

**CENTRE OF STUDIES FOR BUILDING SURVEYING  
FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING  
UNIVERSITI TEKNOLOGI MARA**

**A STUDY ON LIFT MAINTENANCE IN UITM SHAH ALAM**

**FATIMAH BINTI ABDUL RAHIM  
(2012245156)**

**Academic Project submitted in partial fulfilment of the requirements  
for the degree of  
Bachelor of Building Surveying (Hons)  
Centre of Studies for Building Surveying  
Faculty of Architecture, Planning & Surveying**

**July 2015**

**CENTRE OF STUDIES FOR BUILDING SURVEYING  
FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING  
UNIVERSITI TEKNOLOGI MARA**

**A STUDY ON LIFT MAINTENANCE IN UITM SHAH ALAM**

**“I hereby declare that this academic project is the result of my own research  
except for the quotation and summary which have been acknowledged”**

**Student's Name : Fatimah Binti Abdul Rahim**

**Signature : *Fatimah***

**UITM No. : 2012245156**

**Date : July 10<sup>st</sup>, 2015**

## ACKNOWLEDGEMENT

*"In the name of Allah, Most Gracious, Most Merciful"*

The research presented in this dissertation could not have been conducted without the support, encouragement, and cooperation of many people. First of all, I would like to express my deepest gratitude to my supervisor, Mrs. Elma Dewiyana Binti Ismail, who has always given valuable advice and encouragement throughout in developing this project successfully. I would like to thank her for giving the opportunity to learn and work under guidance, which has been the most memorable experience.

Special thanks to workers, students and lecture for his willingness to spend his time and his cooperation upon preparation of this thesis.

Also thanks to all my lecturers, for their valuable insight to make this thesis successfully. Without their thoughtful suggestions, I would not be able to finish this thesis.

I especially thank my entire family for their encouragement, knowledge and their constant prayer for me. Last but not least, I am thankful to my friends and associates for their encouragement, criticism and support for this project.

## ABSTRAC

The maintenance of building faculty's lift services are very important to ensure the security level and user convenience. However, there have many problems of lift maintenance works. There are many complaints were made on maintenance services weakness which is operate in ever building in uitm that researcher study. Lift expended at at the UiTM buildings often damaged and this may caused various problems to make maintenance and also occupants. To answer these problems, a study maintenance lift at UiTM of the faculty buildings to identify the lift maintenance problem and to suggest the best maintenance at UiTM's buildings. About 5 building were identified in UiTM SHAH ALAM were chosen. For each building, the respondents are 30 persons and one respondents of maintenance management in that building. Questionnaire forms are used to obtained information about objective of the study. This study used to make an analytical frequency to analyze the data. Study found that the main problems which normally faced by maintenance worker during maintenance work implemented was lack of skilled labour and employees attitude who were not carry out their task nicely. As such, this study also obtains the best lift maintenance at building UiTM and followed the requirement.

## 1.1 INTRODUCTION

Lift is defined as a transport device used to move goods or peoples from one floor to another floor. The type of lift is vertical transport equipment that efficiently moves people or goods between level of a building, vessel or other structure. The general power of lift is by electric motors that either drive traction cables or counterweight systems like a hoist, or pump hydraulic fluid to raise a cylindrical piston. So lift is very important to for multi-storey building.

There are three types of lift such as hydraulic lift, geared and gearless traction and machine-room-less (MRL). Hydraulic lift is common use in low-rise, low-use buildings of two to five stories and the maximum speed is 150 feet per minute of operation. Hydraulic lifts are available in three configurations depending on the application. These are direct plunger, indirect telescoping, and indirect "roped." Hydraulic achieves on vertical motion from the hydraulic plunger and moving within hydraulic cylinder. A cost to start the hydraulic is low and the cost of maintenance of hydraulic lifts is also much lower than other lifts. However, hydraulic lift used more energy than another types lift.

Geared traction lift have historically have been used in mid-rise, moderate-use buildings of 5 to 15 stories and typically operate at speeds of 200 fpm to 500fpm in passenger, service, and freight lift applications. Geared traction elevators are middle of the road in terms of initial cost, ongoing maintenance costs, and energy consumption (ARCH MEDIA GROUP, 2013). Gear-less traction lift have a high initial cost, medium ongoing maintenance costs, and use energy a bit more efficiently than geared traction lifts (ARCH MEDIA GROUP, 2013). Geared traction hoist machines are generally used only for large capacity service and freight lifts.

MRL traction lift use "compact" gearless traction hoist machines that typically are mounted within the confines of the hoist way above the top floor served. Typical lift speeds are 200 fpm, 350 fpm, and 500 fpm. Product development currently is under way to increase the speed of this type of equipment to 700 fpm. Machine room is traction lifts that do not have a machine room above the lift shaft. This machine accessed from the top of car lift when do the maintenance work or repairing are required and this machine a located at the override space. Control room that is adjacent to the lift shaft are located in the machine room is the highest landing and within around 150 feet from the machine. MRL lift are comparable to geared traction