



Faculty of Manufacturing Engineering

CHANGE MANAGEMENT STRATEGIES FOR THE SUCCESS OF LEAN ADOPTION



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Master of Manufacturing Engineering (Industrial Engineering)

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**CHANGE MANAGEMENT STRATEGIES FOR THE SUCCESS OF LEAN
ADOPTION**

NUR AIN QISTINA BINTI MUHAMMAD SHAFEE

**A Thesis Submitted in Fulfilment of The Requirements for The Degree of Master of
Manufacturing Engineering (Industrial Engineering)**



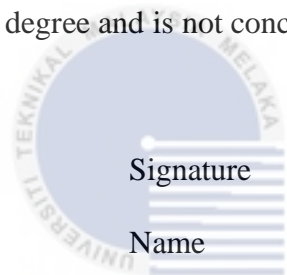


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UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2022

DECLARATION

I declare that this entitled “Change Management Strategies For The Success Of Lean Adoption” is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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APPROVAL

I hereby declare that I have read this thesis and in my opinion this thesis is sufficient in terms of scope and quality for the awards of Master of Manufacturing Engineering (Industrial Engineering)



DEDICATION

Dedicated for My,
Mother, Rohamiza Binti Josoh
Father, Muhammad Shafee Bin Atan
Amazing Siblings



ABSTRACT

The failure in the lean adoption system is due to the disagreement of employees to follow the new ideas and misunderstanding of the employers towards the lean contributions. Therefore, there is a need to conduct a study on the introduction of appropriate strategies for the industries to follow to create a conducive environment for successful lean implementation. The objectives of this study are to investigate the barriers for the employees to accept the lean adoption in the company, establish the appropriate strategies for the employees to follow the lean implementations, and propose a conducive environment for successful lean implementations based on the change management concept. The scope of this study is to focus on the employees' side of the company from various levels in the company organization. The questionnaires, with the Cronbach's Alpha value of 0.84 which is more than 0.70 indicating the set of questions are reliable, are being used for the methodology and were distributed to 100 employees with 79% of response rate, which means the total respondents for this research is 79 respondents. For the data gathered, the frequency analysis and average index were being used. In consequence, the problems will be used in establishing the new strategies to increase the lean successful performance, creating a new medium that is more reliable. Finally, by using Jick's change management method, as example promote the changes widely thus create a high awareness that the changes will be executed by circulate the advertisement months before the changes be executing and the change team as well should create a discipline set of rules to avoid any lousiness and provide a standard working or operations procedures in ensuring the changes will be done according to the actual working style in achieving a remarkable and victorious lean adaptation into the company.

ABSTRAK

Kegagalan dalam sistem pengangkatan LEAN adalah disebabkan oleh perselisihan pekerja untuk mengikuti idea-idea baru dan salah faham majikan terhadap sumbangan tanpa lemak. Oleh itu, terdapat keperluan untuk menjalankan kajian mengenai pengenalan strategi yang sesuai untuk industri untuk mengikuti untuk mewujudkan persekitaran yang kondusif untuk pelaksanaan LEAN yang berjaya. Objektif kajian ini adalah untuk menyasat halangan bagi pekerja untuk menerima penggunaan LEAN dalam Syarikat, menubuhkan strategi yang sesuai untuk para pekerja untuk mengikuti pelaksanaan LEAN, dan mencadangkan persekitaran yang kondusif untuk pelaksanaan LEAN yang berjaya berdasarkan konsep pengurusan perubahan. Skop kajian ini adalah untuk memberi tumpuan kepada pihak pekerja dari syarikat dari pelbagai peringkat dalam organisasi syarikat. Soal selidik, dengan nilai alfa Cronbach sebanyak 0.84 yang lebih daripada 0.70 yang menunjukkan set soalan yang boleh dipercayai, sedang digunakan untuk metodologi dan diedarkan kepada 100 pekerja dengan 79% daripada kadar tindak balas, yang bermaksud jumlah responden untuk penyelidikan ini adalah 79 responden. Untuk data yang dikumpulkan, analisis frekuensi dan indeks purata sedang digunakan. Akibatnya, masalah akan digunakan dalam mewujudkan strategi baru untuk meningkatkan prestasi yang berjaya, mewujudkan media baru yang lebih dipercayai. Akhirnya, dengan menggunakan kaedah pengurusan perubahan Jick, persekitaran yang kondusif baru akan dicadangkan kepada syarikat dalam mencapai penyesuaian yang luar biasa dan menang ke dalam syarikat.

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CHAPTER 1

INTRODUCTION

This chapter will explain the background of study, the problem statement that executethe whole research to be done, the objectives for this study to achieve, and the scopethroughout the research that has been done.

1.1 Background of Study

Lean is the idea of maximizing the value that will be delivered to the customers or the end users by minimizing all the possible waste, or in other words, lean means eliminate all the waste without jeopardies the value deliver to the end users of the products or any services. A lean organization understands the customers value then, focuses all the possible key processes to continuously improve the valueswith the goal is to provide perfect value to the customer through a perfect value creation process that has zero waste. To achieve this goal, lean thinking deviates the management focus from optimizing the utilization of the technologies, assets, and the vertical departments to maximizing the product and service flow through the entire value streams that flow horizontally across the technologies, assets,and departments to the customers or end users. The lean implementation involved allthe stages in the supply chain and highly depends on the community in an organization. The implementation of lean is necessary for high-value manufacturing or for any organizations and is complementary to strategic decision making regarding the whole production or institutions (Pearce and Pons, 2013).

According to the famous book in the industry entitle Lean Thinking written by James P. Womack and Daniel T. Jones, first published in 1997, there are five main principles that the organizations can follow to implement the lean as referred to the Figure 1.1 below; firstly, specify the value of the product or services. Express the value in specific terms that will meet the customer’s needs at a specific price, and at a specific time. secondly, map. Identify the value stream mapping that have the set of all the specific actions required to bring the specific product or service through all the critical stages in the organizations or the supply chain stages. Third, is the flow. Create a clear flow by eliminate the functional barriers and develop a value-focused flow that improves the lead time. Next, is the pull. This system using the products or services to be deliver according to the demand create the customers or the end users, by utilizing the data gathered in the history and the sales forecasting. Lastly, is the perfection which is impossible to achieve but take it as the continues, never ending process for the organizations to always improve and seek knowledge in reducing the manpower, time, space, cost and mistake without threaten the product or services value that has been an organization’s main goal of operations (Womack and Jones, 1997).

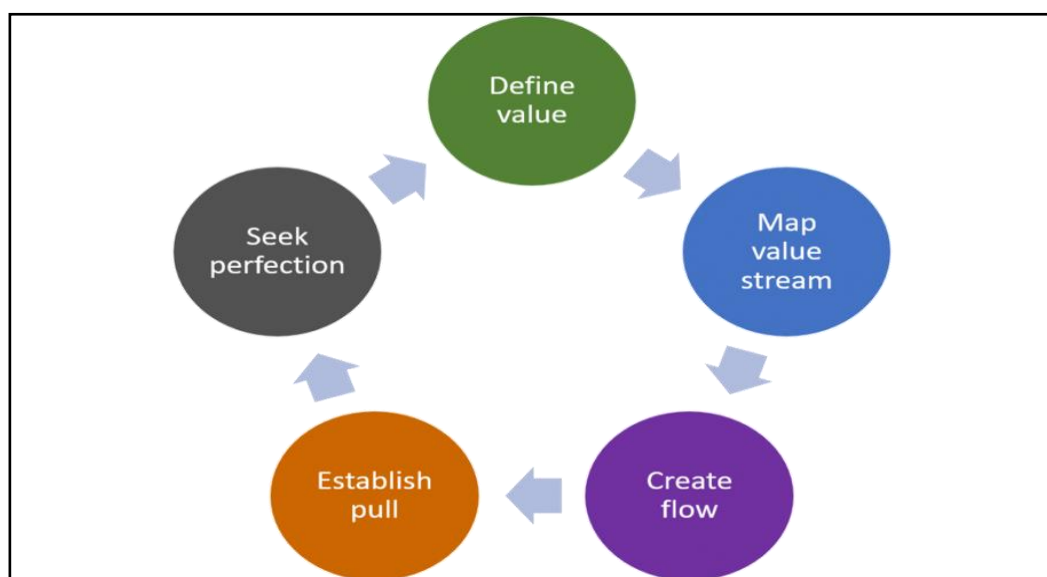


Figure 1.1 The Five Lean Principles (Womack and Jones, 1997)

Management is the coordination and administration of task that has the same goal, aim, and objectives. The activities include the setting of the organizations strategy and coordinating all the resources to accomplish the objectives set by the organizations that acknowledged by all the layers involved in the organizations. There are five basic operations of management: setting objectives, organizing, motivating the team, devising systems of measurement, and developing people. All of the systems will coordinate according to three main important concepts in executing the strategy approved by the organizations. Firstly, is the control. The management systems must control all the stages involved in the organizations by the organization operations and the measurement of the progress from time to time and acknowledge any of the circumstances that arise along the way for the organizations. Secondly, is the planning. The concept of planning plays a very important and significant key before implementing and adopting any systems or strategy and it is an ongoing strategy throughout the time to achieve certain desired goals and objectives of the organizations. The planning concepts should include the objectives defining that will help to drive and focusing the whole team in achieving the target regardless the distinct behaviors among all the stages involved. Lastly, is the staffing. Staffing is a concept that will ensure the people received the right task delegations according to their specific skills, knowledge, and policies. This concept also ensuring the company and the people will gain the benefits and profit equally, consequence, will create a healthy and just environment among all the stages involved (Albliwi et al. 2014).

In consequence, there is an improvement strategy that will occur continuously in the management systems that will produce a change to the whole organizations. Hence, a compatible strategy must be planned in order to manage the responsiveness from the internal resourced in an organizational, ensuring the goals and objectives can be achieved without any circumstances and failure. According to the articles written, the change management should include an integrated, process-oriented conceptual framework, knowledge formulation, strategy implementation, and status evaluation (Albliwi et al. 2014).



1.2 Problem Statement

However, the implementation in any specific organizations is not straightforward and is not always successful. Several authors and research have argued over the success rate, a significant number of companies have failed to gain any benefits from the deployment of lean implementation and failed to achieve the expected results. According to the research conducted in 2011 by Pederson and Huniche, up to 70% of the companies have failed in the continuous improvement; Lean and Six Sigma. In 2006, in the United Kingdom, the record shows that the company that were successful in achieving the goal by lean implementation was less than 10% (Pedersen and Huniche, 2011).

Meanwhile, in the aerospace industry, as reported by Chakravorty in 2009, the results from the survey conducted shows that the respondents that are satisfied with the lean implementation is fewer than 50%. Same goes to the health-care services, the survey shows there is 54% from the total companies do not anticipate in implementing the continuous improvement strategy.

Finally, in Glasgow, the survey shows that 62% of the six sigma and lean initiatives failed as the resulted from the lack of stakeholder acceptances. These failures and dissatisfaction of the lean implementation has come out from the failure of the companies to pay enough attention to the critical key of lean implementation principle which include the top management commitment and the employee's involvement. In this case, the communication plays a very huge part in putting all the stages involved in one same page (Sodhi et al. 2019).

From the article written by the Richard Kallage in 2006, there are three main categories of the common failures of the lean implementation: top management leadership, people issues, and deployment methods. For the top management leadership, the attitude, commitment, and involvement have been identified as the main cause in the failure as the role of the top management is to ensure that all the required resources are available, and that the information deliver must be efficient through all the stages below in order to achieve the same goal for all the people involved in the company. Next, is the lack of training and education among the employees. The lean implementation is a whole and holistic strategy for the company to improve the overall quality and achieve the goals established, therefore, each one of the employees and must understand the basic concept to be able to execute the lean implementation for the company. Poor communication, lack of leadership skills and visionary and supportive leadership, lack of considerations of the human factors, wrong selection of the tools selected are the main failures factors in the article mainly due to the disagreement of employees to follow the new ideas and misunderstanding of the employees towards the lead contributions.

Therefore, this study is conducted for the introduction of the appropriate strategies to follow in creating a conducive environment for successful lean implementation. In this study, there will focus on the changes made in the terms of the management to solve the disagreement and misunderstanding of the employees towards the new lean implementations ideas and for responding to the lead contributions.

1.3 Research Question

- 1.3.1 What are the barriers for the employees to accept the lean adoption in their working ethic?
- 1.3.2 What are the possible strategies in encounter the lean adoption failure?
- 1.3.3 How can the strategies be implemented among the workers in an organization?

1.4 Research Objectives

- 1.4.1 To investigate the barriers for the employees to accept the lean adoption in the company
- 1.4.2 To establish the appropriate strategies for the employees to follow the lean implementations
- 1.4.3 To propose a conducive environment for successful lean implementations based on the Change Management concept

1.5 Scope of Study

The scope of this research is to focus on the employees' side of the company; from the culture, behaviors, working space, and psychometrics view.

1.6 Significance of Study

For this research, the significance of study will indirectly assist in the lean system to be successfully adopted among the employees in the organizations by utilizing the change management idea.

1.7 Chapter Summary

This chapter is an introductory section for the whole dissertation. It explained the detailed introduction elements from the problem statement that triggered the whole study conduct at the first place. Then, it moves to the research questions that resulting the research objectives. Next, is the scope of study that drives the study to focus within the limit. The significance of study that explain the importance this study possesses to the related field, and how does it contribute to the industry. Last part are the expected findings and definitions of terms that will help to picture the whole study in clearer state.

CHAPTER 2

LITERATURE REVIEW

This chapter will be discussing the review of the study from the previous research done by other researchers. This study is about to extract the real fundamental issue arise regarding the lean implementation in the company and the main factors of the failure to be happened among the workers. The main objective of this chapter is to understand the related research that can be used to support this study so that the best conclusion can be drawn. The literature sources are from being taken from journals, books, and articles that are close related with this study.

2.1 Lean System

Motwani (2003) exclaims that the lean system is the system created from the world biggest car manufacturing factory, the Toyota production system that emphasize the organizations to reduce the waste produce throughout the whole production. Waste is characterized as any action or step in a process that does not add value to the end product, or the services provided. Additional time, work, capital, storage, and material, which do not add any value to the running system and can be considered as a loss to the time, money, and space to the company.