



UNIVERSITI
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SMART ORGANIC BIN

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EXECUTIVE SUMMARY

This New Product Development report is about developing a new product, Smart Organic Bin, that has been improved and revised to replace the existing product. The function of this product is to recycle the food waste into ready-to-use fertilizer that can be used for gardening or landscaping. It is to overcome the problem of excessive food waste in household. The main target of the market is households. In the beginning of the process, the information is collected by using questionnaire and online poll from 10 respondents which are students and working ladies. In R&D, the team came out with two options (Option A and Option B) of ideas in the stage of idea generation. Both options were evaluated based on the innovative product features. The ideas of the product undergo market survey which the result is 80% of respondents chose Option B while 20% chose Option A. The working prototype of selected idea (Option B) is distributed to the 10 households for test marketing. The team collected their feedbacks towards the product. All the respondents would buy the product.

1.0 PROBLEM STATEMENT

According to Solid Waste Corporation of Malaysia (SWCorp), in 2015 the food waste in Malaysia reached 15,000 tons daily, including 3,000 tons that was still fit for consumption and should not have been discarded (Malaysia Kini, 2016). It was reported that in average a household in Malaysia throw away around 0.5 kg - 0.8 kg uneaten food per day (Chien Bong et al., 2016). Local Authorities (LAs) face problems in food waste management such as financial difficulty, lack of expertise, illegal dumping, open burning, and a lack of proper disposal sites.

2.0 METHODOLOGY

For this new product development, we need to obtain more data about the customer needs and how far the product can be accepted in the market. There are several methods to acquire the information needed. The methods are as follow:

- i. Questionnaire

Since the proposed invention is household product, the team interviewed 10 ladies who are students, housewives and working households. The team used this method to collect information regarding daily food waste of households and their preferences towards the

product. The respondents are chosen because they are the potential users of the product. The team used open-ended question.

ii. Online Poll

The team conducted online poll via Instagram social media. The team used this method to determine the respondents' preferences for the product. The poll is participated by 10 respondents who are made of students. These respondents are the representative sample for the product. The team used the options selection feature for the respondents to choose.

3.0 LIMITATION

Among the limitations, the team only interviewed 2 respondents who are lecturers. Even though the lecturers are the potential users, however they have same demographic profiling which they are the same in education.

The product is only eligible to recycle food waste. It cannot be used to recycle other materials such as plastic, steel and glass.

4.0 NEW PRODUCT DEVELOPMENT

4.1 Definition

This Smart Organic Bin is a bin that recycles food waste into organic fertilizer that can be used for gardening or landscaping. The main target market is households.

4.2 Classification of New Product Development

The Smart Organic Bin is an improvement and revision to the existing product. It is a new product to replace existing product with a functional enhancement which is additional to the automatic odor control feature.

4.3 New Product Development Process

4.3.1 Research and Development

Idea Generation

The idea sparked as one of my group members complaining about the trash piling up and creating nasty smell in the kitchen. Thus, attracting unwanted insects and vermin including rats. In order to solve her problems, we came up with several ideas for the Smart Organic Bin. Figure 1.0 shows the ideas for Smart Organic Bin.

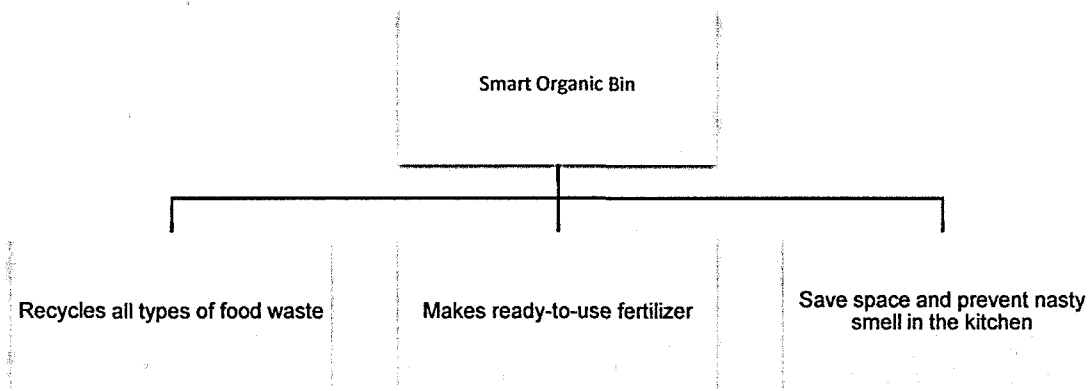


Figure 1.0: Ideas for Smart Organic Bin

Based on Figure 1.0, we have decided to develop Smart Organic Bin with the following features:

i. Recycles all types of food waste

All types of food waste including meats and dairy could be recycled. The product can break down one week's worth of the average family's food waste within 24 hours by using a combination of oxygen, moisture, heat and mixing to expedite the decomposition process. Unlike traditional composting methods, user is able to use the system year-round regardless of the weather.

ii. Makes ready-to-use fertilizer

The Smart Organic Bin will turn the food scraps into fertilizer within 24 hours. Thus, it will scrape leftover food whether it is cooked and uncooked right into the removable waste bucket. The product will even dispose of bones, shells, meat, and citrus rinds. The final product can be directly put into the garden or spread onto the lawn.