

A Study of Components of Total Quality Management and Lean Manufacturing System Affecting Management Efficiency of Computer manufacturing industry in Thailand.

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DOI: <https://doi.org/10.56293/IJMSSSR.2022.4613>

IJMSSSR 2023

VOLUME 5

ISSUE 3 MAY – JUNE

ISSN: 2582 - 0265

Abstract: The researcher aims to study 1) Analyze the conceptual and theoretical elements of enterprise-wide quality management systems and lean production systems. 2) Identify the connections and elements of enterprise-wide quality management systems and related lean production systems with management efficiency. 3) Present a conceptual framework for research (Conceptual Framework) and from the literature review it was found that 9 important issues should be studied and tested as follows: 1. Transformative leadership, 2. Employee engagement, 3. Customer focus, 4. Education and training, 5. Process management, 6. Data and analytics, 7. Strategic planning, 8. Pull production and 9. Continuous flow systems where these factors have a positive direct influence. On the management efficiency of the computer equipment manufacturing industry in Thailand. A total of 40 subjects were randomly sampled using data analysis after data collection. The results will be analyzed with 2 types of statistics: descriptive statistics consisting of frequency, percentage, mean, and standard deviation and statistical analysis. Inference is the analysis of Structural Equation Modeling: SEM. The results were discovered in this study. Hypothesis 1 (H1) Total quality management has a direct positive relationship with business management efficiency. Hypothesis test results from Influence DE=0.418* Accept, Hypothesis 2 (H2) Total quality management system across the organization has a direct positive relationship with the Lean production system. Hypothesis test results are Influence DE=0.342*, IE=0.247* Accept, and Hypothesis 3 (H3) Lean manufacturing has a direct positive relationship with business management efficiency. The hypothesis test results are Influence DE=0.594*

Keywords: Total Quality Management, Lean Manufacturing System, Computer manufacturing industry, Efficiency Management, Thailand

1. Background

Total quality the expenditure of resources for any goal other than the management (TQM) and Lean Manufacturing (LM) is the creation of value for the end customer to be wasteful and two management approaches to optimization, but there is thus a target for elimination; basically, more value with various ideas and views of them. Are they the same or less work? LM is a generic process management not? Philosophy derived originally from the Toyota Production TQM is "The management of quality at every stage System (TPS) (Alireza Anvari 2011). The term 'Lean' was probably coined by operations, from planning and design through self-Womack et al. (Alireza Anvari 2011) in their book "The Machine that Inspection, to continual process monitoring for Changed the World'. Some authors state that a definition of improvement opportunities" (Divya Tiwari 2012). However, the difference between Lean including both the people and the process definitions of TQM has been presented over the years. Components on the one hand and internal (related to the Boaden claims that: "attempting to define TQM is like firm) and external (related to supplier and customer) shooting at a moving target". Some argue that TQM is a component on the other hand. In this sense, Shah and a corporate culture characterized by increased customer Ward's definition of LP highlights mechanisms needed satisfaction through continuous improvement, in which all achieve the central objective of waste elimination. employees in the companies participate actively. Dale So, LM is the production of goods using less of claims that TQM is both a philosophy and a set of everything. In using LM with your company, the goals and guiding principles for managing an organization. TQM would be to use less waste, less human effort, less focuses on control of business processes

and customer manufacturing space, less investment in tools, and less satisfaction. Activities such as improvement, and statistical engineering to develop a new product. LM is renowned for control, supply control, and quality engineering for its focus on the reduction of waste, which in turn improves overall customer value. technical dimensions (and the core concepts that form As a result, LM is a manufacturing philosophy that them) should be interrelated and mutually support one shortening the time between the customer order and the other reflecting the holistic character of TQM product build/shipment by eliminating sources of waste initiatives. This holistic character is also extended to the study asks whether Lean differs from other expected results of a TQM initiative because a balance of improvement methods (TQM) and two of the differences in the stakeholders' interests should be considered when are particularly noteworthy. First, Lean focuses on the firm's defines TQM practices .improving entire value streams, whereas most of the other Thirdly, the literature suggests that the optimal improvement methods tend to focus on individual management of TQM core concepts will lead to better processes. customers' expressed and latent needs, responsiveness to The rest of this paper is structured as follows. In the changing markets, as well as through improving the next section, an overview, and background of TQM is the efficiency of the processes that produce the product or present. Section 3 is an overview of the concepts of service

Total Quality Management Principles No single accepted body of knowledge exists for total quality management, as does, for example, the Project Management Body of Knowledge (PMBOK) for the Project Management Institute. Similarly, no prescribed actions exist for implementing TQM methods and tools. Organizations have been free to deploy and adapt TQM as they see fit, giving way to many definitions of the methodology. Despite these challenges to standardization, it's possible to describe generally accepted principles: Customer Satisfaction and Employee Commitment: This creates empowerment through training and suggestion mechanisms. Fact-Based Decision Making: Teams collect data and process statistics to ensure that work meets specifications. Effective Communications: There should be an open dialogue throughout an organization. Strategic Thinking: Quality must be part of an organization's long-term vision. Integrated System: A shared vision, including knowledge of and commitment to principles of quality, keeps everyone in a company connected. Taiichi Ohno recognized that even suppliers are an important part of the system. Process-Centered: You can deconstruct every activity into processes, and, therefore, locate and repeat the best process. Continuous Improvement: Every employee should always be thinking about how to better perform their job. (Kate Eby June 21, 2023)

TQM Model

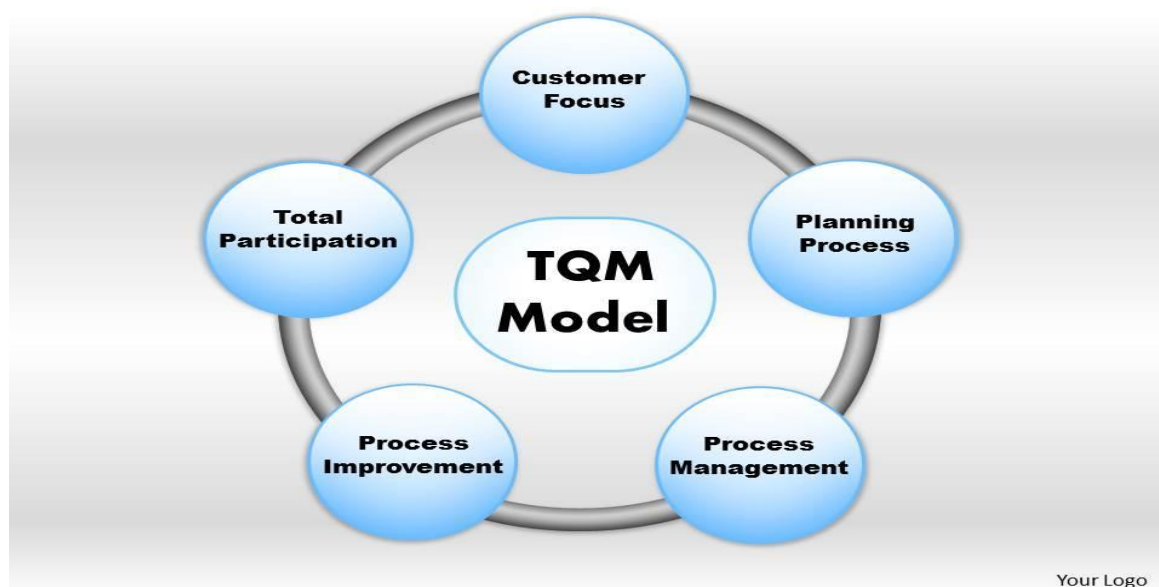


Fig.1. TQM Model(<https://www.slideteam.net/tqm-model>)

2. Methods

This study was conducted using a qualitative design. The sample group in this research is a computer equipment manufacturing company in Thailand. A total of 40 subjects were randomly sampled using data analysis after data collection. The results will be analyzed with 2 types of statistics: descriptive statistics consisting of frequency, percentage, mean, and standard deviation and statistical analysis. Inference is the analysis of Structural Equation Modeling: SEM. Factor Loading must be greater than 0.7, Composite Reliability (CR) must be greater than 0.7, and Average Variance Extracted. : (AVE) that must be greater than 0.5. In addition, the concordance of the theoretical structural equation model with empirical data must be checked with the Chi-square statistic, the p-value, and the Chi-square/df. The statistic used in hypothesis testing were 9 indicators Harmony level index (GFI), Enhanced Harmfulness Index (AGFI), Criteria-Based Fitness Index (NFI), Comparative Harmonization Index (CFI), and Parametric Error Estimation Index (RMSEA) (Hair, et al., 2010)

3. Results

Table 1 summarizes the results of the research hypothesis test

Research hypothesis	Hypothesis test results	
	Influence	Accept/reject
Hypothesis 1 (H1) Total quality management has a direct positive relationship with business management efficiency.	DE=0.418*	Accept
Hypothesis 2 (H2) Total quality management system across the organization has a direct positive relationship with the Lean production system.	DE=0.342*, IE=0.247*	Accept
Hypothesis 3 (H3) Lean manufacturing has a direct positive relationship with business management efficiency.	DE=0.594*	Accept

The results were discovered in this study. The Research Hypothesis1 (H1) Total quality management has a direct positive relationship with business management efficiency.

Hypothesis test results from Influence DE=0.418* Accept, Hypothesis 2 (H2) Total quality management system across the organization has a direct positive relationship with the Lean production system. Hypothesis test results are Influence DE=0.342*, IE=0.247* Accept, and Hypothesis 3 (H3) Lean manufacturing has a direct positive relationship with business management efficiency. The hypothesis test results are Influence DE=0.594*

4. Discussion

The results were discovered in this study.

1. Comparison of the management of the computer equipment manufacturing industry in Thailand and abroad to know the guidelines for the work To know other management-related factors that lead to the development of the computer equipment manufacturing industry in Thailand.
2. Study factors enhancing the competitiveness of the computer equipment manufacturing industry in Thailand and related industries to resolve the impact of the relocation of production bases

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