

TABLE OF CONTENT

APPROVAL SHEET	ii
INTELLECTUAL PROPERTY STATEMENT	iii
ABSTRACT	v
ACKNOWLEDMENT	vi
TABLE OF CONTENT	viii
TABLE OF TABLE	x
TABLE OF FIGURE	xi
LIST OF ABBREVIATIONS.....	xii
TERMINOLOGY	xiii
CHAPTER I INTRODUCTION.....	1
I.1 Background	1
I.2 Problem Formulation	12
I.3 Research Objectives	12
I.4 Problem Limitation	12
I.5 Research Benefit	12
I.6 Systematic Research.....	13
CHAPTER II LITERATURE REVIEW.....	15
II.1 Lean	15
II.2 Lean Manufacturing.....	15
II.3 Types of Waste	16
II.4 Lean Six Sigma Tools.....	18
II.4.1 Process Activity Diagram (PAM)	18
II.4.2 Value Stream Mapping (VSM)	18
II.4.3 Fishbone Diagram	28
II.4.4 5 Whys	29
II.5 Production Planning.....	30
II.6 Production Forecasting	31
II.7 Reason of The Method.....	35
CHAPTER III RESEARCH METHODOLOGY	37
III.1 Conceptual Model	37
III.2 Systematic Problem Solving.....	38

III.2.1 Data Collection and Processing Data.....	39
III.2.2 Suggestion and Improved	40
CHAPTER IV DATA PROCESSING AND COLLECTING.....	42
IV.1 Collecting Data.....	42
IV.1.1 Research Object.....	42
IV.1.2 Description of Working Time.....	42
IV.1.3 Description of Production Equipment	43
IV.1.4 The Order of Production Process.....	43
IV.1.5 Observation Time Data.....	44
IV.2 Identify Causes of Waste.....	45
IV.2.1 Value Stream Mapping (VSM Current)	45
IV.2.2 Process Activity Mapping (PAM Current).....	47
IV.2.4 5 Whys tools	49
IV.2.3 Fishbone Diagram.....	49
IV.3 Suggestion of Improvement Plan	51
IV.4 Additional Improvement	72
IV.5 Value Stream Mapping Future State	74
CHAPTER V ANALYSIS	76
V.1 Analysis of Forecasting Method.....	76
CHAPTER VI CONCLUSION.....	78
VI.1 Conclusion.....	78
VI.2 Suggestion	79
References	80
Lampiran A	82
Lampiran B.....	87