

Leading the Environmental Cost

Companies are struggling to add excellence to their products and services and do their very best to present them with characteristics that the consumers eventually appreciate more than competitors. Such efforts often lead to higher cost and targeting prices premiums through preference strategies is a viable solution for such companies to cover such costs. When the matter is related to ecologically branded products, it is not much different. As this is discussed in details in chapter five, if the green costs more, the company has little choice other than receiving returns from environmental investments through the eco-brand strategies and because of their nature, branch markets represent only a small segment of the market. Regardless of the efforts made by the companies, the markets have limited fields of preference. The industrial markets (or business to business) in particular, have strict sense of costs and obtaining prices premiums is usually related to final savings while using the products. In other words, regardless of the extent of product's friendliness to environment, it should be cheap in the beginning when it competes in the markets that are known for their sensitivity towards prices.

Does this mean that the products and services that need to compete on the basis of low cost shall never be able to balance the environmental investments? Can the companies overcome exchanges between environmental investments and costs? Really, this was a critical challenge covered by the debate: *it is useful to be green*. Few companies had enough efficiency to develop products and services representing both low cost and environmental effects but it is certain that this is a difficult challenge for most of them. Unless such companies are able to spread creative designs, alternative materials or even market their products in different manner, the environmental investments may result in higher costs and this will restrain spreading the strategies of leading the environmental cost. For a selected number of the companies that had been described in this chapter, the difficult challenge for leading the environmental cost, it was possible only after lots of efforts. However, this inspires others to follow similar strategies.

Since clients tend to attribute excellence to low costs, the companies that are able to provide ecological characteristics at low prices in the portfolios of their products find themselves in a position that is much better to compete in harder organizational environments. The opening condition sheds light in presenting this aspect.

Products of ecological design: life cycle thinking

Ecolean is a relatively young packing factory that grew excessively after it started its operations in 1997 in Helsingborg in the southern cape of Sweden.¹ The company has representatives in 20 countries (mainly developing countries) and it had grown at the rate of 50% per annum since its establishment. The company sells about 250 units of containers per year and generates about US\$ 30 million of returns. The main Ecolean products are represented in systems of filling and packing sheets of vertical packs designed by the company for liquid foodstuff that are sold mainly to emerging economies. Ecolean provides France with butter wrapping sheets (Carrefour), United Kingdom (MN Das), hot dogs in the United Kingdom (Tesco), wrapping sheets that seal thermally, sauce sheets in containers for McDonald's outlets in the United Kingdom, Scandinavia and Russia and the wrapping packing sheets for potato chips in Sweden.

In average, Ecolean packing does not cost 25% less than competitors and it also represent the lowest environmental effect. This is possible because the company adopted a new suggestion in radical manner for packing. Between 40% and 60% of plastic based on oil (high density poly ethylene and poly propylene) that is used in packing is replaced

with (CaCO₃ calcium carbonates that is commonly known as chalk) as raw material. In addition to that it is the most available mineral in the crust of earth,³ calcium carbonates do not represent any toxics – and this is why the Federal Drugs Agency had classified it as acknowledged to be safe for humans in general.

The environmental benefits of replacing polyolefin material with chalk are many. An evaluation for the life cycle concluded that the environmental effect of Ecolean products is materially less than competitor materials (plastic, carton, aluminum) in all categories (use of water and energy, emissions, etc...) during all stages of the life cycle of the product. In addition, using calcium carbonates results in that Ecolean packing is subject to biological degradation under certain conditions (they need to be exposed to light). However, because most of solid wastes in developing countries – the main market of Ecolean products – are thrown in garbage dumps or burnt, the company does not claim anything in this concern. It does not claim anything about the traditional benefits of Ecolean packing when burn: the calcium carbonates reduce the acidity of vapors.

Since Ecolean is less damaging than other products, one may wonder why the company is not more aggressive in marketing the ecological characteristics of its products. Although the clients consider the environmental characteristics of Ecolean products a good thing, the products, first and last, should meet the requirements of function at very competitive price. Upon meeting all requirements, the environmental characteristics become an additional advantage. Nevertheless, with arrival of oil production to the climax which causes prices to remain high and also when the post consumer legislations become stricter, this strict opinion may change. For example, the representatives of government in China, where Ecolean built a new factory in 2001, expressed interest in the product because of its lower dependency on petrochemicals and abundance of calcium carbonates in the Chinese soil. The environmental traits of packing started to give Ecolean slowly the benefit of the first to move. Of course, consequently, competitors may copy this creativity in material replacement. But, since Ecolean manufactures and sells too the filling machines related to its own vertical packs (for which it obtained a patent), it acquired tangible efficiencies in using the new raw materials.

Ecological design as management means and tool

As the case suggests, the competition tends in a big number of industries to be based on price, leaving small space for suppliers to impose charges on ecological preference. In packing industry, the organizational procedures such as post consumer taxes are high in advanced countries and they are expected to be stricter in the following decades even in emerging economies. This means that packing materials should be competitive in price and environmental performance. Mixing low margins and satisfying of mature markets increases in several competitive countries and puts excessive pressure on industrialists to decrease costs. In addition, customers with increasing demands and continuous strict environmental legislations make competition more difficult. For the companies that operate in this context, focusing on the strategies of ecological cost may be the only choice to general competitive advantages.

Ecolean case also leads us to what is called the concept of *ecological design* which in simple language means designing the products for the purpose of reducing their inclusive environmental effect (or load). For example, replacing plastic with chalk (CaCO_3) as exercise in the ecological design in Ecolean since the determination of replacement material in the design stage, in addition to cost savings, also aims to reduce the environmental effect of the products. The ecological design

often receives help from the evaluation of life cycle that had been discussed in Chapter Five which is a methodology and tool at the same time to determine the associate environmental effects of the life cycle of the product. Designers often use the evaluations of life cycle to compare the environmental effects of products of the same category but the life cycle evaluations may also be used to legalize the allegations of products of environment friendliness as Ecolean does. In general, the evaluations of life cycle are important tools for companies to apply the principles of the ecological design and the ecological practice.

Packing Industry is considered a good example also for one of the principles of ecological design: dematerialization. The post consumption environmental effect was a target for organizational procedures which motivated designers to work on reducing materials and replacing them to facilitate the reuse and recycling. As a result, many of the products that use Styrofoam in packing simply got rid of this material by redesigning the cardboard boxes and mobile phones and other electronic devices among several electronic products that are transported today in containers that are cheaper and more environment friendly. The smart design that reduces or eliminates the material that could not be recycled (Styrofoam in the above case) and facilitates recycling (recycling cardboard) often have the additional

benefit represented in lesser cost. Hence, to abstract from, the material the clear advantages represented in reducing each of environment load and costs of products. As for the companies that operate in packing sector, competencies in ecological design become motives for spreading the strategies of ecological cost.

The ecological design could also reduce the weight or size of materials in the product. The Swedish retail company IKEA is well known for its concept in flat packing that increases the size to the ideal limit and hence reduces the costs and environmental effects during transportation. Reduction of environmental effects that result from the use and maintenance of the product is also a direct result of the ecological design. For example, the success of the *ecological imagination* program of General Electric owes a lot to the energy savings during the utilization stage of the products offered by General Electric. The other goal of the ecological design is represented in designing new products that could be re-used, manufactured and cycled again. The product made of environment friendly material (non toxic, renewable, reusable or recyclable parts) which is of low weight and economical packing may be cheaper. In the relatively simple products such as pack, cleaning products and materials used in

finishing buildings, the benefits of ecological design often do not need proof.

The case of Bond building in Australia shown in the previous chapter is logical in clarifying the advantages of environment friendly materials. The paint used in the building was based on minerals and free of solvents and bamboo floorings used layers that are totally free of emission and based on water and non toxic glue which made the building healthy. Demand for healthy buildings characterized with energy efficiency continued to grow steadily in the last years and for the providers of non toxic materials, the market is flourishing. As for those who can develop ecological characteristics with low costs, it is probable that competitive advantages shall rise. Will this be the case for more complicated products such as computers, refrigerators and cars? Could the devices that the people have such as phones, music players and plasma screens compete on the basis of ecological cost strategies?

When a design to disassemble such products will bring benefit? When the efforts of recovery of materials and recycling spare parts become worthy? The case of end of life cycle of vehicles (ELVs) in Europe suggests some answers.