



## **Green Lean TQM Islamic Management Practices in Malaysian Food Companies**

**Nur Asiah Kuzaiman\*, Argustina Zainuddin, Nor Azlina Mohd Salleh and Salmiah Kasolang**

*Faculty of Mechanical Engineering, Universiti Teknologi MARA (UiTM), 40450 Shah Alam, Selangor, Malaysia*

### **ABSTRACT**

Islam is the fastest growing religion in the world. The number of the Muslim worldwide has been increasing through birth and conversion rate. As the number of Muslim population grow so does that the demand for halal product worldwide. While quality is seen as an integral part of related companies 'strategic business plan. Leadership is difficult to characterise and it implies different things to various individuals. However, it is considered as a noteworthy driver for the TQM practices. This paper examines Lean Manufacturing (LM), Total Quality Management (TQM), Environmental Management System (EMS) and Islamic Manufacturing practices (IMP) and explores the possibility to integrate this management system into a new Islamic model for in the Malaysian food industry as the country moves forward to becoming a Halal Hub Country. This is a conceptual study, and provides a foundation for future research on this topic.

*Keywords:* Environmental Management System, food industry, Islamic Manufacturing Practices, Lean Manufacturing, Total Quality Management

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*E-mail addresses:*

Asiah.kuzaiman@gmail.com (Nur Asiah Kuzaiman),  
argustina@gmail.com (Argustina Zainuddin),  
noorazlinamohdsalleh@gmail.com (Nor Azlina Mohd Salleh),  
salmiahk@salam.uitm.edu.my (Salmiah Kasolang)

\*Corresponding Author

### **INTRODUCTION**

The halal food sector, currently worth USD700 billion, is growing rapidly (Spire, 2015), with Asia accounting for 65% of its market, driven by demand primarily from Malaysia, Pakistan, India, Indonesia and China.

The global halal food sector is expected to grow by six per cent by 2020, according to findings from the State of the Global Islamic Economy Report 2015/2016 (the report is commissioned and supported by the

Dubai Islamic Economy Development Centre in partnership with Thomson Reuters, and in collaboration with Dinar Standard).

Malaysia remained a net importer of food in 2013 (RM15.6 billion). Major food imports were sugar & sugar confectionery (RM3.4 billion), dairy products (RM3.2 billion), cereal and cereal preparations (RM1.5 billion), vegetable and fruits (RM1.2 billion) and cocoa and cocoa products (RM1.0 billion). A total of RM24.6 billion has been set aside as a target investment for the food processing industry under the Industrial Malaysia Plan 2006-2020 (IMP3) (Ministry of International Trade and Industry, 2012). Halal food was listed as current industry's key growth together with functional food, health food, convenience food and food ingredient. According to Malaysian Investment Development Authority (MIDA) the processing food industry is predominantly Malaysian-owned, and that Malaysia is the third largest producer of poultry meat in the Asia Pacific region. The country is self-sufficient in poultry, pork and eggs, but imports about 80% of its beef requirements. The potential value of the global halal food market was estimated US\$560 billion per year. Not to mention the world Muslim consumer expenditure in 2018 is expected to grow to US\$2.4 trillion and the value could rise to US\$3.7 trillion by 2019 (MIDA, 2017; Global Halal Data Pool, 2016).

## **METHOD**

Journal articles, reports, books and theses related to TQM and LM were reviewed to develop an integrated model for the food industry in Malaysia.

## **RESULTS AND DISCUSSION**

### **Lean Manufacturing (LM)**

Lean Manufacturing is an extended version of the Toyota Production System (TPS) with the objective to eliminate waste (Gwen, Michael, & Hendrickson, 2014). According to Dombrowski and Mielke (2014), and Salleh et al. (2015), many versions of the lean implementation fall short of expectation though some organisations accomplish noteworthy results in the first years of lean implementation by performing Kanban 5S, SMED, FIFO. Many suffer from stagnation at some point or another. The explanation behind the stagnation could be the sole focus on waste reduction and related strategies. Without a doubt, waste elimination is a vital component of lean implementation but it doesn't lead to genuine lean thinking and therefore, no continuous improvement process (CIP) (Dombrowski & Mielke, 2014).

### **Total Quality Management (TQM)**

Total Quality Management (TQM) is both a methodology and a technique to diminish the impact of a product, service or process in order by enhancing its quality and productivity and satisfying customer demands. This calls for better financial execution, and thus TQM can offer a competitive advantage. The quest for product and service enhancement is driven by survival needs. Hence, this study aims to show that TQM can bolster and complement production

performance and meet customer demand. In addition, Agus and Hassan (2011) confirm that TQM improves value added production.

### **Environmental Management System (EMS)**

Environmental Management System (EMS) is a fundamental component to help firms in assessing, managing and organising their environmental activities. The system keeps track of the organisation's effect on the environment by keeping up with environmental regulations, reducing ecological costs, diminish dangers, train employees, create indicators of effect, as well as enhance ecological performance. An EMS usually comprises policies, goals, details frameworks, task lists, data collection and companies, emergency plans, reviews, administrative necessities, and annual reports (Gwen, Michael, & Hendrickson, 2014).

### **Islamic Manufacturing Practices (IMP)**

Islamic Manufacturing Practices (IMP) is a set or practices or guidelines to ensure the manufacturer meets the requirements of Shariah Compliance in term of quality, efficacy and purity of the product in order to meet the 'halalan toyyiban' concept. Sidratul Enterprise, established in 1995, is a company wholly owned by Bumiputera. An initiative of its founder, Mr. Arshad bin Haji Ahmad Tajuddin, the company was a product of the high demand of biotechnology-based industry in the market.

### **Good Manufacturing Practices (GMP)**

In Malaysia, MS1514 is a complementary document to MS1500, MS1480 and Manual Procedure of Halal Certification. The process of halal food certification begins when the manufacturers or food industries submit their application to JAKIM. The applicants need to provide details of ingredients, name/s and address of manufacturer/s or supplier/s of ingredients, original halal status of ingredients such as halal certificates from recognised Islamic bodies or product specification, manufacturing processes and procedures, such as HACCP and GMP (Mohd Amri, 2008; Sazly, 2008). In order to get the halal certification, applicants must comply with all the guidelines underlined in halal food standard, GMP standard, HACCP standards as well as the manual.

### **Historical Timeline of TQM, LM, EMS, GMP and IMP**

Figure 1 shows the historical background and evolution of LM, TQM, EMS and IMP. It can be surmised that the concept of LM was first introduced in the 1980s, while GMP was during 1900s followed by the publishing of TQM and EMS in 1920s and 1992. The MS1900, the first of its kind in Islamic Quality Management System in the world, was introduced in 2006 by JAKIM while IMP was established a year before in 2005 by Sidratul Enterprise.

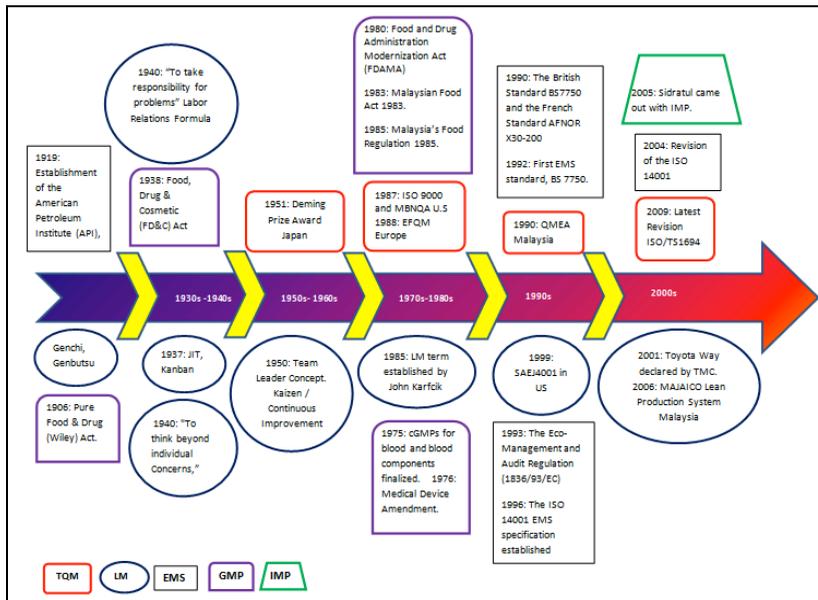


Figure 1. Historical timeline of TQM, LM, EMS, GMP and IMP

### Pre-Status of TQM, LM, EMS and IMP in Malaysian Food Industry

The number of studies on TQM, LM, EMS and IMP in Malaysian food industry is recorded in Table 1. The data gained for the pre-status implementation of the systems are based on the search on the Malaysian Thesis Online (MyTO) website. As seen in Table 1, the number of studies of TQM recorded the highest with 249 studies followed by LM and EMS with 95 and 18 studies. However, none of the studies have been done in Malaysian food industry. It is more saddening with the fact of number of IMP studies in Malaysia which is none.

Table 1  
TQM, LM, EMS and IMP studies in Malaysian based on Malaysian Thesis Online (MyTO)

Initiatives	TQM	LM	EMS	IMP
Implementation year	1923	2000	2003	2005
Availability in Malaysian Food Industry	None	None	None	None
Availability in Malaysian other Industry	Yes (249)	Yes (95)	Yes (18)	None
Total Studies	249	95	18	None

The driving factors to implement LM and EMS frameworks can be internal (requirement for such systems by the directors) or external (associations need to conform with client requirements and external partners) as shown in Table 1. Among the internal reasons, the most important are cost and defect lessening, productivity improvement, and environmental/quality enhancement (Puvanasvaran, 2012). The LM and EMS in particular have a distinctive impact on business goals. However, it needs to be emphasised lean manufacturing alone would not enhance environmental performance due to the potential clashes between environmental performance objectives and lean manufacturing principles.

Lean manufacturing focuses on internal and waste reduction process by enhancing environmental management practices to ultimately boost company effectiveness. Besides, environmental management practices do require extra assets. Yang, Hong and Sachin (2011) believe it is imperative for manufacturing firms to implement lean manufacturing and environmental management practices for environmental protection. A study shows that EMS practices are more common compared with LM and TQM. However, Salleh, Kasalong and Jaafar (2012a, 2012b) found that the EMS practices though actively implemented internally in the organisation, it is weakly practised by their supplier.

Consumers are beginning to show interest in the integrity status of Halal products. All parties in the supply chain, downstream and upstream, must take individual and joint responsibilities to protect the Halal food products from being cross contaminated. Factors such as Halal certification, Halal standard, Halal traceability, Halal dedicated assets, trust and commitments between supply chain members that are important to enhance the integrity of Halal products are considered when IMP is implemented as part of quality control (Zulfakar, Anuar, & Talib, 2014). If halal is taken as the most critical standard for products, then the idea to synergise halal concept with worldwide established quality management system such as LM, TQM, and EMS is one of the ways to maximise quality of management system. A comprehensive system that covers all of these can be set up in order to reduce time and cost of compliance.

The prerequisite for TQM and its planning differ between industries. Thus, there is necessity for a model for the Malaysian food industry based on the TQM approach. Therefore, TQM is not “one-size-fits-all” in terms of implementation TQM. A framework or the TQM model in food industry requires integration of all parties involved in the food chain (Talib, H. 2013).

The conceptual framework proposed in this paper is developed based on the previous models developed by others (Salleh, Kasalong, & Jaafar, 2012b). Moreover, components of the global and national quality awards from Japan (Deming Prize), America (Malcolm Baldrige National Quality Award), Europe Countries (European Quality Foundation Award) and Malaysia (Malaysian Prime Minister Award Model) while ISO/TS 16949 or ISO 9000 for TQM and three system from LM (America - SAEJ4001, Japan - Toyota Production System and Malaysia - MAJAICO Lean Production System) were considered in the proposed framework for evaluating quality management practices among SMEs in Malaysian food industry.

## CONCLUSION

Integrating quality, environment, and health and safety management has been extensively discussed in literature. Integrated Total Quality Management (TQM) with Lean Manufacturing (LM) for example were proposed in order to focus on accomplishing consumer satisfaction by eliminating wastes in an organisation association. This also led to the establishment of The Green Lean TQM model by integrating Total Quality Management, Lean Manufacturing and Environmental Management System.

Organisations need to use distinctive instruments and frameworks, especially Integrated Management Systems, to ensure specific quality standard. There is a dearth of studies on financial and non-financial performance gains using these quality systems.

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