



اَبُو سَيِّدِي تَيْكُو لُو كِي مَبَارَا
UNIVERSITI
TEKNOLOGI
MARA

MINI FLY TRAP (MFT)

TECHNOLOGY ENTREPRENEURSHIP (ENT600) : NEW PRODUCT
DEVELOPMENT

PROGRAMME : HS243
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1.0 EXECUTIVE SUMMARY

Mini Fly Trap (MFT) is a device intended to help the food handlers in their daily job for controlling the population of flies . It is known that safety and health issues is concern among people who are eating outside as we known that disease easily spread by insects such as flies, thus this device was developed. The conventional method is very risky to get the vector food borne disease from cross contamination of flies due to hygienic factor. This device uses lithium battery as main power source despite it also rechargeable. Mini Fly Trap also has solar panel on top of the device to generate power from solar energy as a supplementary power. This device is made of combination of stainless steel and high quality plastics. This Mini Fly Trap is lightweight and easily to bring and use by food handlers. Before the product is out in the market, public opinion by health workers from selected District Health Office is taken into account for acceptance and their opinions on improvements. This product and its process development were discussed further in the following chapters.

2.0 INTRODUCTION

The definition of vector was then related mostly to insects. There are a number of vectors that transmit communicable diseases. Lice, fleas, various types of flies, snails, rats and mosquitoes are widely found. We learned about some vector-related diseases in the Module on Communicable Diseases. House flies are strongly suspected of transmitting at least 65 diseases to humans, including typhoid fever, dysentery, cholera, poliomyelitis, yaws, anthrax, leprosy and tuberculosis. Flies regurgitate and excrete wherever they come to rest and thereby mechanically transmit disease organisms.

2.1 Problem Statement

The flies is a vector that can cause various vector food borne disease through pathogen directly to human is worldwide especially in Malaysia. Nowadays, study about the population of the flies is quite important in order to minimize the risk of getting the disease. Efforts to control the disease are done by the local authorities to reduce the incidents. There are several health issues that involve food borne disease such as typhoid fever, dysentery, cholera, poliomyelitis, yaws, anthrax, tularemia, leprosy and tuberculosis. The most commonly famous food borne disease is food poisoning, typhoid fever and cholera among people in Malaysia which are easily spread through cross contamination or touching. The conventional fly trap are not hygienic and not so effective to reduce flies capacity in certain area. Besides that the electric fly trap that usually in restaurant or café are to big in size and not so portable. It only can be use in premises that are equip with electric power source. It cause less food handler uses fly trap especially in hawkers, food trucks and etc due to no power supply.

2.2 Methodology

Data collection on this project obtained thorough several methods and the problem above have been observed o. Since the flies study is doing by the health department, the data was gathered through the observation when Communicable Disease Unit and Food Quallity and Safety Unit doing their work during the premises inspection. The problem also observed when a food borne disease incident happened caused by the food contamination through flies. A set of questionnaires also were distributed to the selected workers focusing more on the idea to develop a new technology that is more efficient. Results obtained through these methods will be used to improve the design of the new product that can meet the demand. The data collection took several weeks to be completed.

2.3 Limitation

Even though the product had been carefully designed and tested, there are three known limitations of the device. The first limitation is the team is lacking of expertise in designing the device. Secondly the device are small and compact in size and not suitable and recommended on large space or area like food manufacturing factory. Lastly, the production of this device is a little bit costly if compared to older conventional fly trap. Integrating new

technology and quality of materials used lead to increase in price thus some food handlers may not be able to purchase.

3.0 NEW PRODUCT DEVELOPMENT

3.1 Definition

The safety and health issue is the most important concern to the staff during the increasing of the flies population. The new technology need to replace the conventional method in order to reduce the infection of vector food borne disease among people who eating food from outside. This new product development is done to develop an item to compete with a particular product and is done to improve an already established product in the market.

3.2 Classification of NPD

This new product development is the apparatus/technology that can be used widely in food restaurant, hawkers, food vendors, canteen, café, food court for controlling the densities of flies. These are the new products that can be replaced and give some improvements to the existing products by providing better performance or greater value with functional enhancements to the District Health Office.

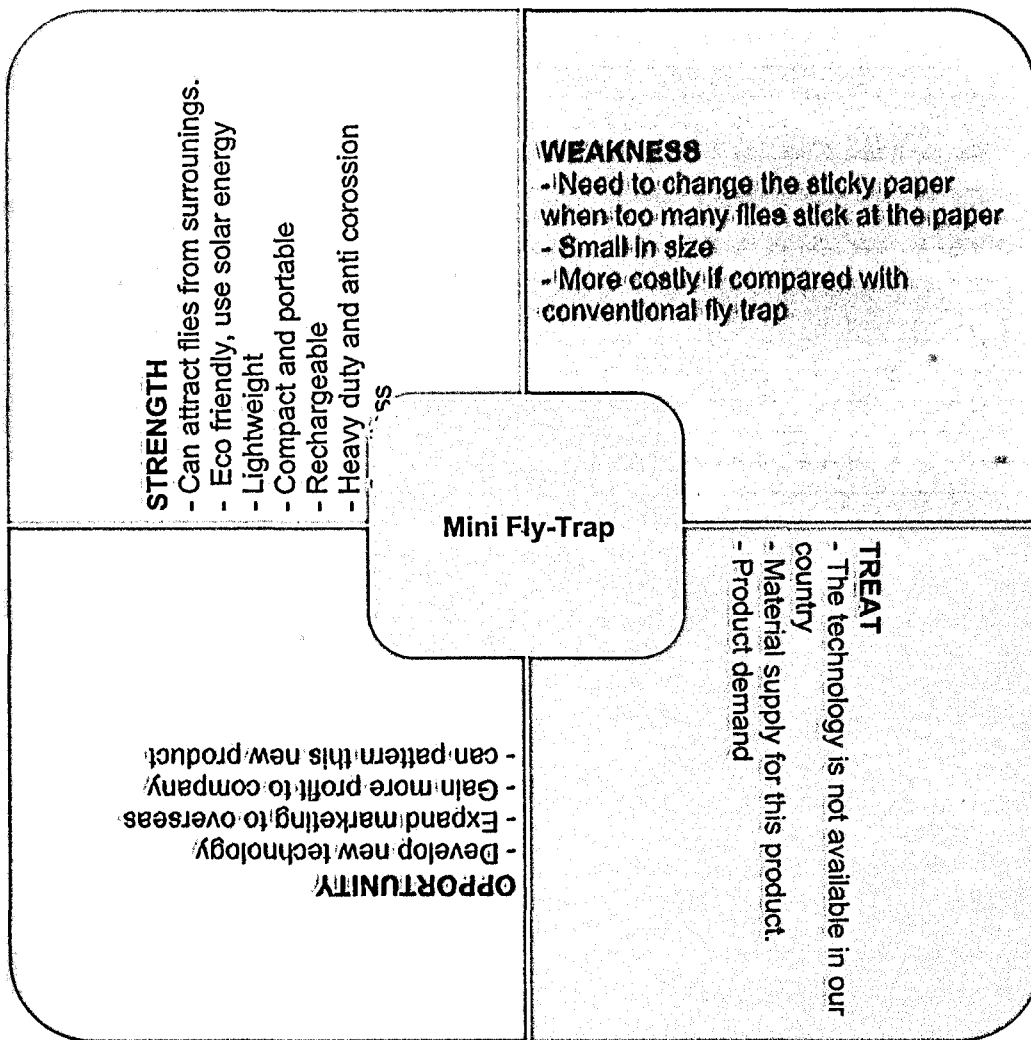
3.3 New Product Development Process

3.3.1 Research & Development

The R&D process done for the idea stage through;

a) Idea generation

Process of brainstorming was conducted through the inspiration of current products. From our experiences in the vector fly survey, the aim is to determine the density of flies in certain area. It is difficult for food handlers to controlling the density of flies. Several health workers were reported to have symptom of the vector food borne disease after eating food which is contaminate by the flies. The main function of the product is to attract and trap flies from surroundings so the density of flies can be reduces.



b) Idea Screening

Short time and benefit been screening to settle this problem. Using this new technology we can attract and trap abundance of flies.

c) Market Survey

To determine the market demand at all serving foods such as restaurant, hawkers, food court, canteen, café, food vendors in Malaysia, a set of questionnaires was developed to determine the level of interest and willingness of the food handlers to buy use our product in their premises.