

INTEGRATION OF LEAN TECHNIQUES ON
THE DEVELOPMENT OF PRODUCTION
PLANNING APPLICATION AT A
FOOD MANUFACTURING
COMPANY

THESIS

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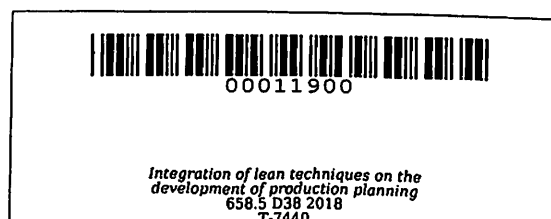
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**INTEGRATION OF LEAN TECHNIQUES ON THE DEVELOPMENT OF
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ABSTRACT

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Food producers have traditionally focused on offering customers high quality products at low prices. Efficiency in food production is critical and producers have relied on producing in large volumes to meet customer demand. Instinctively, producers respond quickly to changes in the market place through creating production system. This study developed a production planning application for a food manufacturing company. Specifically, this research attempted to: (1) assess the current system to identify the critical factors or problems that has to be solved; (2) identify the possible features that will be included in the production planning application for Wowiejoy food manufacturing company; (3) identify the advantages of using a production planning development application compared to the current system used by WowieJoy Manufacturing Company in the planning and production; and (4) determine the evaluations in the company using the production planning development application in terms of improving waste management, production and material efficiency.

The study was limited on lean techniques, production, material efficiency and waste management used to measure the advantages of using a production planning development app against the simple processes implemented by the food manufacturing company. Accordingly, data were collected using a questionnaire and brief interview.

The results of this study indicated that the present system of the company is basically manual type system which does not have technological advancement.

Meanwhile, operation process charts and flow diagram were used to easily visualize and understand the whole production process system. Critical points in the present production process are used as a guideline to design the application. Also, lean techniques and industrial engineering tools are used to identify possible features of the application. Ease of adding customer, order and selling of products. System designed from the usability requirement in International Organization for Standardization (ISO) 9126. Additionally, it was identified that in terms of functionality, efficiency, usability, ease of operating and controlling the system on its results were all considered excellent. Finally, the study provided some conclusions and recommendations regarding the insufficiency of the food manufacturing company and how the company can correct and improve those identified deficiencies and achieve much successful production process.

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INTRODUCTION

Most of the breakthroughs in products, materials, technologies, and production methods have influenced various systems and processes relating to the advancement of the manufacturing. Economic development of various countries that are heavily inclined in mass production have increased manufacturing activities. However, the pace of these changes affected industrialization, which created a culture of manufacturing, consumption and disposal without cautious consideration for rapid increase in the extraction of resources, introduction of excess products into the market, obsolescence of old products, increase in volumes of industrial waste and other concerns relating to waste and emission generation, resource capacity and global sustainability.

A key action against the generation of industrial waste calls for material efficiency that contributes to reduction of industrial waste volumes, reduction of extraction and consumption of resources, as well as a decrease in the demand for energy,