



ASSIGNMENT : NEW PRODUCT DEVELOPMENT

for

Solar Fresh Heat-Lock Container

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1.0 Executive Summary

The Solar Fresh Heat-Lock Container is the name of the innovation that is currently being discussed in this New Product Development (NPD). Specifically, this lunchbox product is powered by solar energy and incorporates various intelligent features. A solar system that is used to reheat food is combined with a gas detector (MQ-135) that serves as a sensor that will assist in detecting stale food in this innovation. The primary function of the solar system is to reheat the food. In this report, additional explanations are provided regarding the applications of each component, as well as their functions, design, and implementation of technology.

This new product development that is currently being discussed is a significant improvement upon existing items because it includes additional features to an existing product. Specifically, it enhances a product lunchbox that the Mr.DIY and Buffalo brands market. The main objective of this product is to create an invention that simplifies the process of obtaining hot meals for customers wherever they are. The product is designed to cater to a wide range of people who might find it helpful. This includes students, employees, housewives, tourists, and athletes who are involved in physical activities. This idea was conceived as a result of observing the difficulties that many people encounter when attempting to keep their meals warm while they are outside and how hard it is to make hot food that can be eaten anywhere.

Our team conducted a survey to determine if this technology meets their needs and how this product will help them in their daily life. The survey was conducted via Google Forms and was blasted to a wide range of people. Based on the data we collected, it was found that the feature that would make this product useful in their daily life is the function of the reheated food, with a percentage of 51.5%. Although the role of the reheated food is the highest among the other functions, the spoiled food detection still becomes one of this product's main features. These features can help customers maintain the quality of the food while keeping it warm and long-lasting. Based on the feedback we receive from responders, we will continuously work on improving our products. This is important because it allows us to meet our customers' needs and ensure that our technologies run smoothly.

2.0 Introduction

In this section, it describes the problem statement, methodology, and limitations.

2.1 Problem statement

Most of the time, the process of manually heating up chilled food using gas in the kitchen can prove to be a challenging task. Reheating becomes a formidable endeavor, demanding both time and effort as individuals are required to make their way to the kitchen and engage in food preparation activities. Consequently, some individuals opt to consume cold meals due to a reluctance to invest the necessary effort in heating their food. However, this practice is detrimental to human health, potentially causing more harm than even abstaining from meals altogether.

Consuming cold, aged food immediately after removing it from the refrigerator elevates the risk of contracting food-borne illnesses due to the accumulation of bacteria. This health risk is exacerbated when engaging in outdoor activities where finding a suitable place to heat food becomes a formidable challenge. Travelers, in particular, encounter difficulties in promptly locating facilities equipped with ovens for reheating their meals. The absence of readily available electricity outlets outdoors further compounds this issue.

Fortunately, the introduction of innovative solutions, such as the portable lunchbox, has revolutionized the ease with which food can be heated in various settings. This product boasts unparalleled convenience, making it effortlessly transportable and ideal for individuals on the go. For parents embarking on travels with infants or young children, the necessity of providing hot meals for their kids becomes a crucial consideration. Swiftly addressing the hunger cries of their children during travel becomes imperative, prompting parents to anticipate and prepare for all potential scenarios.

During travel, the challenge of maintaining the warmth of prepared food becomes evident, leading parents to seek rest areas for hot water to reheat meals. However, this

endeavor often consumes a significant amount of time and effort, disrupting the travel itinerary. As a result, a portable lunchbox emerges as a practical and efficient solution, ensuring that hot food can be readily available, alleviating the need for impromptu stops and facilitating a smoother travel experience for families with young children.

2.2 Methodology

Methodology describes the methods used in study as example survey and research .

2.2.1 Survey

This research initiative involved conducting a comprehensive survey aimed at gauging the sentiments of customers regarding our product and assessing the potential commercial viability of the concept. By gaining insights into customer perceptions, we aimed to determine the presence of a viable market for our product. Scheduled for dissemination on December 13, 2023, the survey was strategically designed using Google Form and targeted a diverse demographic encompassing students, office workers, tourists, athletes, and parents of young children. The objective was to obtain a nuanced understanding of the product's reception across various consumer segments, facilitating data-driven decisions on market feasibility and potential avenues for product refinement or expansion.

2.2.2 Research

Engaging in thorough online investigations is a fundamental aspect of our research strategy as we seek to delve deeper into both the product itself and the specific requirements of our customers. This meticulous approach allows us to gather comprehensive information vital for enhancing our understanding of the product-market dynamics.