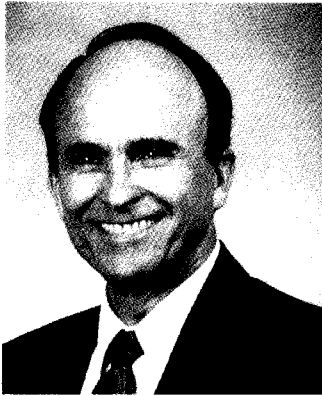


VALUE ANALYSIS AS A COLLABORATIVE PROCESS

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ABSTRACT

The differences between Value Analysis (VA) teams and traditional design teams are discussed. Because the VA team operates in a more *collaborative* style, it performs at a high level. Because the design team may have a more *competitive* style, it may perform at a lower level. Ways for the design team to emulate the VA team's structure, goal, process and performance are presented.

INTRODUCTION

The VA team is formed differently, performs differently and produces different results than the traditional design team. Failure to appreciate these differences often leads to the belief that the design team "always does VA on every project" and, therefore, there is no need for a separate team to perform a VA study. But, understanding the VA team's uniqueness leads to the realization that the VA methodology can benefit any project or process and even can be incorporated into the way design teams work.

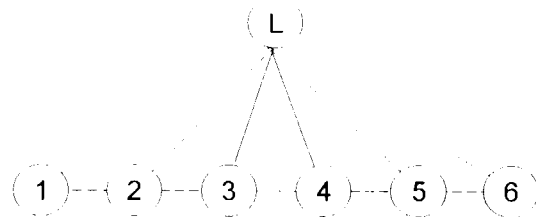
The differences between the design team and the value team can be illustrated by considering their team structures, their goals, their processes, their communications and their styles.

TEAM STRUCTURE

The structures of the design and value teams are different, particularly in the way they relate to their team leadership.

The typical design team is organized hierarchically with a design or project manager who "runs the show" (see Figure 1). All team members report to this individual (L) "upwardly" (solid lines); the amount of "lateral" communication (dashed lines) between team members is often limited and may be controlled by the team leader. The focus is programmatic, with priority given to satisfying specific tasks within the scope of work. Responsibility rests at the top of the team, with some delegation to team members.

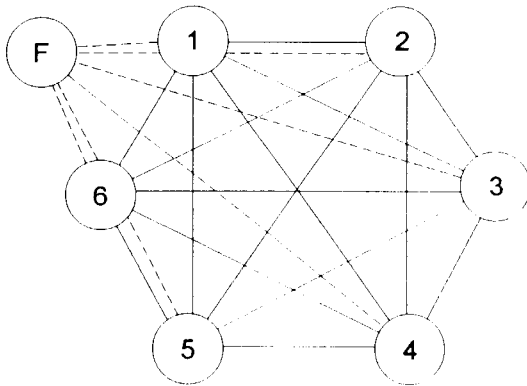
Figure 1. Design Team Structure



The value team, by contrast, is organized as an egalitarian group with a facilitator (F) who is part of the process but not part of the team (see Figure 2). All team members interact with each other as encouraged by the facilitator. The focus is the team activity, with priority given to meeting the larger

goals of the study. Responsibility rests within the team, with all tasks delegated to team members.

Figure 2. Value Team Structure



TEAM GOAL

The goals of the two teams may appear to be the same but they are different regarding the way they approach the project.

In recommending the use of multi-functional teams, Peters says, "Beware of incremental thinking. Determine not what can be done but what must be done...The solution begins with a whole new mind set".¹ Thus he defines the "profound" difference between the design team and the value team goals:

The goal of the design team is to determine what *can* be done. They are charged with interpreting the client's scope of work and criteria and translating them into a design. This may mean incorporating design features of questionable functionality that are perceived as "givens".

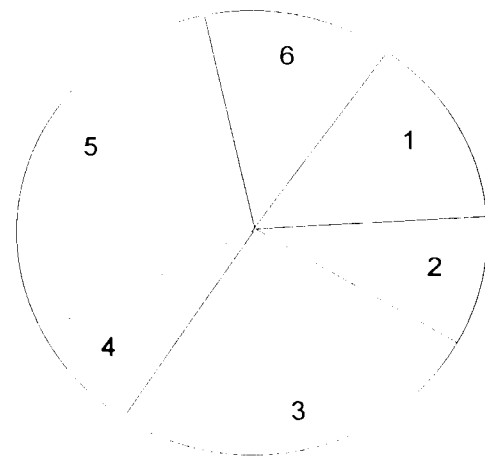
The goal of the value team, on the other hand, is to find what *must* be done. They are charged with challenging the client's scope of work and criteria, and searching for alternatives to improve function and/or cost. This may mean identifying givens that contribute to unnecessary cost without adding functionality.

TEAM PROCESS

The processes of the two teams are very different; the design team follows a project management protocol and the value team uses the VA job plan.

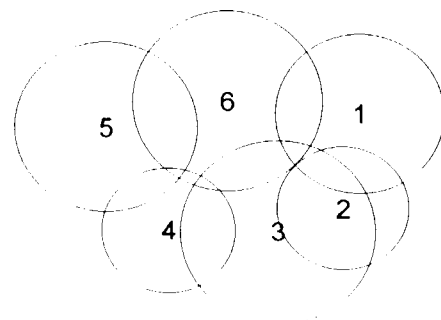
The process of the design team often treats the various parts of the project as separate and only meeting at common interfaces (see Figure 3). As shown in the diagram, the "pie-shaped" project elements form a neat, regular whole (the single circle); there are no overlapping areas, indicating that there may be no recognition of inter-dependencies between them. The straight lines represent boundaries of individual areas of influence that can be "hard" barriers to communication between team members. Further, the elements can be thought of as individual tasks to be performed only by assigned team members.

Figure 3. Design Team Process



For the value team the process treats the various parts of the project as interconnected with overlaps and common areas (see Figure 4). The elements form an irregular whole (the set of circles) that acknowledges their interdependencies, one to another or one to many others. The boundaries become fuzzy and communications between team members is enhanced. Issues are worked as a complete set, with team members crossing over the "soft" boundaries as encouraged by the VA job plan.

Figure 4. Value Team Process



TEAM COMMUNICATION

The design and value teams differ when considering the ways team members communicate with one another.

Successful value teams, according to Fraser and Voegtlen, have creative members who exhibit androgynous characteristics, "higher than average male and female elements in their personalities... [who] search for the most appropriate course of action rather than what the 'typical' male or female would".² Being open to many possible solutions is highly desirable in value teams; it may be detrimental on design teams.

A related description of the differences in masculine and feminine awareness is given by Gray: "Masculine awareness tends to relate one thing to another in a sequential way, gradually building a complete picture...Feminine awareness is expanded; it intuitively takes in the whole picture and gradually discovers the parts within, and it explores how the parts are all related to the whole".³

The masculine focus on *content* is like the design team; the feminine emphasis on *context* is like the value team.

The design team tends to communicate about single issues (content) individually, with team members working separately and even in isolation. This can be characterized as a serial process, a masculine-type process.

The value team tends to communicate about many issues (context) simultaneously, with team members working together and usually in the same space. This can be viewed as a parallel process, a feminine-type process.

A simple example of the serial process is turning over a deck of cards one at a time, in series, and trying to mentally categorize and sort them. Each card is viewed individually and processed sequentially. The parallel process is different; all the cards are laid out at the same time. It can be easier to categorize and sort the cards because they are all visible simultaneously.

Often the design team is required to process issues in series as the design manager "deals them out" one at a time. There may be little opportunity to understand how one issue might relate to others;

the resulting analysis may be incomplete. While it may be easier for some individuals to process issues in serial fashion, the team performance can suffer from the narrow view of the project.

Usually the value team is able to deal with many issues simultaneously, as the facilitator "lays them out" using the VA methodology. There is ample opportunity to see interrelationships and to make a more complete analysis of alternatives. While it may be uncomfortable for some persons to process issues in parallel fashion, the team performance can be enriched because of the broad view of the project.

TEAM STYLE

By synthesizing all of the above team differences-structure, goal, process and communication-it is possible to reach the conclusion that design teams tend to operate in a more *competitive style* and the value teams perform in a more *collaborative style*.

Collaboration is defined by Schrage as "an act of shared creation and/or shared discovery".⁴ It is a different quality of interaction between individuals working on a problem. His *collaborative model* adds a vital "shared space" to the normal *transactional model*, thus transforming conversation into collaboration.⁵

Schrage specifies details for the collaborative environment, such as a defined vocabulary, illustrative imagery and shared understandings. Further, he says, "Collaboration means...creating a shared space to play collectively with ideas and information".⁶ These words powerfully describe collaborative activity in a value team; they evoke the style inherent in the value process, which is often missing in the design process.

Shared space for the design team is often limited to the meeting room where they meet for regular and special status reporting sessions. In addition, the project documents (drawings, specifications, cost estimates) constitute shared space. But because the shared space is used in a limited way, the design team members find themselves *competing*: competing for the biggest share of the design budget; competing for the attention of the design manager; and competing for the best design.

Shared space for the value team is the study room that they occupy together almost exclusively during a

study. The design documents and the flip charts listing issues and ideas also are part of their shared space. Because the shared space is so well used (the walls often are "papered" with the team's recorded thoughts) the value team members find themselves *collaborating*: collaborating to create the most alternative ideas; collaborating to evaluate the ideas objectively against project-specific criteria; and collaborating to develop the most viable, cost-effective alternatives.

SUMMARY

Table 1 summarizes the attributes of the value team and the design team. It is possible for the design team to assume the attributes of the value team to improve performance. If the design team manager was able to facilitate meetings instead of leading them; if the design team could focus on what must be done and not on what can be done; if they could view the job as a whole rather than its component parts; if their shared space could be used more frequently; then they would function more in a collaborative way and less in a competitive way. They would perform more like a value team.

A team of high-wire acrobats cannot struggle-compete-for control of the long pole that gives them balance. They must work together-collaborate-to maintain their balance and achieve their goal of reaching the other end of the wire. Likewise, both value and design teams must collaborate to improve their communication and achieve a style that makes them high-performance teams that successfully reach their goals.

Table 1. Comparison of Team Attributes

Attribute	Value Team	Design Team
Team Structure	Egalitarian group with team facilitator	Hierarchical group with project manager
Team Goal	What <i>must</i> be done	What <i>can</i> be done
Team Process	Job elements treated as inter-related, worked together as a set	Job elements treated individually, worked separately
Team Communication	Parallel, feminine-type	Serial, masculine-type
Team Style	Collaborative: members <i>share</i> space, resources and recognition	Competitive: members <i>contend for</i> space, resources and recognition

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4. Schrage, Michael, *Shared Minds*, Random House, 1990, p. 6.
5. *Ibid.*, p. 98.
6. *Ibid.*, p. 31.