COTTHERMOS

BUSINESS MODEL CANVAS

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1.0 INTRODUCTION

1.1 Business Background

The Cotthermos was founded in 2020 by Ahmad Shibly and colleagues. A year before, Ahmad Shibly who was working as a manager in the production department discovered a big problem in meeting the need of the Flasker Group in maintaining their main product which is thermos flask \ to meet the current demand on that time. Ahmad Shibly later initiated a plan to create Flasker's own sub company which is not only create a new product based on enviromental issue but also penetrate the market with new policy which is to increse the customer's needs and wants in from different angles and at the same time building up a sustainable company to spread awareness to others about environmental crisis. Together working with him in this effort is his colleagues Ahmad Nasaie, Muhammad Firdaus, and Siti Nur Asheerah who each of them possess unique knowledge in science and technalogy field. After their team succeeded in persuading the Board of Director of the Flasker Group, the Cotthermos finally came into existence in 20 October 2020.

1.2 PROBLEM STATEMENT

Thermos bottle is essentially a high-vacuum heat-breaking technology. The double-layer stainless steel framework is used in the bottle, and the air from the inner and outer layers of stainless steel is squeezed out to achieve the vacuum state. There is a mirror feature inside which releases heat energy into the bottle to retain the temperature inside the bottle.

However, stainless steel is not the most cost-effective product. As it is expensive to produce, stainless steel also comes with a high price tag, which is the primary reason that it is so rarely used in many sectors. This is one of the reasons why stainless steel cannot always be the right option, particularly when businesses are trying to save on costs. Stainless steel very frequently collects a lot of grit, dirt and smudge over time, even though such dirt can be quickly removed. Plus, particularly a thermos bottle should be light in weight since this innovation has completely change the consumer's daily life activity day-to-day basis. In other word, this thermos bottle has surprisingly saved time and convenient for the consumer for hot water storage. With stainless steel within the thermos bottle will decrease the satisfaction of consumers since the bottle become heavy and hard to use and carry along especially for older people.

As for the mirror, the second main material in the thermos bottle, as we know, mirror is a substance that can easily break and damage. The inner layer of the mirror will absorb heat and when a material absorbs heat, it expands. Since the conduction of heat through the mirror layer is slow. Hence, the inner layer of the mirror is hot while the outer layer is still relatively cold. This temperature difference will cause the inner layer of the mirror to expand significantly more than the outer layer. This difference in the amount of expansion exerts a tremendous amount of pressure on the outer layer. If the mirror is unable to hold up against the large pressure, the material will crack. The magnitude of the temperature difference between the inner and outer layers will determine the likelihood of the cracking. This is the reason why consumer should not use thermos bottle for both hot and cold water continuously. When this situation happens, this will create a high probability for the consumers to face some consequences such as bleeding.

1.3 OPPORTUNITY RECOGNITION

We figured out a few materials that can be substitute to the stainless steel and mirror for more cost-effective for our business and also safer for the consumer.

We selected cotton as replacement of the stainless steel in the thermos because of cotton has a lower thermal conductivity. Typical thermal conductivity values for cotton is around 0.035W/m·K. The lower the thermal conductivity of the material the greater the material's ability to resist heat transfer, and hence the greater the material's effectiveness since cotton can maintain the water temperature in a long period due to its ability to resist heat transfer to outer space of the bottle. Moreover, cotton is generally known as lightweight material and 100% natural fiber as it comes from the cotton plant.

As for the mirror, we replaced with aluminum tape or aluminum foil as this material can supply the same effect as the mirror in the thermos bottle which releases heat energy into the bottle to retain the temperature inside the bottle. Aluminum foil or tape is made up of aluminum which has reflective properties. As a result, the foil or tape reflects the thermal energy back within the bottle maintaining the temperature of the water.

As a result, with these two (2) materials replacement in our product, we be able to save cost in raw material supply and in production as well as increase the level of customer satisfaction by introducing to them more flexible, convieniet and durable product to the market.