



اَوْنُوْرَسِيْتِي تِيْكُوْلُوْمِيْنِي مَارَا
UNIVERSITI
TEKNOLOGI
MARA

ENT 600: TECHNOLOGY ENTREPRENEURSHIP

SMART VENDING MACHINE

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2. EXECUTIVE SUMMARY

- The name of the innovation: **Smart Vending Machine.**
- The purpose of the innovation: To provide customer and vending machine operator aware with container of each product.
- The target market:
 - i. Government sector
 - ii. Private company
 - iii. Food & beverage company
- The idea was derived:
 - i. Team member experiences
 - ii. Observation at library area

3. INTRODUCTION

The product to be develop is a smart vending machine (Vmac-Tech). Vending machines commonly used to disperse foods and beverages but nowadays many company also used this vending machine to sell their product such as rain coat even electronic items used this vending machine to promote their product. This vending machine are convenience for customer and available anywhere.

• Problem statement

The problem with vending machine is when the customer wants to buy some items from the vending machine and the items are out of stock. The vending machine operator did not know when the item needs to restocked.

It also happen when customers wants to purchase product from the vending machine did not have enough money and the machine cannot except debit card or online banking.

• Methodology

WHO:

1. Students that buy the items at vending machine located at library and student lounge.
2. The operator of vending machine during restock.

WHERE:

- Student of Faculty of Electrical Engineering UiTM Shah Alam

WHEN:

- During office hours Monday to Friday

• LIMITATIONS:

1. Student does not purchase the vending machine.
2. The buyer of vending machine does not operate vending machines' restocked

4. NEW PRODUCT DEVELOPMENT

4.1 Definition

3. Vending machine is a machine that dispenses small articles such as food, drinks or cigarettes when a coin or token is inserted. The Smart Vending Machine is the vending machine that is link with the application (apps) that can inform vending machine operator of the stock level of the items. It also accept payment through online banking and QR code scanner with a touchscreen system. When the machine had technical problem such as brake down, the apps will inform the supplier to maintainer. Customers also can know the quantity of the items through the apps.

4.2 Classification of NPD

4. The Smart Vending Machine is an improvement of an existing product. The current vending machine is majority no changes have been made. But in Japan have the improvement of vending machine which had online banking with touchscreen system.

New Product Development Process

4.2.1 Research & Development

- The Idea generated
 - i. Team members experiences
 - a. When they don't had money changed and the stock that they needed don't has.
 - ii. Observation at library area.
 - a. This happen when we observe how to make a supplier easy to restock and student easy to pay.
- Idea Screening
 - i. Pay by using QR code.
 - a. This is because it can facilitate customer buying and trading without having to change or find a money changed.
 - ii. Pay by using debit card.
 - a. Customers need to choose what they want first before touching their credit card on the vending machine. Therefore the customer can choose more than one item and pay it at same time.
 - iii. Application to detects stock outages.
 - a. When the quantity of a stock is detected by the sensor found on the machine it indirectly sends the signal to the supplier. The suppliers fill in stocks that are almost depleted without the need to bring other stocks.

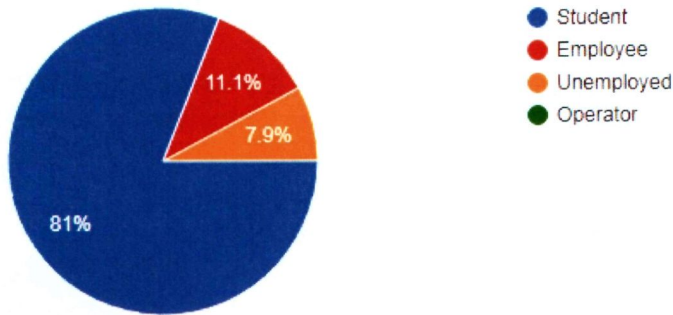
From the Google doc survey 63 responded answered that 80% choose agree with our innovation for vending machine

- Market Survey

- The team member had doing the survey by using the Google doc. The respondents consisting of student, employee, unemployed and operator. We also had come to make a survey on the most people used for 3 month. Every group member had to interview 3 people about it. 62 people had participate in this interview. The result had been shown in the pie chart below.

1. Please specify your occupation?

63 responses



2. How often do you use the vending machine within past three months?

63 responses

