

Difference between 99% Quality and Six Sigma



KEY LEARNINGS: DIFFERENCE BETWEEN 99% QUALITY AND SIX SIGMA

1. Is 99% Quality Really Good Enough?

- 99% sounds nearly perfect, but it's not enough in critical industries.
- Six Sigma aims for 99.99966% quality, meaning only 3.4 defects per million opportunities (DPMO).
- The difference between 99% (1% failure) and 99.99966% (almost zero failure) is staggering in real-world scenarios.

2. Real-World Comparisons: 99% vs. Six Sigma Quality

1. Airline Safety

- 99% Quality: If an airline operates 500,000 flights per year, 1% failure means 5,000 flights could have serious issues.
- Six Sigma Quality: Only 1 or 2 problematic flights per year—ensuring far greater safety.

2. Automotive Industry

- 99% Quality: In a company producing 100,000 cars per year, 1% failure means 1,000 defective cars with serious issues (faulty brakes, airbags, etc.).
- Six Sigma Quality: Only 0.34 defects in 100,000 cars—virtually flawless production.

3. Mail Delivery

- 99% Quality: In a system processing 20 million pieces of mail daily, 1% failure means 200,000 misdelivered items per day.
- Six Sigma Quality: Only 68 errors per day—a vast improvement in reliability.

4. Healthcare (Surgeries)

- 99% Quality: In 50 million surgeries per year, 1% failure means 500,000 surgical errors annually.
- Six Sigma Quality: Only 170 errors per year—a drastic reduction in medical risks.

5. Public Transportation

- 99% Quality: In a subway system handling 500,000 rides per day, 1% failure means 5,000 delays/issues daily.
- Six Sigma Quality: 1 or 2 problematic rides per day, ensuring smoother operations.

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6. Retail E-Commerce

- 99% Quality: In 1,000,000 annual shipments, 1% failure means 10,000 faulty or lost orders.
- Six Sigma Quality: Only 3–4 errors per year, ensuring near-perfect order fulfillment.

7. Banking Transactions

- 99% Quality: In 10,000,000 annual transactions, 1% failure means 100,000 incorrect transactions.
- Six Sigma Quality: Only 34 incorrect transactions per year, drastically increasing reliability.

3. The Takeaway: Why Six Sigma Matters

- 1% error rates create massive problems in large-scale operations.
- Six Sigma (99.99966% quality) eliminates nearly all defects, making processes safer, more reliable, and highly efficient.
- Key Question: How do we achieve Six Sigma quality?
- Cliffhanger: There is a structured, precise method to not just fix problems but prevent them entirely—and that's what comes next.

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