Increase the performance of apparel industry through the application of lean tools and techniques

A. Wijayanayake[1], W.M.N.N.Wannisingha [2]

Lean manufacturing is an approach to identify and eliminate wastes through continuous improvement. Lean principles and techniques that drive organizations to continually add value to the product they deliver by enhancing process steps that are necessary, relevant, and valuable while eliminating those that fail to add value. Lean has been used in manufacturing for decades and has been associated with enhanced product quality and overall corporate success. The benefits of using lean manufacturing approach are evident in factories all over the world. With a view to achieve performance improvement, both developed and developing countries are applying lean. The apparel manufacturing industry in Sri Lanka faces many challenges as a result of low cost garment manufacturers worldwide, and which now seeks options and tools to stay in the competitive market. With this need in mind many apparel companies have looked at lean manufacturing as a valuable method to promote new strategic positioning.

There is no evidence in the literature in similar research where a framework is developed to identify the most appropriate lean tools or technique that could be used to minimize a particular waste. The purpose of this study is to identify the waste that is common in apparel industry in different departments and to map the most effective lean tools and techniques that are applicable to reduce the identified waste. This will enable to reduce waste, cost and time taken for each non value added activity and enable to stay competitive in the international market. A framework has been developed by mapping the significant waste in apparel industry with the most appropriate lean tools and techniques that has been proven effective in eliminating waste in order to improve the apparel manufacturing performance.

The study, first, undertook literature review in the area of lean manufacturing and developed extensive research questions. These questionnaires were given to 15 lean practitioners in selected leading apparel manufacturing companies in Sri Lanka. The collected data was analyzed and tested on several nonparametric tests using SPSS version 22.

Key words: apparel industry, lean tools and techniques, performance improvement, waste

1 Department of Industrial Management, University of Kelaniya, Sri Lanka. anni@kln.ac.lk

2 Department of Industrial Management, University of Kelaniya, Sri Lanka. nwannisinghe89@gmail.com