



**UNIVERSITI TEKNOLOGI MARA
CAWANGAN BUKIT BESI**

MEC 299

**DESIGN AND FABRICATION OF A
BANANA CHIPS SLICER**

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ABSTRACT

This chapter will include information about banana and its slicing method to produce fried food product banana chips. There are various methods used to slice the banana to turn it into delicious snack such as manual way or using machine. Usually, the machine is very expensive, and the manual way use a lot of energy. The objective of this project is to design a banana chips machine slicer using the computer-aided-design and to fabricate the banana chips machine through the use of mechanical engineering design process. For this project, banana that are ideal for making banana chips is the one that are still green and almost start to ripen. The result for this project, banana machine slicer will be available for people that want to start a small business and personal use at home.

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CHAPTER 1: INTRODUCTION

1.1 Background of Study

Fried foods are extremely popular among citizens both locally and internationally. Bananas are one of the few fruits that play a significant role in the local chip and snack sector. It's eaten as a snack item that is both nutritious and delicious. It is prepared and processed into a variety of forms, the most popular of which are deep-fried (Arora, 2020). Chips are a traditional Malaysian snack and fast food.



Figure 1: Banana Chips (*stockimagefactorycom, 2021*)

There are many different varieties of banana chip slicing machines that can be used to start a business or for personal use, depending on the output desired. There are manual slicers, auto slicers, round chips slicers, and long chips slicers, for example (*machinehall, 2022*). It is critical to obtain this equipment because it will make the slicing process much easier.

The research's major goal is to create a low-cost banana chip machine slicer that can be used for personal usage to make banana chips at home or by those who want to start a small banana chip business.

The process that involved in this project is the engineering design. For this semester (FYP 1) it only covers the concept generation and evaluation. Next semester (FYP 2) will move for the next step to design and fabrication to develop the actual machine.

1.2 Problem Statement

As the market for snack foods grows, people are attempting to start small banana chip businesses and are eager to make banana chips at home. In terms of freshness and nutrients, home cook chips are healthier than packaged chips for people who desire to live a healthy lifestyle (Frey, 2020). The chip slicing machine will be quite handy because of this. As a result, chips slicing machines that are both economical and simple to operate will be widely adopted. Unfortunately, this type of slicing machine was not widely produced in the local sector. Most slicing machines on the market are imported, which means they will be pricey, and manual slicing machines will consume a lot of energy. Thus, a new machine banana slicer can be invented that low cost, easy to use and small.