

UNIVERSITI TEKNOLOGI MARA

**DESIGN AND DEVELOPMENT OF AN
AUTOMATIC T-SHIRT FOLDING MACHINE**

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ABSTRACT

Folding clothes is a chore that most people find tedious to do due to the time, energy and focus needed to. The cost of living in Malaysia for a four-person family can go up to an average of 20829.12 USD [1]in Kuala Lumpur. A result of that are parents who are often very busy and rarely have time to keep the house clean. The purpose of this project is to design and fabricate a machine to help people who are busy to lessen the time needed to fold clothes as well as make it economically viable for them to use. The product should also be ergonomic, so it is lightweight and easily stored while being durable as well. Based on these problems, the machine will be created based on research from e-journals as well as benchmarking from online websites to create this machine. The expected product outcome should be a folding machine that is light, durable, cheap, ergonomic, and fast that can resolve all the problems faced by busy individuals.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Nowadays, it is hard for parents to stay at home due to the increased cost of living in Malaysia. Over the decade, both parents are forced to find jobs to support their family and their children's education as the average education cost in 2022 for a single child in preschool is 165.42 USD [1]. As a result, chores like folding clothes have become a hassle to complete as both parents are too busy to dedicate their time for their family.

One of the household chores that people find tedious to do is folding clothes. This is because other chores like sweeping have already been taken over by cleaning robots [2]. Big families tend to have more clothing to fold compared to small families and clothes must be folded neatly to make sure it minimizes the amount of space it takes up, so this activity is often disliked by individuals who find it hard to do the task such as busy individuals. As this activity takes time for them to complete, the clothes will be stored in an empty and disorganized space instead and reduces their quality of life.

Usually, folding clothes requires labor to fold the garment. However, there has been some effort made to alleviate this problem such as folding services in laundries. However, this method is inefficient as it costs more to pay for such services. A folding board for clothes has been marketed which reduces the time needed to fold clothes but it needs to be operated manually. Companies have also marketed big folding machines that are fully automated. Its' efficiency, however, comes with a big price and size as they are often marketed towards the industry rather than stay-at-home parents. Thus, this problem needs to be solved by creating a machine that can reduce the time, energy, storage, and cost needed to help the people.

As a solution to this problem, the aim of this project is to fabricate an automatic folding machine to solve the time and storage consuming problems. The machine will require the user to place the shirt on a folding plate and with a simple push.