

UNIVERSITI TEKNOLOGI MARA

**DESIGN, ANALYSIS, AND
FABRICATION OF SEMI-AUTO
KUIH SIPUT MAKER**

NORNATASHA BINTI AZANI

Dissertation submitted in partial fulfillment
of the requirements for the degree of
Diploma
(Mechanical Engineering)

College of Engineering

February 2022

ABSTRACT

Kuih Siput is known for its small size, spicy flavours, and crispy snack that usually serves during 'Hari Raya'. Based on a survey conducted to 54 respondents, it is proven that 90% of people likes to eat Kuih Siput. However, the making process of it does require many energies and time that caused severe muscle pain towards people. The aim of this study is to produce a semi-auto yet less expensive product to ease people in making the Kuih Siput. This product contains a conveyor system for the transportation method and a motor for its movement source. The main material for this product is stainless steel. The fabrication process will involve cutting, drilling, and welding. With the development of this product, it is believed it to ease people in making greater quantities of Kuih Siput without using a lot of manpower and reduce the muscle pain.

ACKNOWLEDGEMENT

Firstly, I wish to thank Allah for giving me the opportunity to embark on my diploma and for completing this long and challenging journey successfully. My sincere gratitude and thanks go to my supervisor, Madam Nurrul Amilin Binti Zainal Abidin, for her patience, helpful information, enthusiasm, practical advice, and ideas that have helped me at all time during the whole of my final year project journey.

Finally, this dissertation is dedicated to my father and mother for the vision and determination to educate me to be a successful person. This piece of victory is dedicated to both of you. Alhamdulillah.

TABLE OF CONTENTS

	Page
CONFIRMATION BY SUPERVISOR	ii
AUTHOR'S DECLARATION	iii
ABSTRACT	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	x
CHAPTER ONE : INTRODUCTION	1
1.1 Background of Study	1
1.2 Problem Statement	1
1.3 Objectives	2
1.4 Scope of Work	2
1.5 Significance of Study	3
1.6 Expected Result	3
CHAPTER TWO : LITERATURE REVIEW	4
2.1 Machine	4
2.2 Product Design	7
CHAPTER THREE : METHODOLOGY	11
3.1 Introduction	11
3.2 Concept Design	11
3.2.1 Morphological Chart	11
3.2.2 Pugh Chart	17
3.3 Concept Design Sketch	18
3.3.1 Embodiment design	18
3.4 Finalized design in Solidwork Software	20

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Kuih Siput is known as a Southeast Asian snack where the taste is mix crispy and spicy [1]. This traditional Kuih are commonly prepared during the Hari Raya. It also can be eaten as a regular snack. Based on my survey almost 50% of people likes to eat Kuih Siput. However, the making of Kuih Siput is quite complicated from its cutting process to the rolling process.

The small business owners or housewives are likely making the Kuih by using the conventional method which is it need to roll and cut it by bare hands. This process is requiring a lot of time and energy. It also causes a muscle pain. They could not afford the machine which regularly used among big companies where the price is reaching for almost RM 5000.

The importance of this project is to produce a helpful and affordable product for all kind of people especially for small business owners who could not afford the expensive Kuih Siput machine in market. This product will reduce the usage of energy and time required during the making process. The making process will become easier and the improve consistency of shape produced.

1.2 Problem Statement

Kuih Siput are commonly sold in curry flavours. Although the size of the snack is small, it is hard and difficult to make. The price of Kuih Siput machines that are available on the market is expensive and is only suitable for big companies that are producing the snack in large amounts. Small business owners or housewives who want to start or run a business on the side cannot afford the Kuih Siput machine. It is not suitable for working on it at home. They could not produce more quantities of Kuih using a conventional method in a short period of time. If they want to make more quantities, they need to use more manpower on rolling and cutting the dough. These