

**UNIVERSITI TEKNOLOGI MARA**

**DESIGN, ANALYSIS AND  
FABRICATION OF ROTATIONAL  
BARBECUE MACHINE**

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## **ABSTRACT**

Barbecue grilling is a popular outdoor cooking activity. The innovation for barbecue is began with cooking meat with fire but now meat cooked over a grill or pit using charcoal, gas or electric as the main thing to cooked food. Barbecue cooking often uses manually rotating technique to ensure foods to cook both sides. However, manually rotating foods on the grill can be unevenly cooking and time consuming. The objective of this project is to design and fabricate a semi auto barbecue machine consisting of a motor to ensure even cooking, improving cooking efficiency and reduce cooking time. The rotational barbecue machine project objectives are to design the motorized barbecue machine and fabricate the barbecue machine with a simple design that is easier to clean and using eco-friendly materials. A rotating grill system ensures consistent flavour and tenderness for various foods. Constructed from durable materials like mild steel, it withstands outdoor conditions such as corrosion and heat resistance. Portability options make it suitable for home use, catering events, and outdoor gatherings. Enhancing flavour, convenience, versatility, this barbecue machine revolutionizes outdoor cooking experiences. The functionality of the project is versatile for cooking method. It is a combination of two styles of cooking which is rotisserie and standard grill style.

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of Study**

Barbecue is also commonly known as BBQ these days, barbecue occurs at the succulent intersection of smoke, seasoning and flesh. It is arguably the simplest form of cooker; no utensils, equipment or special skill are needed to produce some barbecue. One needs fire, meat and some distance between the two [1]. The concept of grilling foods over a flame is believed to have originated with early humans cooking meat over campfires. Grilling is a type of cooking method that has existed in many parts of the world in the pre-colonial era. For over 500,000 years, mankind has been making use of fire to roast food. The early men roasted their meat on a wooden structure before consumption [2]. However, the development of dedicated barbecue machine, which today has evolved over time. Today, they are a staple in many households and an essential tool for outdoor cooking enthusiasts worldwide. They also came in a variety of shapes, sizes, and fuel types. From small portable grills for camping trips to large, high-end outdoor kitchens, there is a BBQ machine to suit every need. Whether it is a traditional charcoal grill for that classic smoky flavor or a high-tech gas grill with all the advanced temperature reading and timer. The BBQ machine continues to bring people together over delicious food and times.

The Barbecue Machine project aims to design and fabricate an innovative barbeque application for cooking and convenience. A rotating grill system ensures consistent flavor and tenderness for various foods. Constructed from durable materials like stainless steel, it withstands outdoor conditions. Portability options make it suitable for home use, catering events, and outdoor gatherings. Enhancing flavor, convenience, and versatility.