



اَبُو سَيِّدِي تَيْكُونُو لَوِي مَارَا
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MARA

**FACULTY OF MECHANICAL ENGINEERING
DIPLOMA IN MECHANICAL ENGINEERING**

**MECHANICAL ENGINEERING DESIGN (MEC332)
FINAL YEAR PROJECT**

FINAL REPORT

**TITLE:
PUSH AND CLEAN**

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1.0 INTRODUCTION

1.1 Overview of The Project

For this project we purposely done it to open the eyes of people about the future of invention. The work of mechanical is our main scope of the project as our product is fully functioning in mechanical movement and does not use any electrical component. Our project called 'Push and Clean' is eco-friendly and save electricity. The idea of this project is established from the observation as we realise that they are a lot of improvement could make from the normal dustpan that people used nowadays. Generally, the use of dustpan with broom is still relevant and quite mainstream in Malaysian community because it easy to get and it still a lot in the market.

Unfortunately, after we have done a survey about the usage of dustpan to community, the feedback shown that there are a lot of problem that occur when using the normal dustpan. Back pain and took a lot of energy to get a job done are the common problems that happened. The survey helps us to identify clearly about which part that people having problem when doing cleaning task using the normal dustpan. From the feedback, we use some problem-solving tools such as Pareto Chart and Force Field Analysis in order to find a solution for these problems.

The "Push and Clean" invention is the modern way of cleaning tools because our product is inspired from the use of broom and dustpan that mostly people in Malaysia use to sweep the floor. The "Push and Clean" is a mechanical dustpan as it functioning in multitasking cleaning task by sweeping the dust thus collect and gather it inside the dustpan in one way. The material inside is generally mechanical device and it have been chosen efficiently by Morphological Analysis and Pugh Chart. We believe that our invention could solve the problem that happened when the one doing cleaning task. Also, the use of electricity also can be reduced thus helping the ecosystem of our lovely Earth.

1.2 Design Objectives

The main objective of this project is to design an improvised mechanical dustpan that can be very useful for every walks of life to clean their home. In order to make this project successful, the objectives must be achieved in completing this project.

It was created basically to help people reduced the time consumption for cleaning the house compound whether it is indoor or outdoor. So, people can save their precious time whencleaning the house and ease their job when doing so. By just using pushing force, the product converted kinetic energy to mechanical energy system so that users can clean the floor in just one sweep.

Other than that, this product was created to overcome the possible back pain from occurs. We already know when sweeping the floor using traditional way may cause back painas we need to bend our bodies when holding the dustpan and sweeping at the same time. So, this product is focusing on convenience and comfortability of the users when cleaning up theirhome.

Next, this product may indirectly reduce the work and energy of the users when doingtheir task. This is because users just need to sweep once to clean the area, compared to using the traditional way.