Project 1.1.2 Product Assessment

Introduction

There are many reasons to analyze an existing product. You might be a competitor interested in improving another's existing product. You might want to learn the pros and cons of an existing product to better position yourself for success as an entrepreneur with a new product. Perhaps you want to find ways in which to improve your own existing product, for example, by examining products that use alternate raw materials that may perform better or be less expensive that the raw materials currently used in production. Assessing a product may also provide insight into alterations to a product that could lead to its use for a new purpose or by a different classification of consumer. Assessment of existing products could also help you identify more environmentally or socially responsible production methods or discover a more efficient manufacturing process.

In this project you will analyze an existing product in order to determine important details about its development and lifecycle and communicate this information using a poster as a visual aid.

Equipment

- Product Life Cycle document
- Product Life Cycle Flow Diagram template

Procedure

Analyze an existing product. As you perform the analysis, identify important details about its development and lifecycle.

1. Choose a product to research that is of interest to you. Ask your instructor to approve the choice. It is important not to pick a type of product, but rather a very specific product or model. If you would like to assess a laptop, choose a specific brand and model. While some information is generic to a broad category of product, you should be as specific as possible and acquire information that is specific to a particular product. It is best to pick something very unique that does not yet have a lot of competition. Make sure that a great deal of information is available regarding your specific choice.

Significant Events

2. Identify the most important of each of the following to highlight on your poster.

- Inventions and innovations that affected the design and development of the product.
- Important developments that have impacted the design, usability, market status, market share and sales, or another aspect of the product. These developments can include scientific breakthroughs; market shifts; emergence or disappearance of competing products; political, social, or economic events; etc.
**Life Cycle Assessment**

3. Review the product life cycle document. Identify the most important details for your product within each step and complete a Life Cycle Flow Diagram for each of the five major stages of the product life cycle (Premanufacture, Manufacture, Product Delivery, Use, and End of Life/Disposal). Consider the following questions while assessing each stage of the life cycle of your chosen product.

   a. What raw materials or components are used in this stage of the product life cycle?
   b. Where are the raw materials/components obtained? How are they obtained?
   c. What is the final form of the product at this stage?
   d. What type(s) of fuels/energy are used at this stage of the life cycle?
   e. What wastes result from the use of fuels/energy at this stage?
   f. Are any chemical/solvents, biological agents, or toxins/carcinogens used during this stage?
   g. Does waste result from the process(es) during this stage? Are the wastes hazardous? Are the wastes solid, gaseous, or liquid?
   h. What happens to the waste? Is the waste reused? If not, can it somehow be reused?
   i. How is the raw material/components/product transported during this stage?
   j. How far are the raw materials/components/products of this stage transported?
   k. Can more environmentally friendly forms of transportation be used?

   While completing the Life Cycle Flow Diagram for the End of Life/Disposal stage of your product, consider the following additional questions.

   l. Is the product durable? What is the typical lifespan of the product?
   m. Can the lifespan be extended? Would extending the lifespan reduce the negative impact on the environment?
   n. What disposal method is used for the product?
   o. Can the product be reused or recycled?
   p. Does the manufacturer collect used product?

**Ecological and Sustainable Design**

4. Detail the important factors, both good and bad, of your product regarding ecological and sustainable design practices.

**Poster**

5. Create a poster to communicate the information you have gathered. A good poster will include all of the information detailed above and will connect many of the key elements together. If you do not include some of the information detailed above, be sure to have a justifiable reason for the exclusion.

**Presentation**

6. Give an oral summary to your class, in no more than two minutes, highlighting the key points regarding the development of your product. Use your poster as a visual aid.
Conclusion

1. If you were asked to change an aspect of the product to improve its sustainability, how would you improve the product or change a step in its life cycle? Describe your recommended change(s) and explain how your recommendation(s) would improve the product’s sustainability.

2. Why would this sort of an assessment be important if you were considering creating a competing product?