APPLICATION OF SIX SIGMA METHODOLOGY TO IMPROVE THE WASTE MANAGEMENT SYSTEM BY REDUCING THE CARBON DUST EMISSION IN ACTIVATED CARBON MANUFACTURER OF ABC PLC

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Manufacturing organizations make and attempt to apply many strategies to eliminate waste by improving their processes. Six Sigma is a process-driven approach with the aim of reducing the defect in an organizational process focusing the customers' requirements on greater value and improve the business process. This study is an application of Six Sigma to reduce the emission of dust in an activated carbon manufacturing process. The main objective of the study is "To apply the Six Sigma methodology in the aim of improving the waste management system by reducing the Carbon dust emission in producing activated carbon manufacturing". This is Quantitative Research and secondary data of twenty-five Carbon test reports computed by the Central Environmental Authority for the ABC Company (Which is engaging in producing the Activated Carbon) is considered as a sample. DMAIC (Define, Measure, Analysis, Improve, Control) methodology under Six Sigma philosophy is used to analyses the data to reach the study objective. Under that SIPOC diagram and Flow, chart analysis is used in order to identify the improvement area of the production. The analysis data revealed that the Carbon dust emission collecting process is redesigned by reducing its negative impact on the environment by applying the Six Sigma Methodology. Further, it revealed that the Six Sigma methodology can be successfully applied to improve the waste management system by reducing the Carbon dust emission in producing activated carbon manufacturing.

Keywords: *Dust emission; Sig sigma; Waste in activated carbon production*