

A FAST - DRIVEN APPROACH TO NEW PRODUCTION PLANNING

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ABSTRACT

This paper is about a success story on how FAST modeling was used to plan a new production program at the Rock Island Arsenal (RIA). The paper describes challenges faced by the facilitators in focusing a diverse group, using FAST, on the key issues of this new program. Results of the effort are then presented to illustrate the power of FAST in planning applications.

Plan for GMTK production considering the high production volume, uncertain design, lead time for acquiring resources, and vendor/ partner coordination.

Once the opportunity was defined, we proceeded to develop a customer FAST model. We were dealing with many different issues, but thanks to the opportunity definition and cooperative atmosphere, we were able to complete the FAST model to their satisfaction and ours. See Figure 1.

BACKGROUND

The RIA, Industrial Operations Directorate (IO) produces maintenance support equipment for Department of Defense (DoD) customers. They were recently awarded a large order for customized General Mechanic's Tool Kits (GMTK) and were to start delivery within six months. While IO is experienced in producing tool kits, this new kit represents a major increase in workload. To help in planning for this new program, IO requested our assistance.

THE WORKSHOP

We began by planning a two day VE workshop. Due to the importance of this new program, IO wanted all their management personnel (20+) at the workshop. This large group of supervisors came to the workshop with many uncertainties about the new program and how this "VE methodology" was going to help them.

We started the workshop by giving an overview of VE and its applications. We then led the group on problem/ opportunity definition which yielded:

THE RESULTS

The analysis of the FAST model led us to conclude that we need two strategies. They are described by the functions "Plan Initial Production" and "Plan Long-Term Production".

We held a discussion on immediate actions needed for GMTK production start-up. The outcome of this discussion was a listing of near term tasks needed to successfully initiate GMTK production in the time frame required by the customer. Many of the tasks involved personnel, equipment, facility and systems issues.

Within the longer term actions, the group identified two critical functions: "Anticipate Problems" and "ID Suppliers". The group brainstormed on both these functions to identify issues that must be addressed. For example the group came-up with a list of items to be considered when developing contracts with their vendors and partners (just-in-time delivery, customized packaging, labeling, delivery schedule, customer support, stability in tool design, performance incentives, etc.).

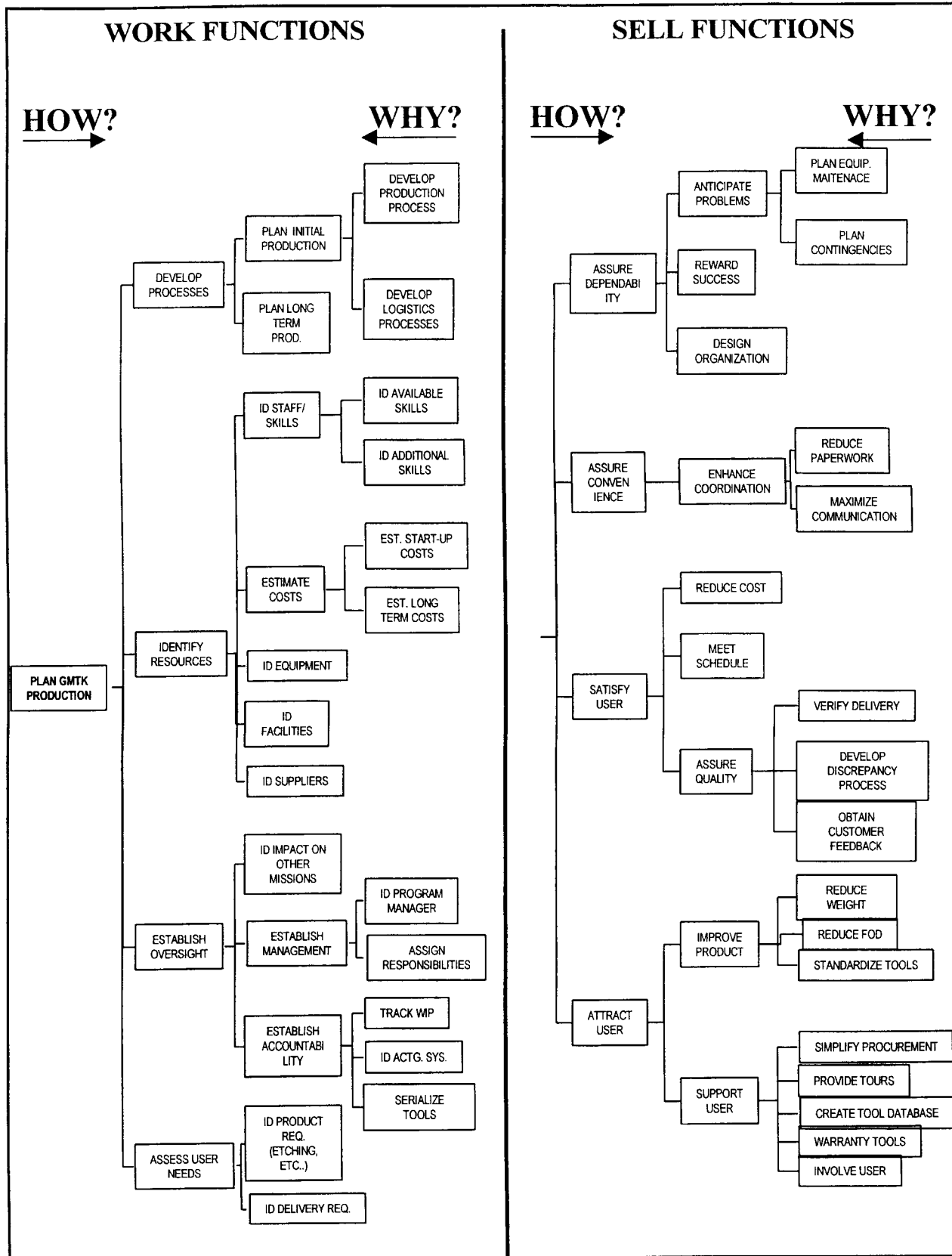


Figure 1. Customer FAST Model of GMTK Production Planning

Another function which led to some interesting results was the function "Develop Processes". The discussion centered around responsibilities by the different divisions for the processes needed to produce GMTKs. We were fortunate to have the IO Director in the room when this session took place. Without his help, we could not have resolved the many territorial issues that surfaced during this discussion (i.e. who is responsible for what?).

The outcome of this session was a detailed breakdown of task assignments to all appropriate divisions. Moreover, the IO Director used the opportunity of having all division supervisors to appoint a GMTK program manager. This person was then given the responsibility to follow-up on the results of the workshop.

CONCLUSIONS

IO management expressed great satisfaction in the results of the workshop:

- A clear opportunity statement for the GMTK program.
- A FAST model that portrays the functions that need to be accomplished to successfully initiate GMTK production and satisfy the customer.
- A listing of immediate tasks needed to plan GMTK production.
- Appointment of a GMTK Program Manager.
- Responsibility assignments for all facets of the GMTK production planning process.
- Identification of critical functions in the model along with key issues that need to be resolved.

This event demonstrated that we can take a large group of supervisors through an intense two day FAST modeling effort and yield the above results. It also shows that FAST can be a powerful program planning tool when the survival of an organization hinges on that program.

This was a mentally demanding experience for us and the participants due to the complexity of issues and the size of the group. However, given the criticality of the GMTK program everyone contributed their best effort to making this a success.

We hope to have encouraged VE practitioners to expand their application of FAST in planning type efforts. We feel there is tremendous potential for the use of FAST and other VE techniques in such areas.