
Reliability Engineering as Engine for Competitiveness - Collaboration Between Reliability Engineering and Other Functions to Deliver Customers' Product Expectations

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Objective

- Encourage you the reliability engineer to take an active role in leading your co-workers to help your company not only survive but prosper, during times of economic uncertainty, by serving your customers better and being more cost-effective than your competition.

Contents

- Traditional Role of the Reliability Engineer
- Reliability Engineer's Skills
- Global Economy & Corporate Health
- Be Competitive - Consider Customer, Product and Technology Trends vs. Cost
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Traditional Role of the Reliability Engineer

- Reliability in design – will the product survive its life-time under the specified environment
- Develop reliability test plan and analyze results – verify design by testing product under appropriate conditions
- Lead failure investigation - systematically identify root cause and develop corrective actions and lessons learned

Reliability Engineer's Skills

- Understand the big picture, especially from the end-user/customer's perspective
- Perform statistical analysis and interpret results
- Solve problem systematically
- Communicate & collaborate among many functions

Global Economy & Corporate Health

- Companies face domestic and global competition
 - Many have continued to lay-off workers, in spite of the rising economy
 - Many have moved their facilities overseas to reduce cost
- Companies face rising operating costs
 - Fuel, environmental impact, health care & liability insurance, rent, travel, etc.

Be Competitive - Consider Customer, Product and Technology Trends vs. Cost

- Customers look for
 - Typically, product performance, quality & reliability, initial price and operating cost
 - Recently, company's reputation regarding ethical standards, environmental responsibility
- Understand your customers
 - Which items are important to them? What do they hate? Which ones are they willing to pay for
 - Can you afford to meet your customers' needs & wants
 - What will be important to your customer in 2 years? 5 years? ...
 - What are their pains?

Be Competitive - Consider Customer, Product and Technology Trends vs. Cost – cont'd

- Continuously examine your standard operating procedures
 - Are they providing value?
 - Are there problems?
- Be vigilant of new technology
 - Can they be applied to reduce cost, improve products?
 - Will they substitute, displace your products?

Expanded Role for the Reliability Engineer

- Use your analytical, problem solving and communication to
 - Work with field service, sales, marketing & design functions to analyze service & repair data, customer questionnaire, to identify and rank key features for product improvements
 - Work with design, production & test functions to understand the impact of a design change or new technology on reliability, performance & costs during design, production, testing, deployment

Expanded Role for the Reliability Engineer – cont'd

- Assist co-workers in identifying process improvement and performing cost-benefit analysis that would lead to cost reduction and/or better product
- Assist company management to identify which problems to attack first to get “the biggest bang for the buck”
- Develop metrics for product quality, reliability, customer satisfaction and track their performance over time, and check them against those of your competition

Summary

- The reliability engineer has the skills to help the company survive and prosper by leading co-workers to
 - Improve product reliability and quality
 - Identify opportunities for cost savings in the company's operations and develop the path to achieve them
 - Identify issues customers consider important, which ones they are willing to pay, and how much
 - Develop cost-benefit analysis to meet customers' expectations
- The reliability engineer can be the engine to drive changes in order to out-perform your competition