Life Cycle Costing

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Abstract

Life cycle costing (LCC) analysis is concentrated on explain the total cost of goods throughout its full life cycle, which includes research and development, construction, operation and maintenance, and disposal. The LCC is important tool for decision making in purchasing a product, in appropriate design, in securing maintenance, or in planning upgrade. Main problem of this analysis is that we must to predict very precise the volume of sales of the product during its life. In this respect it very essential to make this calculation together with marketing managers and understand very well product life cycle of the goods or service.

Key words

Life cycle, costing, product, introduction, growth, maturity, decline

1. Introduction

Before we will explain the life cycle costing it is necessary to understand the idea of a product life cycle. This theory was first presented in the 1950s to show the expected life cycle of a standard product from design to the end of use. The cycle is represented by a line that can be divided into four stages: introduction, growth, maturity and decline.

2. Stages of Product Life Cycle

Product life cycle represents four stages:

1. Introduction stage
2. Growth stage
3. Maturity stage
4. Decline stage

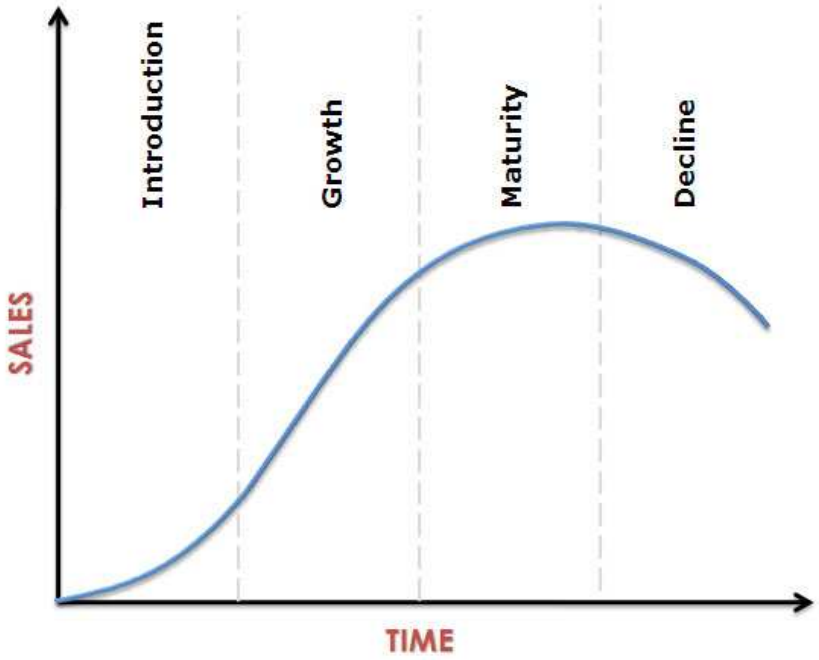

Fig. 1. Stages of product life cycle

The aim is to increase the product's value at each stage. First time It was considered as a marketing theory and the name was invented by Theodore Levitt. After his gradual development in the 1960', it has started to be ordinary tool of the marketing theory. The product life cycle is often used a part of marketing theory.

Goods life cycle theory provides possibility a firm to observe where the company is, and what should be attended in the future. Thanks to this theory the managers could realize where the firm stage, understand the marketing use of each stage and they are able to set up the effective strategy to survive in markets and to get profit.

3. Variants of the product life cycle stages

The Fashion Cycle
A fashion is relative popular style in a given areas. For examples: in 70' New Wave fashion was very popular, but in 80' was outdated by Rock N Roll fashion and now in early 2000 New Wave fashion is again popular.

The cycle – recycle Stages
The cycle – recycle stage is often linked to the sales of pharmaceutical goods

As shown graph, the theory suggests that a goods or service goes through four stages. The aim is to increasse the goods value at each stage. In the introductory stage, sales are slow. The strategy is to create widespread recognition. Costs are invested in building distribution and increasing recognition through active promotion. It is expexted that the investments made in such product introduction will get back pay and the goods or service will go to the growth phase.

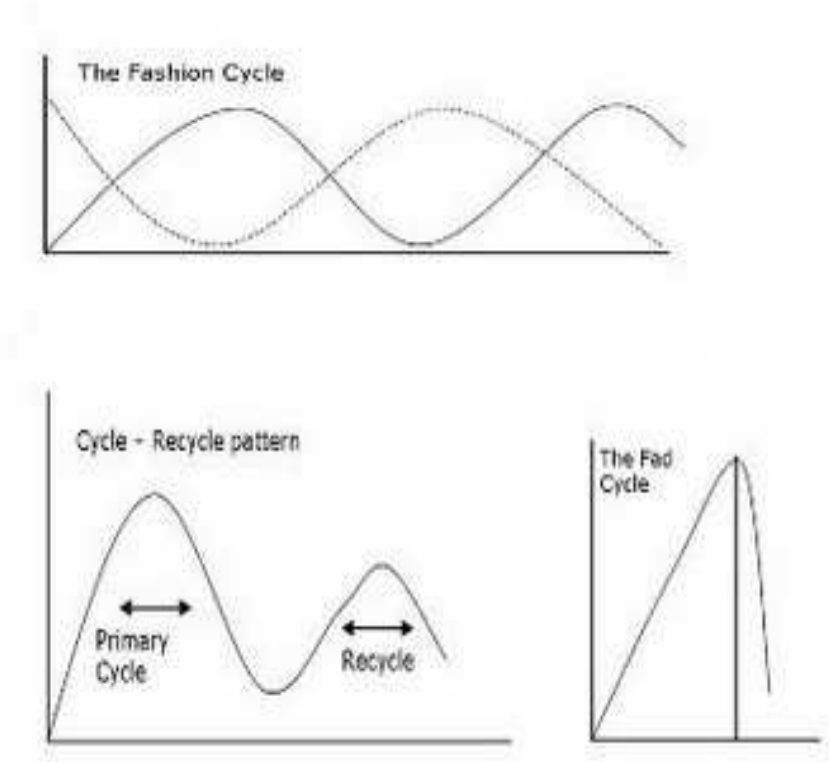

Fig. 2. Variants of the product life cycle stages

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The company could build market share or rentability in the growth phase. Strategies here are to make changes that increases value to the product and to find new markets. Marketing moves away from promotion through personal selling toward more mass media advertising. Just as predators react to attractive targets, competition begins to build as recognitation increases and sales are gong up. Unit productional costs start to fall as fixed costs are spread over more production units. The firm is trying to stay in the growth stage as long as possible.

Sales growth slows at maturity and the company start to defend market position. This is where marketing department must concentrate the most attention. Promotion costs goes up significantly. The reduction of cost is crucial as competitors start to decrease prices and introduce better versions of the goods. With the cheap prices come smaller profits, and competitors begin to get away. This isthe longest lasting pattern, with some market leaders keeping their share over several years.

The final pattern is the decline. The company could continue to market the goods hoping that competitors will stop their production. Other strategies are to increase profit by reduction product costs and in this phase sales slow, or else to stop production and start new goods.

4. Life cycle cost

After understanding life cycles we can approach to so life cycle cost. Life cycle cost can be defined as the total cost of goods, projects over it is useful life.

Life Cycle Costing (LCC) is a technique to get the whole cost of production. It is a special approach that examenes all the parts of the cost. It is used to produce a spend profile of the goods or service over its all life-span. The results of an LCC analysis is used to help managers in the decision-making process. The LCC analysis see projects further into the future. It is very valuable as a comparative tool when long term investment in some goods is considered.

The visible costs of any purchase present a small part of the total cost of production. The using of LCC techniques. It leads to better decision making at all levels, especially major investment decisions. LCC could provide more precise forecasting of future expenditure.

For better explanation I would like to concentrate to life cycle cost of the purchased equipment.

Standard costs for purchased equipment could include:

Acquisition costs (sometimes they are named the design or development costs).

Operating costs:

cost of failures; cost of repairs; cost for spares; downtime costs; loss of production; disposal costs.

In theoretical way the life cycle costing

- relationship between the volume of sales of the product and time
- is usually divided into four stages (see figure below)
- stage from each other is significantly different, especially sales volume, rate of growth, profit and modifications marketing mix
- sometimes even at the beginning of the next stages, a separate stage of product

The types of costs incurred will be diffrent according to the goods or services being bought, some examples are given below.

Examples of one-off costs include:

procurement; implementation and acceptance; initial training; documentation; facilities;

transition from incumbent supplier(s); changes to business processes; withdrawal from service and disposal

Examples of recurring costs include:

retraining; operating costs; service charges; contract and supplier management costs;

changing volumes; cost of changes; downtime/non-availability; maintenance and repair; and

transportation and handling.

5. WHAT GOES INTO LCC?

LCC will include each cost that is good with each specific case which is made for the situation. LCC goes as a process.

The steps are:

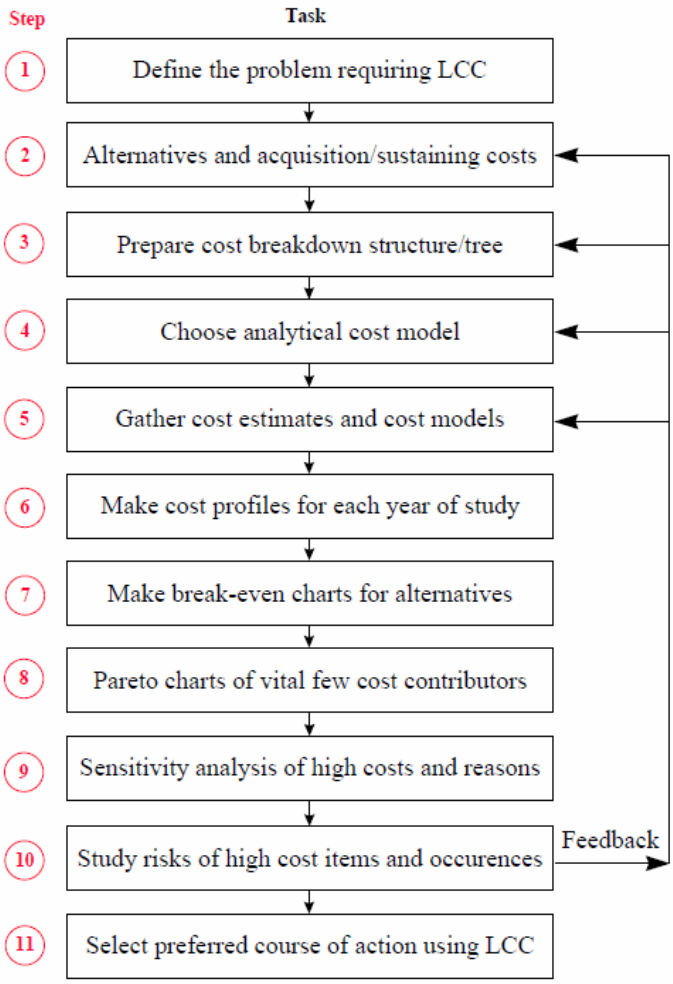
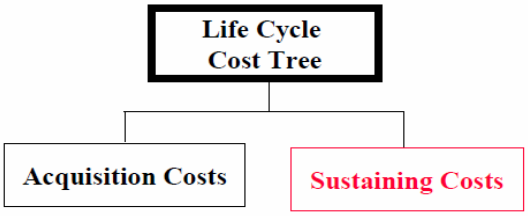


Fig.3. Life cycle costing prosess

The core tree for LCC has acquisition and sustaining costs. Acquisition and sustaining costs are discovered by collecting the inputs and making analysis to find cost drivers. Acquisition costs have branches for the cost tree shown in figure 4 as a memory jogger. Sustaining costs have departments for the tree, see also in figure 4.



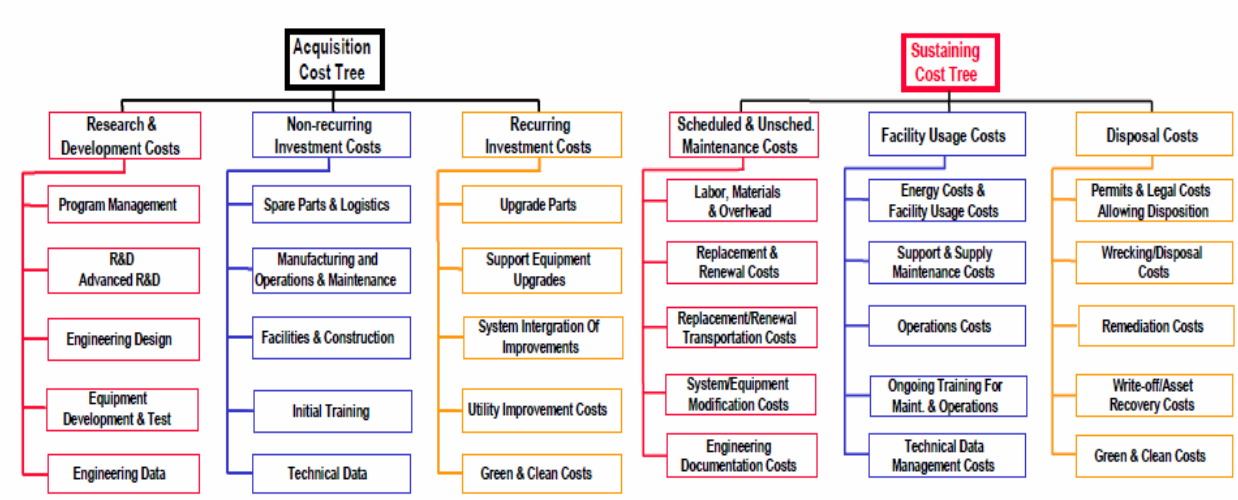


Fig.4. Acquisition Cost Tree and Sustaining Cost Tree

What cost could be put in each branch of the acquisition and sustaining branches? It all depends on the concrete case and it is very important for good calculation.

Finally we could say that the main goal of the LCC analysis is to calculate the total cost of ownership of goods throughout its full life cycle, which includes research and development, construction, operation and maintenance, and disposal. The LCC is important tool for decision making in purchasing a product, in appropriate design, in securing maintenance, or in planning upgrade.

6. Summary

Main problem of this analysis is that we must to predict very precise the volume of sales of the product during its life. The good prediction is crucial because it significantly affects the estimate of revenues from the sale, total variable costs, total and average fixed costs and all indicators derived from them such as net present value, profitability index, and payback period. In this respect it very essential to make this calculation together with marketing managers and understand very well product life cycle of the goods or service.

7. References

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