

Thermaflex

Business



The company used in the case study is Thereafter, a company headquartered in the Netherlands with 450 employees. Established in 1976, this SEEM is a renowned international company from Dutch origin which has specialized itself in special piping and foam insulation materials for cooling and heating purposes. Demand for their products comes from customers from over 40 countries. Thereafter has 5 production facilities: Poland, Russia, Thailand, Turkey, and the Netherlands.

These production facilities are needed to serve its growing set of customers. These customers are increasingly concerned with the drawbacks of having a high energy consumption; money can be saved and environmental issues can be addressed by using Thermals products (Zeitgeist, 2014). These products include Transplantation, Fallen, and Special Foam (Thereafter, 2014). All aspects of Thermostat's business are geared towards making sure that a reduction of energy consumption and, consequently, CO emissions is realized (Zeitgeist, 2014).

Moreover, Thermals production process in itself is largely environmentally friendly as well due to the use of Polyethylenes and polyesters which are the materials used in the fully recyclable pre-alienated pipes (Thereafter, 2014).

Consequently, Thereafter is active in providing solutions which are helpful to not only reduce end-of-pipe waste, but production practices and products which are already green to begin with.

Where Thermals direct competitors use unreachable plastics as their main basic material, Thereafter is constantly looking for new ways to improve respectability and, thus, reduce CO emissions by using more environmentally

friendly materials (Sullenest, 2014). Thereafter tries to move the Industry forward by enacting In curdled Initiatives, like the Green Deal (RI]shoveled, n. .) and cradle-to-cradle (Cradle-to-cradle, n.

D. ; Thereafter, 2014; Zeitgeist, 2014). Moreover, REACH regulations stipulate that the use of dangerous toxins is becoming prohibited by 2022 (B-Lands Consulting REACH Compliance, 2007-2012).

Thermostat's direct competitors, NC and Armlet (see appendix 2), do not enact in sustainable activities to the same extent as Thereafter does (Sullenest, 2014). By being the reference, they hope to be the Industry leader In sustainable practices, To become the reference, a technological, breakthrough discontinuity can be used to set the industry standard and act as a reference. Moreover, Thereafter is willing to cooperate with suppliers and even partners to pursue long-term goals (Zeitgeist, 2014).

However, it is not yet clear whether the pre-insulated pipe design of Thereafter has the potential to set industry standards. Moreover, Is opting for a Cradle-to-cradle certification the right thing to do for Thereafter to become the taking the right steps to stay ahead of competition and achieve its vision in 2016 to become the reference in sustainability and move the industry forward with them? " (case study Thereafter, 2014). Theory The theoretical drivers of this particular article stem from two articles: Technological discontinuities and dominant designs Anderson, P. And Dustman, M.

L. (1990) Technological discontinuities and dominant designs: a cyclical model of technological change.

The first article (Anderson & Dustman, 1990) is about how a technological breakthrough can redefine industry standards. As Anderson & Dustman (1990, p. 2) mention in their article “(...

) a technological breakthrough, or discontinuity, initiates an era of intense technical variation and selection, culminating in a single dominant sign. This era of ferment is followed by a period of incremental technical progress, which may be broken by a subsequent technological discontinuity’.

Put differently, a radical innovation precedes an incremental innovation until a new radical innovation emerges. In every industry, there are extensive periods of incremental innovations, followed by a discontinuity (see appendix 3). Different industries have been investigated to determine the emergence of a dominant design, namely the cement, glass, and minicomputer industries are incorporated in this particular longitudinal study. Technological change can be best described as a cyclical model: products become the standard (dominant design) before they become obsolete due to changes in technology for example.

These technological discontinuities appear in every industry, which is why innovation is considered to be so important. Continuous (incremental) innovation is considered to be the most prevailing type among the types of innovation. Continuous innovation is at the core of every product and process because (minor) improvements/refinements can contribute to a more efficient way of producing which will benefit the industry and the company in case no attended designs apply. Technological discontinuities (e. G. Rose and carriage vs.

the automobile) appear when the need or demand for a completely new product or process arises. These discontinuities completely redefine industry standards relative to the former situation and pushes the industry performance frontier forwards (see appendix 4). As indicated before, two distinct discontinuities are observed, namely process discontinuities and product discontinuities. Process discontinuities allow for fundamentally different ways of producing to improve the cost or quality of the product (Schumacher, 1942).

Product discontinuities allow for completely different product design that carry either a (or a combination of a) significant cost advantage, a performance advantage, or a quality advantage over the product which was previously adopted by the industry and seen as the industries' dominant design.

Moreover, these technological discontinuities, when exploited well, can enable firms problems arise as well when a new technology is introduced because they often do not work well enough. Therefore, a distinction is made between competence- enhancing and competence-destroying discontinuities (Dustman & Anderson, 1986).

The former meaning that there is a specific know-how in the technology that it is about to replace. A company can continue to use its knowledge for the new technology. On the other end of the scale, competence-destroying discontinuities are technological advances that are completely new to the company and the industry. All prior knowledge can be considered obsolete

and knowledge in new fields of expertise is needed (Dustman & Anderson, 1986).

Each technological discontinuity cycle is characterized by an Era of Ferment and the, eventual, introduction of the innovation.

The Era of Ferment refers to a situation where there are two possible technological directions: adopt the new technology or remain to use the existing technology. The new technology does not always work properly which is why the existing technology, substantiated by incremental innovations, sometimes remains the standard. Moreover, when demand is low or competition with other technological breakthroughs is fierce, no dominant design will emerge. However, when the superiority of the new technology is acknowledged, the design becomes dominant and, as a consequence, an industry standard.

In order to remain innovative and being able to introduce a dominant design, some organizational choices have to be optimized. A diverse set of competences is key because technological breakthroughs are unpredictable in nature and can be either competence-enhancing or competence-destroying. Therefore, a company should be willing to develop a discontinuity or to act on the introduction of quality (Dustman & Anderson, 1986). The introduction of a dominant design can be achieved by a firm alone or in the form of a collaboration (I. E. Tragic alliance; Anderson & Dustman, 1990).

Losing the Attlee for a dominant design has severe implications for the company, which is why they have to take the cycle of technological change
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into account. Cradle-to-cradle design Braggart, M. , McCullough, W. And Bollixing, A. (2007) Cradle-to-cradle design: creating healthy emissions - a strategy for CEO-effective product and system design.

1 The second article (Braggart, McCullough & Bollixing, 2007) mentions the Cradle-to- Cradle design and the economic, social, and environmental benefits it carries.

There is a difference between CEO-efficiency and CEO-effectiveness (Cradle-to-cradle), with he former merely focusing on a reduction of emissions, it fails to admit that it is important to innovate and create economic growth, it does not address toxicity issues, and it fails to see the importance of the underlying process of changing material flows. This is where the CEO-efficiency design steps in, which is geared towards incorporating all these aspects into one single design. An CEO-efficiency strategy is characterized by effort to reduce or minimize end-of-pipe pollution (Verifiable & Biddable, 2000).

CEO-efficiency does not focus on how to make a product or recess less polluting, it merely focuses on efforts towards realizing a state that is less environmentally unfriendly; efforts of minimization and denationalization are at in this strategy were not designed to be recycled in the first place.

In an CEO- efficiency strategy, something that is “ bad” for the environment will be made less “ bad”. On the other hand, an CEO-effectiveness strategy has the best of both worlds with an immediate focus on economic wealth as well as taking the potential negative aspects of doing business into account.

It entails a “ zero” waste strategy and goes not merely provide end-of-pipe solutions like with an CEO-efficiency strategy (Braggart et al. , 2007). As indicated previously, at the core of both concepts lie differences in why innovation and economic growth are key, failing to address the level of toxicity, and the process of material flows. The process of doing what we can with what we have is not good enough anymore.

Resources are becoming more scarce, which is why companies opting for a solid long-term strategy should focus on innovative capabilities (Breakout, Muskegs & Velvetiness, 2000; Braggart et al. 2007). A focus on continuous incremental innovation creates a situation where the benefits reaped become decreasingly beneficial. Consequently, when innovation is not taken seriously, the potential for economic growth becomes constrained. In many industries the level of toxicity is a big problem. CEO-efficiency fails to address the problem and a minimization approach is considered to be insufficient because even a slight amount of toxins is potentially dangerous (Verifiable & Biddable, 2000).

A Cradle-to-cradle strategy tries to find substances to replace toxic materials, therefore reducing the negative impacts.

CEO-efficiency is a reactive approach that does not focus on more fundamental environmentally related problems. Instead of addressing the underlying source of problem and making it better, a short-term solution is provided to fight the negative consequences which, in this day and age, Jeopardizes the chances of survival for the company (see appendix 5; Braggart et al. , 2007). It is believed that a company should tackle the source

of the problem by using materials that are free of waste or less polluting to start with before putting it in the production process. CEO-effectiveness does just that.

There are several steps which need to be taken in order to go from CEO-efficiency towards CEO effectiveness (Braggart & McCullough, 2001): Step 1: Free of... The product should be free of most dangerous toxins. Step 2: Personal preferences After the choice has been made to get rid of toxins, personal preferences are geared towards making choices about which substances should be used instead.

Step 3: The passive positive list After the substances have been identified, the remaining potential for recycling and blending in with natural substances need to be mapped and decided whether they would be optimized.

Therefore, the ecological perspective is key here. Step 4: The active positive list This step is characterized by making efforts towards choosing the eventual materials that will be used in the end product, based on step 3.

Step 5: Reinvention This process means that the relationship between customers and the product needs to be redesigned, taking the idea of economic growth, and social and environmental issues into account. Results: application of the concepts to company data When these two theories are applied to the Thereafter case, some interesting points of contact are observed.

When applying the first theory of technological discontinuities and dominant designs (Anderson & Dustman, 1990) to the case, Thereafter is, relative to competitors, doing more in terms of sustainable practices which help to <https://assignbuster.com/thermaflex/>

improve global CO emissions and reduce toxins; both in terms of production process as well as the immediate benefits the products carry.

This especially holds for Thermostat's pre-insulated pipes made from Fallen, which are considered to be a technological product discontinuity since it is a radical new product design compared to other products which are used in the industry.

In order for the pre-insulated pipes to become the industry standard, the superiority of the product and its capabilities need to be acknowledged. Fallen, which was introduced back in 2003, has already proven to be a product that works well and has a high insulate performance. Because Armler and NC continue to use toxic plastics, the Era of Ferment states that there are two ways for the industry to evolve: (1) keep making use of toxic, non-recyclable materials (the current technology) or (2) use the pre-insulated piping, a radically different (technological continuity) design to accommodate for an increased reduction of CO emissions.

Thereafter decided to not wait until a competitor introduced a breakthrough innovation in the industry and did it themselves. Since Thereafter has always been present in the insulation (plastics) industry, the innovations in this field can be considered to be competence-enhancing.

Knowledge in this field is readily available and can be used to continue to work on the product line of pre-insulated pipes. Findings related to the second article (Braggart et al. , 2007) are related to the upcoming Cradle-to-cradle certification of Thereafter. Thereafter is about to receive a Bronze Cradle-to-cradle certification for some of its products.

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Their direct competitors are not yet certified. Because of this, Thereafter is beginning to edge ahead of the competition from a sustainability perspective.

What becomes apparent from the process of going from an CEO-efficient strategy towards an CEO-effective strategy is that several steps are important in the process. With regard to Thereafter, it has successfully redesigned their Fallen products which, from beginning to end, incorporate a design which is meant to be as environmentally, socially, and economically responsible as possible (Fallen; pre-insulated pipes).

From an environmental perspective, Fallen is fully recyclable and safe with regard to ingredients which could jeopardize (employees') health. Employee satisfaction is at the core of Thereafter (see appendix 1). Additionally, Fallen was designed from the ground up to accommodate for a low production cost structure. Braggart et al.

(2007) mention that it is important to move towards an CEO-effective strategy to secure chances for long-term survival, but also to increase economic growth and benefits with regard to social and environmental aspects.

Moving towards a Cradle-to-cradle certification allows to meet these objectives in the (near) future. EX. REACH regulation is becoming more strict and dictates companies present in some industries to be fully toxin free by 2022 (B-Lands Consulting REACH compliance, 2007-2012). Conclusion It is observed that Thereafter has a huge potential to set industry standards.

Thermostat's production process enables them to produce more efficiently and to create a product that is distinct relative to competitors' products.

Due to Thermostat's strong position in the insulation industry, Thereafter can use their sustainable operations as a reference for the industry as a whole and use the pre-insulated pipes as a technical breakthrough. Accordingly, Thereafter can use its position and product as a benchmark for competitors and make the Fallen design dominant. A potential impediment to accommodate the pre-insulated pipes as a dominant design, as opposed to what is mentioned by Anderson & Dustman (1990) (which do not incorporate patents in their research), is that Thereafter has a patented design for the pre-insulated pipes.

This means that Thermostat's potential to, although already Ewing one step ahead of competition and being able to serve a huge customer base, introduce a dominant design is bleak. This technological breakthrough cannot, at least not yet, be used as a dominant design because the industry is not legally allowed to adopt the discontinuity.

However, Thereafter (Zeitgeist, 2014) does indicate that it is willing to cooperate with partners to secure its position in the market and to move the industry forward by doing so.

Moving towards a Bronze Cradle-to-cradle certification is a step in the right direction because, although it is not the highest achievable Cradle-to-cradle certification, it goes indicate that Thereafter is willing to invest in "doing well by doing good". In the end, Thereafter will win by redefining industry standards with their ICC certification; Thereafter is able to influence the <https://assignbuster.com/thermaflex/>

competitors and be the reference in the industry. In turn, long-term perspectives include an increase in economic growth and environmentally and socially related benefits.