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## Six sigma strategy for world class quality – A case study

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### ABSTRACT

Six Sigma methodology provides the techniques and tool to improve the capability and reduces the defects in any process. It concentrates on measuring product / service quality, reducing variation, driving improvements and saving the cost. The original application was to eliminate assembly line defects, but since then it has expanded into almost every corporate operation. Six Sigma is described as a philosophy, methodology and breakthrough strategy to solve the problems. There are many organizational examples (mainly USA and UK based) of large scale improvements in defects and process measures attributed to this approach. Six Sigma methodology improves any existing business process by constantly reviewing and returning the process. To achieve this, Six Sigma uses a methodology known as DMAIC (Define opportunity, Measure performance, Analyze opportunity, Improve performance, Control performance). Six Sigma strives for perfection. It allows for only 3.4 defects per million opportunities for each product or service transaction for world class quality. Six Sigma relies heavily on statistical techniques to reduce defects and measure quality. The aim of this paper is to explore the possibilities of the implementation of Six Sigma strategy to the book publishing industries in India, which is not very old and not as advanced as in developed nations.

**Key words :** Ashwagandha, Chakka, Shrikhand, Chemical quality

In developing countries like India, economy is based on agriculture which accounts for 60 to 80% of their GNP (Gross National Product) and their industries are in various stages of developments. Consequently, most producers are not aware of the benefits of the quality systems and their effects on profitability and long term growth. These substandard materials, when introduced into the manufacturing system adversely affect the quality of end product. Developed nations like USA, UK, Japan and Germany are working to attain 99.99997% defect free or even zero defect production by using TQM techniques. Six Sigma strategy is one of the technique which could be effectively implemented in any industry so as to get world class quality. Six Sigma quality strategy provides an overall framework for customer oriented, structured, systematic, productive and quantitative companywide approach for continuous improvement of manufacturing, services, engineering, suppliers and other business processes (Jam, 1998).

The quest to achieve Six Sigma had its birth at Motorola in 1979. Art Sundry's proclamation sparked a new era within Motorola. Bill Smith, an engineer at Motorola's communication sector presented paper (1985) concluded that if a product was found defective and corrected during the production process, other defects were bound to be missed and found later by the customer

during early use of the product. This means that the effort to achieve the quality really depends on detecting and fixing defects? Or could quality be achieved by preventing defects in the first place through manufacturing controls and product design?

Six Sigma would allow a business leader to be proactive, rather than reactive. Motorola was operating at nearly Six Sigma in many of its manufacturing operations and within four years, Six Sigma had saved the Company \$ 2.2 Billion. Six Sigma delivered more than \$300 million to General Electric's operating income and financial benefits of Six Sigma more than doubled to over \$600 million. Larry Bossidy, CEO of Allied Signal Inc. (1994), the cumulative impact of Six Sigma has been savings in excess of \$2 billion in direct cost. Daniel P. Burnham, CEO of Raytheon (1998), has made Six Sigma a cornerstone of company's strategic plan. GE'S, William Woodburn (1994) has increased the operations return on investment fourfold and cut the operation's in half by Employing the Six Sigma breakthrough strategy. Polaroid Corporation's Joseph.J. Kasabula believes, with Six Sigma, companies focus on the processes that affects the quality and profit margin on a project by project basis and Six Sigma helping Polaroid to add 6% to its bottom line each year. After the successful implementation of Six Sigma breakthrough strategy, Asea Brown Boveri (ABB) to its power

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