Creative VE activity using Value Curve

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BIOGRAPHY

Byung-mo Yang, CVS, is Assistant Manager, Value Innovation Program Center, SAMSUNG ELCETRONICS. Born in 1974 in Seoul, Korea, he has a degree in Information technology management. He has been working as a VE program manager, since he joined VIP-Center. He is a Certified Value Specialist and he has practiced and applied Value Engineering on the new product development project, particularly specialized in Consumer Electronic product.

ABSTRACT

In VE activity, one of the major goals is cost reduction in developing products or services. To achieve more innovative and effective cost reduction, Samsung Electronics uses the Value Curve. The Value Curve, introduced by W. Chan Kim and Renée Mauborgne, visually shows how a company invests in the factors of competition and how a company might invest in them in the future and can be used to represent the range of value propositions. Using the Value Curve, we can develop new products and perform VE activity more efficiently, in addition to matching customer's needs.

This paper will introduce the use of the Value Curve and a case study of using the Value Curve to decide which functions should be eliminated or created, and raised or reduced in the FAST Diagram.

INTRODUCTION

In this new millennium, globalization and rapid technology growth is making CE (Consumer Electronic) product development more difficult. We have to simultaneously pursue radically superior value for buyers' needs and lower costs for companies. Value Innovation (W. Chan Kim and Renée Mauborgne, 1997) is the ability to challenge assumptions about strategy and to seek to make the competition irrelevant, instead of competing on established ground. Through the results of the Value Curve and VE activity, we could complete our project more efficiently. Through a case study, this paper will attempt to demonstrate the benefit of VE activity with the Value Curve.

Value Innovation

After a decade of downsizing and increasingly intense competition, profitable growth is a tremendous challenge many companies face. Why do some companies achieve sustained high growth in both revenues and profits? In a five-year study of high-growth companies and their less successful competitors, W. Chan Kim and Renée Mauborgne found that the answer lies in the way each group approached strategy. The difference in approach was not a matter of managers choosing one analytical tool or planning model over another. The difference was in the companies' fundamental, implicit assumptions about strategy. The less successful companies took a conventional approach: their strategic thinking was dominated by the idea of staying ahead of the competition. In stark contrast, the high-growth companies paid little attention to matching or beating their rivals. Instead, they sought to make their competitors irrelevant through a strategic logic W. Chan Kim and Renée Mauborgne call *value innovation.*

Conventional strategic logic and the logic of value innovation differ along the five basic dimensions of strategy. Those differences determine which questions managers ask, what opportunities they see and pursue, and how they understand risk. Table 1 illustrates differences.(W. Chan Kim and Renée Mauborgne, 1997)

The Five Dimensions of Strategy	Conventional Logic	Value Innovation Logic
Industry Assumptions	Industry's conditions are given.	Industry's conditions can be shaped.
Strategic Focus	A company should build competitive advantages. The aim is the beat the competition.	Competition is not the benchmark. A company should pursue a quantum leap in value to dominate the market.
Customers	A company should retain and expand its customer base through further segmentation and customization. It should focus on the differences in what customers value.	A value innovator targets the mass of buyers and willingly lets some existing customers go. It focuses on the key commonalities in what customers value.
Assets and capabilities	A company should leverage its existing assets and capabilities.	A company must not be constrained by what it already has. It must ask, What would we do if we were starting a new?
Products and Service Offerings	An industry's traditional boundaries determine the products and services a company offers. The goal is to maximize the vale of those offerings.	A value innovator thinks in terms of the total solution customers seek, even if that takes the company beyond its industry's traditional offerings.

Table 1. Two Strategic Logics.

Creating a New Value Curve

The value curve- a graphic depiction of the way a company or an industry configures its offering to customers – is a powerful tool for creating new market space. It serves two purposes. First, it captures the current state of play in the known market space. This allows to understand where the competition is currently investing, the factors the industry currently competes on in products, service, and delivery, and what customers receive from the existing competitive offerings on the market.

The Value curve captures all this information in graphic form. The horizontal axis captures the range of factors the industry competes on and invests in, and the vertical axis captures the offering level that buyers receive across all these key competing factors. A high score means that a company offers buyers more, and hence invests more, in that factor. In the case of price, a higher score indicates a higher price.

The Value curve is also drawn by plotting the performance of the offering relative to other alternatives along the key success factors that define competition in the industry or category.

To identify those alternatives, Intuit, for example, looked within its own industry – software to manage personal finances – and it also looked across substitute products to understand why customers chose on over the other. The dominant substitute for software was the lowly pencil. The value curves for these two alternatives map out the existing competitive space. (W. Chan Kim and Renée Mauborgne, 1999)

The value curves in Personal Finance Before Quicken

The software offered relatively high levels of speed and accuracy. But customers often chose the pencil because of its advantages in price and ease of use, and most customers never used the soft-ware's optional features, which added cost and complexity to the product. (W. Chan Kim and Renée Mauborgne, 1999)

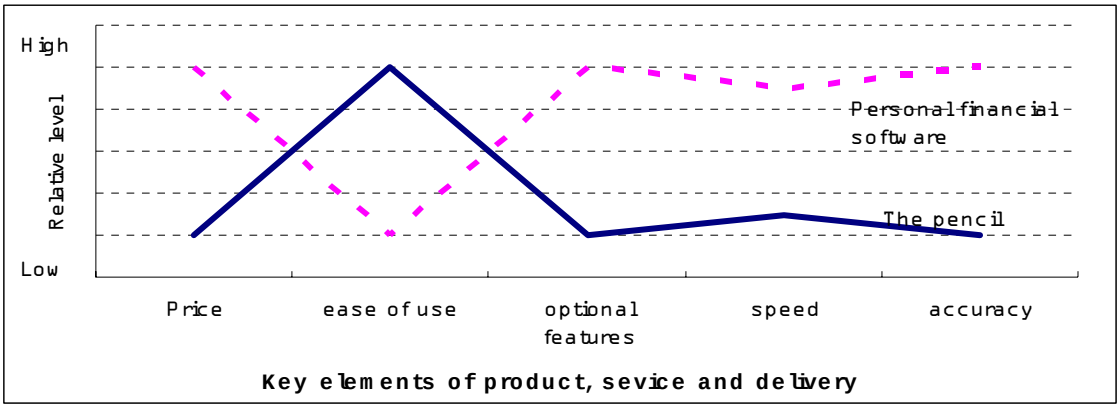

Figure 1. The value curves in Personal Finance Before Quicken.

To fundamentally shift the value curve of an industry, a company must begin by reorienting strategic focus from competitors to alternatives, and from customers to noncustomers of the industry. To purse both value and cost, a company should resist the old logic of benchmarking competitors in the existing field and choosing between differentiation and cost leadership. As a company shifts their strategic focus from current competition to alternatives and noncustomers, the company gain insight into how to redefine the problem the industry focuses on and thereby reconstruct buyer value elements that reside across industry boundaries. Conventional strategic logic, by contrast, drives a company to offer better solutions than their rivals to existing problems defined by their industry. (W. Chan Kim and Renée Mauborgne, 2005)

The Four Actions Framework

To reconstruct buyer value elements in crafting a new value curve, W. Chan Kim and Renée Mauborgne have developed the four actions framework. As shown in figure 2, to break the trade-off between differentiation and low cost and to create a new value curve, there are four key questions to challenge an industry's strategic logic and business model:

• Which of the factors that the industry takes for granted should be *eliminated*?
• Which factors should be *reduced well below* the industry's standard?
• Which factors should be *raised well above* the industry's standard?
• Which factors should be *created* that the industry has never offered?

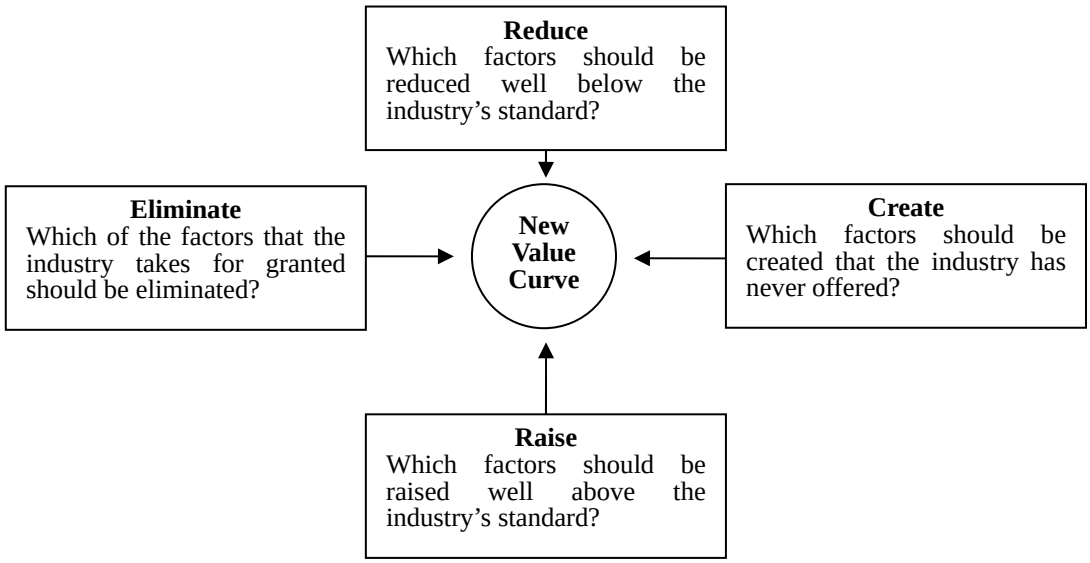

Figure 2. The Four Actions Framework.

The Eliminate-Reduce-Raise-Crete Grid

The Eliminate-Reduce-Raise-Crete Grid is a supplementary analytic to the four actions framework (Figure 3). The grid pushed companies not only to ask all four questions in the four actions framework but also to act on all four to create a new value curve. (W. Chan Kim and Renée Mauborgne, 2005)

Eliminate	**Raise**
Elimination factors that companies in your industry have long competed on.	Uncover and eliminate the compromises your industry forces customers to make.
Reduce	**Create**
Determine whether products or services have been overdesigned in the race to match and beat the competition.	Discover entirely new sources of value form buyers and to create new demand and shift the strategic pricing of the industry

Figure 3. Eliminate-Reduce-Raise-Create Grid

Quicken's Value Curve

Answering the four questions led Intuit to create a new value curve, which combines the low price and ease of use of the pencil with the speed and accuracy of traditional personal –financial software. . (W. Chan Kim and Renée Mauborgne, 1999)

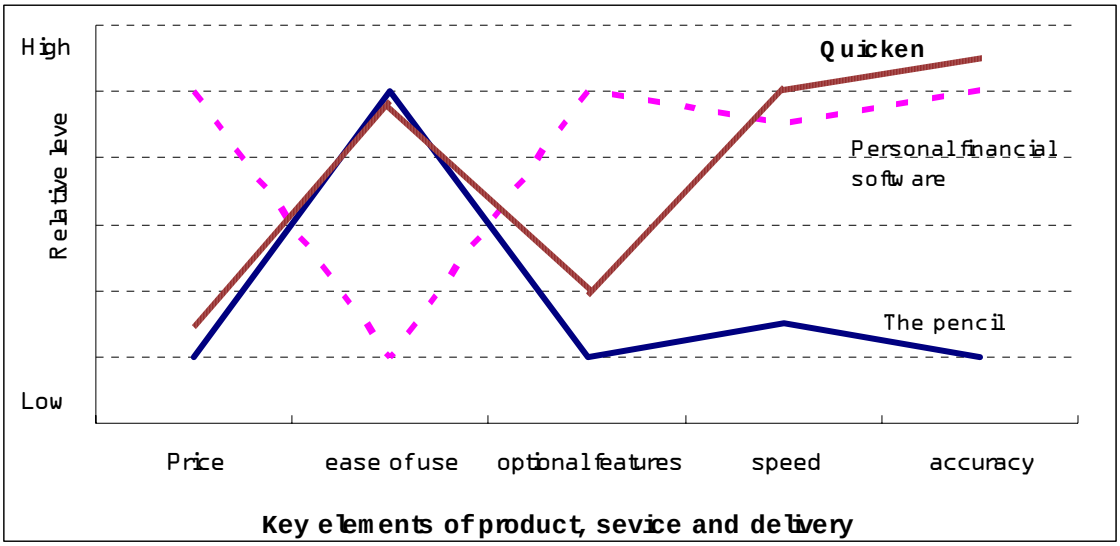

Figure 4. Quicken's Value Curve.

Function Analysis Systems Technique(FAST)

The “Father of Value Analysis”, Lawrence D. Miles, was a design engineer for General Electric in Schenectady, New York. Miles developed the concept of function analysis to address difficulties in satisfying the requirements to fill shortages of high demand manufactured parts and electrical components during World War II. His concept of function analysis was further developed in the 1960s by Charles W. Bytheway, a design engineer at Sperry Univac in Salt Lake City, Utah.

Charles Bytheway extended Mile’s function analysis concepts and introduced the methodology called Function Analysis Systems Technique(FAST) to the Society of American Value Engineers(SAVE) at their International Convention in 1965(Bytheway 1965). FAST uses intuitive logic to decompose a high level, or objective function into secondary and lower level functions that are displayed in a logic diagram called a FAST model. This model provides new insights and opens opportunities to apply creativity to develop new ways, or alternative ways of accomplishing these functions.

One of the important contributions FAST is synergistic way of developing, decomposing, and understanding the functions of any product, process, service, or organization. FAST utilizes a task force type system to get maximum performance from the individual and capitalize on performance by supplementing it with a group.

This synergistic concept is important in that it presupposes that a group than can achieve greater results than can the individuals separately. This is done by managing the complexities of interaction of the design engineering group by creating a task force composed of members of all the functional groups required to design and produce a product for a customer. It includes a member or members from design and project engineering, manufacturing engineering, purchasing, marketing, quality, operations, environmental, safety and health and others as required, thereby, increasing the decision making capacity beyond that of just the individuals involved.(Wixson, 1987)

Case Study

We used Value Innovation Logic to achieve more innovative and effective cost reduction results, in our new project. After we found Value Factors and Value Curve, we performed the four actions framework and the Eliminate-Reduce-Raise-Crete Grid.

Using Value Innovation Result, we created strategic profile of the new project and we could decide which functions should be eliminated or created, and raised or reduced in

the FAST Diagram more easily.

Following case study is one of our successful projects using Value Innovation Logic and FAST Diagram.

S Project is personal multimedia player to target America market in S division. We used customer needs analysis and Value Curve to do more efficient VE activity. We could reflect customer needs in the advance, while we had thought only cost-saving in the past.

The value curves in personal multimedia player Before S Project

The Personal multimedia player offered relatively high levels of capacity and portability. But customers often chose the walkman and CDP because of its advantages in price and ease of use, and most customers never used the unnecessary optional functions, which added cost and complexity to the product.

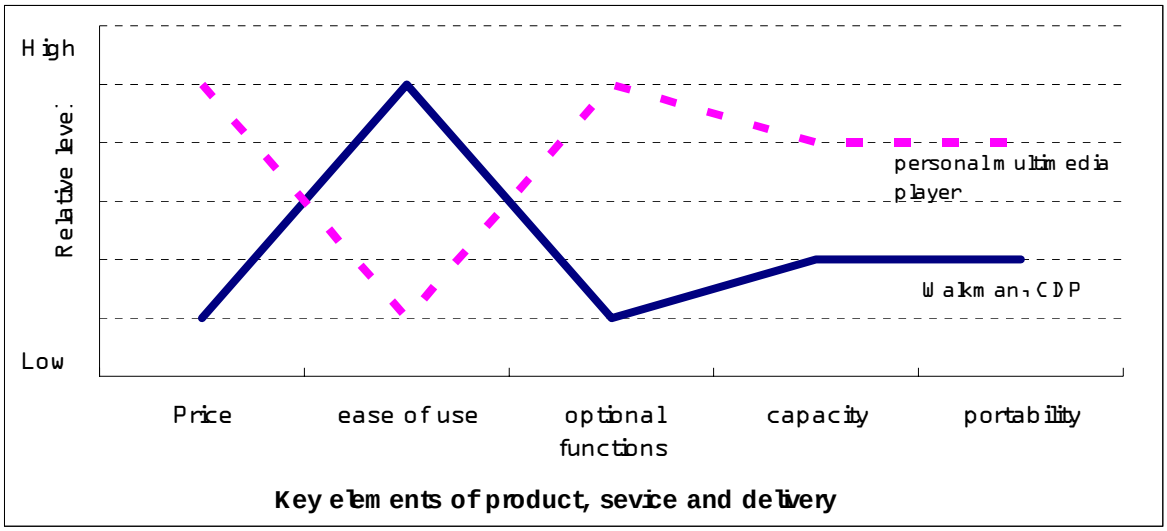

Figure 5. Value Curve in personal multimedia player before S Project

The Four Actions Framework

To reconstruct buyer value elements in crafting a new value curve, we performed the four actions framework. To break the trade-off between differentiation and low cost and to create a new value curve, our team members asked four key questions each other to challenge an industry's strategic logic and business model.

- Which of the factors that the industry takes for granted should be *eliminated*?
- Which factors should be *reduced well below* the industry's standard?

• Which factors should be *raised well above* the industry's standard?
• Which factors should be *created* that the industry has never offered?

The Eliminate-Reduce-Raise-Crete Grid

Finally, our team members fill the Eliminate-Reduce-Raise-Crete Grid with the actions of eliminating and reducing as well as raising and creating to create a new value curve.

Eliminate	**Raise**
Optional functions	Easy of use, Capability, Portability
Reduce	**Create**
Price	(information & service)

Figure 6. Eliminate-Reduce-Raise-Create Grid (versus Personal multimedia player)

S project's Value Curve

Answering the four questions and filling the Eliminate-Reduce-Raise-Crete Grid led us to create a new value curve, which combines the low price and ease of use of the walkman and CDP with the capability and portability of traditional personal multimedia player. We also eliminated the optional functions which most customers never used, and we created information and service factor for next project.

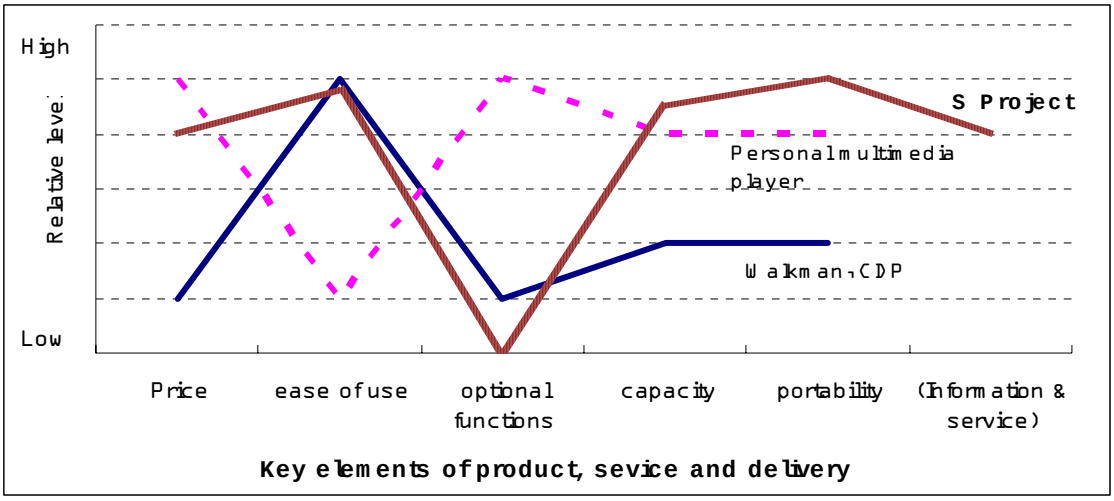

Figure 7. S project's Value Curve.

S project's FAST Diagram

Using Value Innovation Result, we created strategic profile of the new project and we could decide the project's final FAST Diagram more easily. Figure 8 illustrates the FAST Diagram identified by our team for S project. We eliminated the optional functions, and raised the ease of use, capability and portability functions in the FAST Diagram. We also created new functions for our new project.

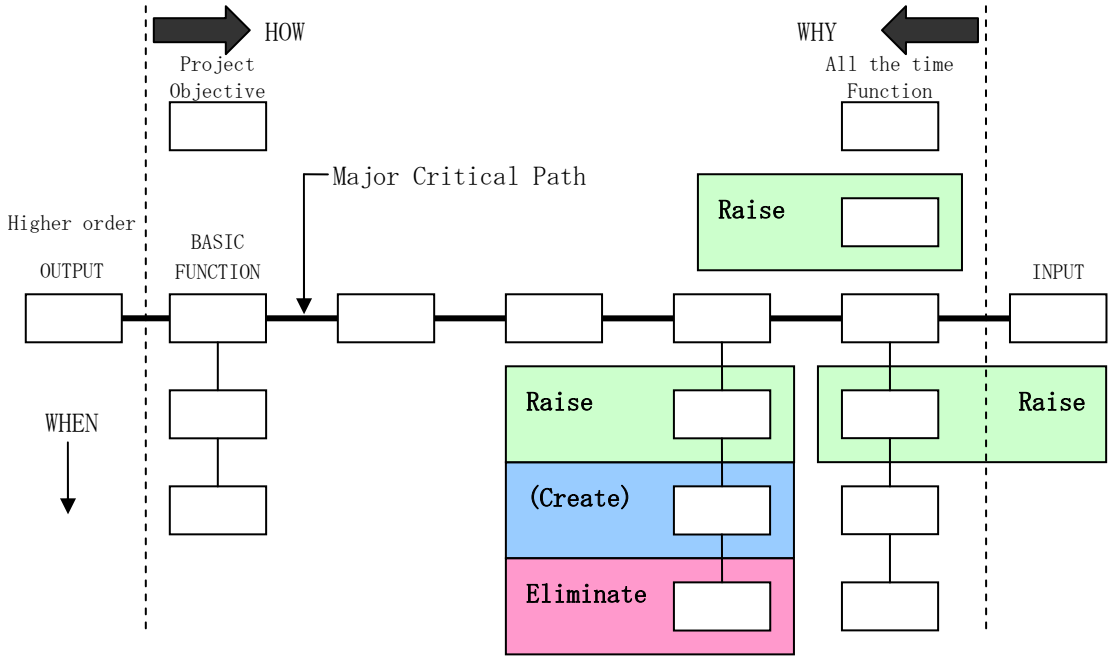

Figure 8. S project's FAST Diagram. (Detail information is confidential)

CONCLUSION & FUTURE STUDY

Using Value Innovation Logic, we could easily decide which functions should be eliminated or created, and raised or reduced. In addition to Eliminate-Reduce-Raise-Create function guide, the Value Curve can be used to enhance the Cross Functional Team's understanding of the product and synergistic effect can be achieved when the Value Curve and FAST diagram is built by the CFT.

We will further develop the use of the Value Curve and FAST diagram technique so that more effective activities can be achieved through the exact performance measurement. We also accumulate these data to improve the effects of VE activities and to create a consensus on the product concept between team and management.

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