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THE EFFECT OF 1 SIGMA JUMP IN APPAREL MANUFACTURING

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ABSTRACT

6σ is one of the most common terminologies used in industries focusing on process improvements, although in the apparel sector this is still a grey area. A brief study was done on how the sigma value is calculated and its correlation with Yield %. An attempt was made to calculate the Yield % within the organization which is number of units leaving the process right first time / number of units produced. VSM approach was made to identify the Yield % from raw materials in-house to shipment. This VSM for quality was done for various styles and the through put yield was as low as 26.9% to maximum of 30.69%. Referring to Motorola six sigma table the yield indicated that the manufacturing process was at 1 sigma level.

Study revealed that the primary problem evident was “not being right the first time “. There were significant costs incurred and reflected in **Poor quality costs** or **cost of poor quality** (COPQ). COPQ was evident in external failure, internal failure and appraisal cost due to process inefficiencies, multiple inspection levels, rework and substandard products shipped leading to claims and discounts. Future state of 1 sigma jump was defined and the corresponding yield was defined. By obtaining a 1 sigma jump the yield % increased from 31% to 69%. There was considerable reduction in rework cost, other tangible benefits obtained were reduction in head count, WIP, floor space, throughput time, Outgoing quality level and reduction in overtime. Implementing LEAN SIX-SIGMA to obtain 1 sigma jump will have help Apparel Industry to gain a competitive advantage.

KEYWORDS: VSM Approach, CSVSM, COPQ, Poor Quality Costs