

**CENTRE OF STUDIES FOR QUANTITY SURVEYING
FACULTY OF ARCHITECTURE, PLANNING & SURVEYING
UNIVERSITI TEKNOLOGI MARA
KAMPUS SAMARAHAN
SARAWAK**

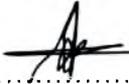
**THE AWARENESS OF THREE DIMENSIONAL
PRINTING IN CONSTRUCTION INDUSTRY**

Final Project submitted in partial fulfilment
of the requirement for the award of
Bachelor of Quantity Surveying (Honours)

**PREPARED BY : ADRY ANDIK HAKIM BIN MOHD JOHARI
(2018441496)
SEMESTER : SEPTEMBER 2018 – JULY 2020**

DECLARATION

"I declare that this Final Project/dissertation is the result of my own research and that all sources are acknowledged in the references"

Student's signature : 

Student's name : Adry Andik Hakim bin Mohd Johari

Date : 27th August 2020

ABSTRACT

The construction industry has been long considered as a catalyst for many developed and developing countries. As many technologies are being developed and used in the industry, three dimensional printing is the one upcoming technologies be making it huge imprint in the world. Recently there are parties who are still ignorance on learning about the new technology, the potential in using 3DP for the industry in Malaysia is still a question due to shortage of experts, exclusion of building services and financial aspect. Although its application is low in current stage due to the high cost and strong contractors preference in the technological method. This is because the awareness towards 3D printing in the construction industry is relatively still unknown in Malaysia. Thus, the aim of this paper is to analyse awareness order to accept disruptive technologies in the construction industry. The awareness of 3D printing are divided into three sections, namely awareness of 3D Printing among the design team, its benefit in construction project and significant usage towards the future construction industry. The research method for this paper depended on literature review and questionnaire. The findings shown that level of awareness of 3D Printing among design team was moderately aware to very aware for the construction players to fully recognise the technologies and adapt it to the current local construction industry.

Keywords; awareness, three dimensional printing, construction industry

TABLE OF CONTENTS

	PAGE
DECLARATION	
ABSTRACT.....	i
ACKNOWLEDGEMENT	ii
TABLE OF CONTENTS	iii
LIST OF FIGURES	vii
LIST OF TABLES	ix
LIST OF ABBREVIATIONS	x
CHAPTER 1: INTRODUCTION.....	1
1.1 Introduction.....	1
1.2 Aim.....	2
1.3 Problem Statements	2
1.4 Objectives.....	3
1.5 Scope of the Study.....	3
1.6 Research Methodology	3
1.7 Summary of Chapter.....	4
CHAPTER 2: LITERATURE REVIEW.....	5
2.1 Introduction.....	5
2.2 3D Printing Definition.....	5
2.2.1 Evolution of 3D Printing.....	5
2.2.2 3D printing process	7

CHAPTER 1

INTRODUCTION

1.1 Introduction

After more than 25 years of research, three-dimensional printing (3DP) which is also known as additive manufacturing, has been used in various industry such as aerospace, automobile and medical which is still growing at times. As 3DP is becoming more affordable in various industry, more reliable and as a result, more prevalent to the world at large scale, it may soon make huge inroads into the construction industry.

At the last decade of 2009, Malaysia starts to step up on the game. It requires 2D drawing scale models for the evaluation of building design, cumbersome formwork and skilled labour to build any kind of free form structure (Faber, 2016). However, 3DP presents insight into how disruptive technologies potentially impact the eco-performance of the entire supply chain.

As much as there are parties who are still ignorant about learning about the new technology, the potential in using 3DP for the industry is still a question. The findings show that there is some potential usage of 3DP in the future, although its application is low in current stage due to the high cost and strong contractors preference in the technological method.