**Chapter 1 Six Sigma Basics Test Questions**

1. Describe the concept of Six Sigma.

Essentially, Six Sigma is about results, enhancing profitability through improved quality and efficiency. Improvement projects are chosen based on their ability to contribute to the bottom line on a company’s income statement by being connected to the strategic objectives and goals of the corporation. Projects that do not directly tie to customer issues or financial results are often difficult to sell to management. When choosing a Six Sigma project or any improvement project, care should be taken to avoid poorly defined objectives or metrics. Key business metrics include revenue dollars, labor rates, fixed and variable unit costs, gross margin rates, operating margin rates, inventory costs, general and administrative expenses, cash flow, warranty costs, product liability costs and cost avoidance. Six Sigma projects are easy to identify, since the Six Sigma methodology seeks to reduce the variability present in processes, project teams seek out sources of waste, such as overtime and warranty claims, investigate production backlogs or areas in need of more capacity, and focus on customer and environmental issues. With high volume products even small improvements can produce significant impact on the financial statement.

1. Where did the Six Sigma methodology originate?

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1. What is a company trying to accomplish when they decide to follow the Six Sigma methodology?

Six Sigma programs lead to improved profitability, increased customer retention, reduced customer complaints and warranty claims, reduced costs through less waste, rework and so on, achieve a greater market share, increased employee involvement and satisfaction, lower employee turnover, an increased ability to attract new customers, improve their competitiveness and customer satisfaction, improved management-employee relations, improved focus on key goals, improved internal and external communication, and improved teamwork

1. Discuss why a company would wish to implement the Six Sigma methodology.

A company implementing the Six Sigma methodology would do so in order to: retain customers, increase profits, improve process performance, reduce variation present in processes, improve internal operations, quality, and productivity; and gain customers.

1. How does a Six Sigma Black Belt compare with a Certified Quality Engineer?

See Table 1.1 in text.

1. How does the Six Sigma methodology compare with quality improvement programs?

The most significant difference is Six Sigma’s focus on the financial aspects of improvements. Improvement efforts must contribute to the organization’s financial success. For other similarities and differences, see Table 1.2. Continuous improvement quality efforts define key processes, determines the owners of these processes, measures existing process performance, determines the gap between desired process performance and existing process performance, creates performance measures which will be used to determine if the improvements made to the process are working, uses quality improvement techniques to improve the process, reviews the process to see if the improvements are working. This is very similar to Six Sigma efforts.

7. What is meant by the term key process? Using a hotel as an example, describe two of their key processes.

Key processes are the business processes that have the greatest impact on customers’ value perceptions about the product or service and the greatest impact on customer retention. Effective organizations concentrate system and process improvement efforts on those business processes will increase their competitiveness.

Check-in, Check-out, room service, bill preparation, cleaning of rooms

8. How can key processes be identified?

Study the organization from the customer’s point-of-view. Identify those processes that have the greatest impact on the customers’ value perceptions about the product or service and the greatest impact on customer retention.

9. Why would your company find it valuable to train you in Six Sigma concepts?

10. Who would you contact about becoming a certified quality engineer/technician or a certified green belt Six Sigma practitioner?