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A new outlook replaces thoughts of rebuilding the economy

By Jim Morgan -- 11/18/1999

When the troops returned from World War II it took little time for them to realize that the world they left had radically changed. Instead of questions about the future of the economy, there were more pressing problems to be faced and solved. New families were being formed. New housing had to be erected. Much of Europe and Japan had to be fed and rebuilt. And deferred demand for autos, appliances, and all types of consumer goods was waiting to be satisfied.

Demobilization, despite all of the new demands of the market, took place at a remarkably smooth and rapid pace. Many of the dislocations suffered at the end of the first world war were not repeated--or at least they were dealt with more efficiently. For instance, many of the war-imposed government controls were kept in place and only gradually removed. Unlike demobilization at the end of World War I, preparations had been taken for a relatively smooth transition from a war-time to a civilian footing.

Still, by the end of World War II, U.S. industry capacity was in pretty rough shape and badly in need of modernization. After 10 years of depression followed by three and a half years of war, the nation was faced with a huge rebuilding job. Moreover, the United States, as the one major power in the world that was relatively unscathed by the physical aspects of war, quickly came to realize that it had a prime responsibility for rebuilding much of Europe and Japan. The alternative: A repeat of the '20s and '30s--or worse.

For many purchasing departments this was a period of involvement in corporate competitive challenges at levels never experienced by purchasing before. For the first time purchasing was becoming involved in such areas as logistics, capital equipment purchases, the letting of construction contracts, make-buy decisions, capital decisions, and the use of contract manufacturing.

This period also marked purchasing's entrance into the strategic thinking and planning of corporate America. Purchasing at GE, for example, revolutionized purchasing participation in product development with its pioneering of value analysis and value engineering.

The twin disciplines were the brainchildren of Larry Miles, an engineer in GE's purchasing department who developed them during the war. In basic terms both are studies of function. Value engineering looks at function during the design stage; value analysis looks at function in products already in production. Both look at the relationships of design, function, method of manufacture, use of materials, sources of supply. According to the gospel of VA/VE preached by Larry Miles, the most important thing buyers could do was to ask questions about function, cost, fabrication, how goods would be handled on the production floor, design features, special requirements, cost of doing business, inventory requirements. Unless buyers ask these types of questions, he felt, they were mainly going through the motions without really understanding the significance of what they were buying or how it affected customer satisfaction.

Value analysis came first and was thought of as a tool for measuring the value performance of components in products before they go into initial production and after products have been in production for a period of time. Typically value analysis evaluation techniques were brought into play to detect whether:

- Unnecessary features have crept into the design during the manufacturing stage.
- A possible improvement had been left out of the design, or a less than satisfactory one put in due to the lack of the best possible idea at the right time.
- Temporary conditions of supply or tooling had forced the company to use less desirable material or less efficient method of processing.
- A design or production decision was the wrong one for the product.

Later the use of value analysis techniques (often called value engineering) began to be adopted by companies at the early stages of product design. In addition to opening up the physical elements of supply to purchasing professionals, value analysis was the forerunner of a whole series of analytic tools that were to later revolutionize U.S. manufacturing and, especially the purchasing function. Reverse engineering, systems analysis, competitive analysis, benchmarking, and process reengineering all have roots that stretch back to VA/VE as it was developed at GE in the years following World War II.

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