

Preface to the Second Edition

My son Robert, while 150 feet high on the magnificent four-mile-long Bay Bridge at Annapolis, looked down upon two dozen assorted craft in the water below. Some carried pile drivers, some cement mixers, some steel handlers, and some assorted materials—all working at building a parallel span. He said, “I can’t conceive of men being able to build such a bridge,” and then added, “And the men who get the job done are no smarter than you and I.” Then his next comment struck home to me: “It’s the system that does it.”

How often, when observing the startling results in ending costs that have brought no benefits, accomplished by people using the value analysis system, have I thought, “Truly the results from fully using the right system at the right time almost transcend understanding!” Such accomplishments accrue from effective use of the techniques of value analysis taught in this text. Thousands upon thousands of cases from actual practice, from small businesses and large, from mass-production and job shop, from product redesign and product research and development, from government entities such as city, state, and Federal, from social-service groups such as hospitals, schools, and churches, from adminis-

trative services groups such as banks and other businesses, verify this, as the examples cited throughout the book will indicate.

Created for one specific purpose—the identification of unnecessary costs—value analysis is a system, a complete set of techniques, properly arranged, for the sole purpose of efficiently identifying unnecessary cost before, during, or after the fact. Some of the techniques are familiar, some modified, some new. The effectiveness in utilizing this system depends upon the understanding, training, and skill of the users, as well as the understanding of all business people in the environment in which it operates.

It is a disciplined action system, attuned to one specific need: accomplishing the functions that the customer needs and wants, whether these functions are accomplished by hardware, service, a group of people, professional skills, administrative procedures, or other at the lowest cost. In its disciplined thinking, value analysis is comprised of specific mind-setting, problem-setting, and problem-solving systems. These systems will assist anyone who has the task of providing more of what the customer wants for less cost.

Some have called it “coaching for champions.” All golfers can drive and chip and putt, but when it is important to win, the professional gets coaching that gives him a little better drive, chip, or putt. He learns very effective techniques for doing each well and uses them all at the right times. He wins. Similarly, when it is really important to the business or organization to identify and remove unnecessary cost in the most effective, prompt, efficient, and economical manner, the specific system of techniques for that task is learned and always used.

In achieving better value, there are two separate opportunity areas:

1. The identification of costs as unnecessary
2. The decision making which will eliminate the identified unnecessary cost

The techniques in this text apply extensively in area 1, identification. They are applicable in the predesign stage, the design-concept stage, the design stage, the procurement stage, and the manufacturing stage, as well as in later cost-improvement stages.

Success in marketing a product or service is, to an important extent, dependent upon its degree of (1) performance equality or leadership and (2) cost equality or leadership when compared at any time with its competition. Industry generally has rather well developed and successful techniques and procedures through which improvements in performance are planned, researched, developed, and incorporated into the product or service. In contrast, additions to value, i.e., identifying and eliminating

unnecessary cost, proceed on a "do as well as we can" and "when we must" basis.

The objective of the concepts and techniques of value analysis is to make possible a degree of effectiveness in identifying and removing unnecessary cost that approaches the effectiveness of identifying performance improvements for the product or service and incorporating them into it. *Value analysis* is the name applied to this disciplined, step-by-step thinking system, with its specific approaches for mind setting, problem setting, and problem solving. *Value engineering* is often the name correctly used by qualified engineers in engineering work.

This book is arranged as a step-by-step teaching text. The student will first understand and master the approaches and techniques of Chapter 1, then of Chapter 2, etc., to Chapter 11. Thereafter follows essential guidance in matters of organization, administration, and measurement. Finally, for the experienced user, chapters on work in the construction industry and advanced techniques are included.