CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Automotive in Malaysia is perhaps one of the freshest markets compared with Germany, Japan and Korea although it has been more than two decades in the market competition. Thus, there are still much to do in order to compete with competitors. Moreover, the demand of customer seeking quality goods and services with low price is getting higher and higher. Thus, manufacturers must be able to produce goods or services by using the most economical and cost effective ways and capable to produce new goods or services with short lead times in order to satisfy the demand of customer.

Lean is an approach that seeks to improve flow in the value stream and eliminate waste. It’s about doing things quickly. Six Sigma uses powerful framework which are “Define, Measure, Analyse, Improve and Control” (DMAIC) or “Define, Measure, Analysis, Design and Verify” (DMADV), and statistical tools to uncover root causes to understand and reduce variation. It’s about doing things right (defect free). As global competition continues to grow, the pressure to improve becomes more and more intense. Thus, a combination of both Lean and Six Sigma is born. This method provides an overarching improvement philosophy that incorporates powerful data-driven tools to solve problems and create rapid transformational improvement at lower cost.

Based on studies of Lean Six Sigma (LSS), many benefits have been reported such as reducing the service time, reducing the turnover, reducing waste, lowering the cost of production, leading to innovation and increasing customer satisfaction (Kumar et al., 2006; Su et al., 2006; Byrne et al., 2007; Thomas et al., 2009; Laureani et al., 2010;
Vinodh et al., 2011; Anderson and Kovach, 2014). Thus, this research is aimed to investigate the practice of LSS that implemented in Malaysian automotive company, and to identify the challenges faced when implementing LSS and also to examine how the LSS contributes to the automotive industry in Malaysia.

This chapter introduces the research outline of the study. It begins with background study of the LSS, followed by problem statement, research objectives, research questions and scope of study. Besides that, this chapter also includes the significance of study and the expected result. The key terms will also be elaborated under the section of operational definition.

1.2 BACKGROUND OF STUDY

The journey of automotive industry in Malaysia began with manufacturing the first national car, Proton Saga in July 1985 by Perusahaan Otomobil Nasional Berhad (PROTON). Then, in 1993, Perusahaan Otomobil Kedua Sdn Bhd (PERODUA) was established and produced the second national car project. Now, Malaysian automotive industries not only assemble those car parts from overseas, but also manage the local design, engineering, and even full scale manufacturing operation.

Although Malaysian automotive industry grew steadily in the past two decades, it is still not as competitive as other countries even in ASEAN (Association of Southeast Asian Nations) area. Figure 1.1 shows the total motor vehicle sales in the 4 major ASEAN countries, namely Thailand, Indonesia, Philippines and Malaysia.
According to Figure 1.1, the total vehicle sales of Malaysia reached 655,793 units in 2013 which increased 19.01% in nine years period since 2005. However, comparing with the total vehicle sales of Thailand (1,330,672 units) and Indonesia (1,229,901 units) in 2013, Malaysia Automotive expresses its incompetitiveness.

The automotive industry is extremely competitive. Automotive companies have to effectively manage very complex production processes in order to fulfil customers’ needs for customised cars on time. The automobile assembly plants have highly stabilised production systems. However, uncertainties are still exit in those systems. In order to ensure Malaysian automotive industry to be competitive, it is crucial to improve operational performance of Malaysian automotive industry. And to achieve it, Lean Six Sigma (LSS) is widely regarded as one promising approach (Achanga et al., 2006).