Flow Chart, Internal Transfers

## CONCLUSION

Function Analysis System Technique could be described as the system, and the flowchart as the process required to implement the system. FAST is also a good method for identifying flaws in the system, in that it enables the team to determine where unneeded or unwanted functions are included, and/or needed or wanted functions are missing.

Charles Bytheway, the originator of the FAST method, used the system to stimulate creativity. He emphasized use of what he called “thought-provoking questions” as opposed to focusing on completion of the FAST diagram, believing that success was defined by developing creative alternatives (solutions) based on the functions derived from answering the provocative questions. This approach brings up a very big difference between a FAST diagram and a flow chart: although it is not imperative for the FAST diagram to be complete, a flow chart must be completed to represent the entire process being defined.

As I said earlier, I am a firm believer in the power of function analysis and FAST diagramming. I believe developing a FAST diagram is one of, if not the, most powerful communications tools we use in Value Analysis, and is extremely effective for getting a multi-disciplined team to reach consensus on the scope of the process or project being analyzed. At the same time, a FAST diagram must not be misinterpreted to represent activities on a flow chart. FAST reflects the divergent opinions and feelings of people. It is a subjective, albeit collective, representation of a process scope. The flow chart, on the other hand, is the objective representation of what actually happens to accomplish the required functions.

## REFERENCES

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