



IMPROVEMENT OF INVENTORY STORAGE LAYOUT

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“I declared that this thesis is the result of my own work except for the ideas and summaries which I have clarified their sources. The thesis has not been accepted for any Degree and is not concurrently submitted in candidature of any Degree”

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ABSTRACT

Solo Labeller (M) Technology Sdn. Bhd. (SLMSB) is a small, independent manufacturing company that produces disproportionately high number of parts in a very limited space of stock area. As such, SLMSB has faced significant challenges in organizing their finished parts and WIP efficiently in meeting the growing demands of machine orders. One of the main problems they encountered was too much time wasted for traveling and searching for the correct parts to be retrieved. This indirectly has increased the inventory and production costs due to the delayed machine delivery orders.

As part of the this study, the stock area was investigated, and some improvements have been proposed using visual representation which depicted the critical racks, critical paths and waste occurred in term of time and distance. The visualizations helped to collect consensus as to the main area of inefficiency and to determine the appropriate layout and rack reorganization in the department. The proposed improved layout was based on grouped parts by their sub-assemblies and pooled together high frequency picked items nearer to the machine assembly area with easy-to-reach shelves locations. The implementation of the improved layout has resulted in approximately 15 percent reduction of travel distance, 34 percent reduction of walking time and 26 percent reduction of searching time.

Table of Contents

ABSTRACT.....	1
CHAPTER 1: INTRODUCTION	2
1.1 Project Background	2
1.2 Company Profile.....	2
1.3 Problem Statement.....	3
1.4 Objectives.....	3
1.5 Scope of Project.....	3
1.6 Thesis Structure	4
CHAPTER 2: LITERATURE REVIEW.....	6
2.1 Overview.....	6
2.2 Inventory Management	6
2.3 Order Picking	6
2.4 Stock Area (Warehouse) Layout Management	7
2.5 String Diagram	8
2.6 Fishbone Diagram.....	10
2.7 Ergonomics in Workplace.....	11
CHAPTER 3: METHODOLOGY.....	12
3.1 Literature Review	12
3.2 On Site Visit.....	13
3.3 Collected Data	13
3.3.1 Observation	13
3.3.2 Record.....	13
CHAPTER 4: CURRENT CONDITIONS.....	15
4.1 No Documentation on Inventory	15
4.2 Initial Plant Layout	15
4.3 Initial Flow Diagram.....	17
4.3.1 Initial Order-Picking Travel Distances.....	18
4.3.1 Initial Order-Picking Travel and Search Time.....	19
4.4 Hazardous Working Environment	20
CHAPTER 5: IMPROVEMENT PLANS	21
5.1 Documentation on Inventory Level.....	21
5.2 Improved Plant Layout	23
5.3 Improved Flow Diagram	25
5.3.1 Improved Order-Picking Travel Distances.....	26