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UNIVERSITI
TEKNOLOGI
MARA

**NEW PRODUCT DEVELOPMENT (NPD) REPORT
WI-FI CHARGER**

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1.0 EXECUTIVE SUMMARY

The concept of our product is Wi-Fi Charger. The concept that our team want to bring to the world is charger that did not need to use the wire to charge. Our Wi-Fi Charger will shorten the time taken for user to charge their gadget. Moreover our product can protect the gadget from overcharging, can be use freely and charge multiple things at the same time. This idea is generated based on our own experience with charging pads and cable charger that lacks the function to charge multiple devices simultaneously and they are easily damaged. As people nowadays are always busy and moving, this product is very suitable for them because it is small, light and easy to be carried anywhere. A product concept testing with a survey conducted among 49 classmates shows that when the concept is available in market, this device will be popular among adult workers, college students and travellers. So that is the brief description about our business and our product concept.

2.0 INTRODUCTION

2.1 Problem statement

There are two types of charger that is sold on the market which is wireless charger (charging pad) and cable charger. Both of these had a huge disadvantage in terms of their functionality. For the charging pad, it can only be used to charge one phone while its position is fixed and the user cannot do anything while waiting for it to be charged. Next, cable charger has a limited range depending on your cable length where you need to stay within that range to charge your phone and the cable is also easily damaged, which is a waste of money when you need to change it every 5-6 month.

2.2 Methodology

The method used to study the disadvantages of charging pad and cable charger is by the observation of the product and based on our own experience. We also asked our friends and conducted a survey to know the problems they experienced from both of these products.

2.3 Limitation

The limitation of this product is that it can only charge a maximum of 5 devices at one time and the charging speed will become slower when more than one devices is connected.

3.0 NEW PRODUCT DEVELOPMENT

3.1 Definition

The team plans to develop a device that can charge multiple devices without using wires through portable Wi-Fi. From its function, we named it "Wi-Charge". This device is able to charge devices through electromagnetic waves emitted by the Wi-Fi and converted to electrical energy to charge the battery.

3.2 Classification of NPD

This device is the combination of complex and expensive electrical components that is still under research but it is available in the electrical industry such as receiver, transmitter, rectenna Wi-Fi and copper coil. The new product will be a simpler device that provides and combines several functions of those instruments at lower cost.

3.3 New Product Development Process

3.3.1 Research and Development

Idea Generation

Idea generated by experiencing both the charging pad and cable charger. We have been using these devices for a long time and finds that it is really inconvenient and troublesome. The idea for Wi-Fi charger come out when we are thinking about the better ways to charge our devices and we thought that this idea is really good if we can produce it.

Idea Screening

The team considered three different device models with the same functions, which is to charge devices using Wi-Fi. The three ideas are:

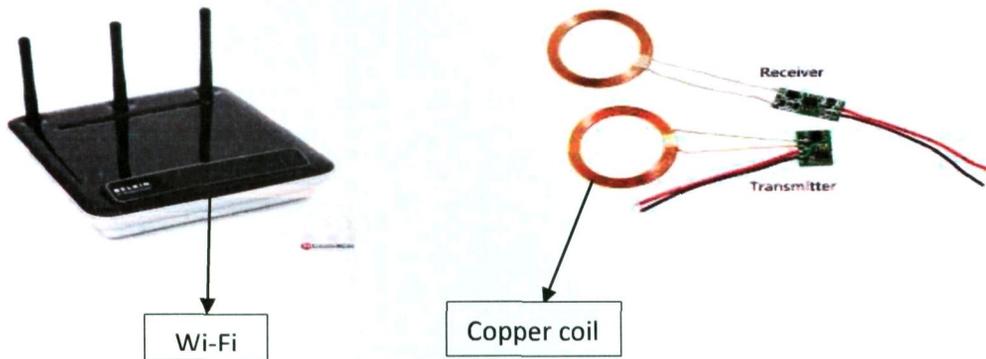
- i. A copper coil with receiver and transmitter attached to the battery at the back of the phone.
- ii. A USB device which will received the Wi-Fi wave connected to the USB port to charge the phone.
- iii. Wi-Fi that can charge the phone without the needs of any device.

After some discussion with the team members and interviewing some respondents, the team had decided on the first idea which is a copper coil that can be attached to the battery at the back of the phone. This device model is easier to make than the other two ideas which is too complex and needed a huge amount of investment.

Market Survey

Our targeted customers are basically adult workers, college students and travellers. We chose them as our targeted customers because they constantly used their mobile devices and our products can help them charge their devices conveniently and efficiently.

3.3.2 Product Design and Features



3.3.3 Concept Testing

Concept testing is the initial test for most new product designed. It involved the process of using quantitative and qualitative methods to evaluate consumer response to a product idea prior to the introduction of product to the market. After we had done a survey among our 49 classmate, we found that people or respondents strongly acceptance to this product.

3.3.4 Build Prototype

A prototype is the first physical depiction model of the new product. After we get some comments and criticism, our company decides this design to the model of product.

3.3.5 Test Marketing

The concept will be tested by 5 of our volunteers and after we received a feedback from them, we will finalize our product and launch it to the local market.

4.0 Conclusion

In a long term, when this product is known globally, it will be the starting point where we can start to make profit out of this product. We were also planning to create a bigger field of market size by promoting our product to the world and finding some investors to expand our business. We will try to excel in this country's market before going global.