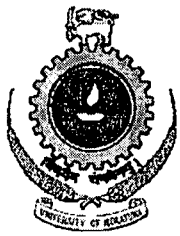

LEAN SIX SIGMA FRAMEWORK FOR SME SECTOR APPERAL MANUFACTURES IN SRILANKA

by

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Supervised by

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This thesis was submitted to the Department of Mechanical Engineering of the University of Moratuwa in partial fulfilment of the requirements for the Degree of Master of Engineering in Manufacturing Systems Engineering

Department of Mechanical Engineering
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DECLARATION

This Dissertation paper contains no material which has been accepted for the award of any other degree or diploma in any University or equivalent institution in Sri Lanka or abroad, and that to the best of my knowledge and belief, contains no material previously published or written by any other person, except where due reference is made in the text of this Dissertation.

I carried out the work described in this Dissertation under the supervision of

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Lastly, and most importantly, I would like to thank my family, my husband Chaminda, my Mother & Sisters to taking care of my little son Yenula while I am involved in this work. Thank You.

ABSTRACT

The purpose of this research is to develop integrated lean six sigma (LSS) framework for Sri Lankan Small & Medium scale apparel manufacturing industry. Both Lean and Six Sigma are key business process strategies which are employed by companies to enhance their manufacturing performance. How ever whilst there is significant research information available on implementing lean or Six Sigma individually there is very little information available to integrate approach.

This research used the concept of critical success factors to develop the frame work. Relevant critical success factors found in literature assumed as valid and applicable to Sri Lankan SME Apparel manufacturing sector. Found out the most influencing factors through the questioner spread out among the selected sample set of manufactures. The difficulties may encounter during the implementation and the factors describe the nature of industry also found out from the collected data. On the basis of collected data the framework was formulated..

The design, development and implementation of a LSS model shown here provides a simple yet highly effective approach to achieving significant improvements in a company's product quality, cost and delivery. The model combines contemporary lean and six sigma strategies and offers practicing production/process/manufacturing managers and engineers with a strategic framework for increasing productive efficiency and output.

The research provides the live application of the model in a selected manufacturing organisation and the results obtained.

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