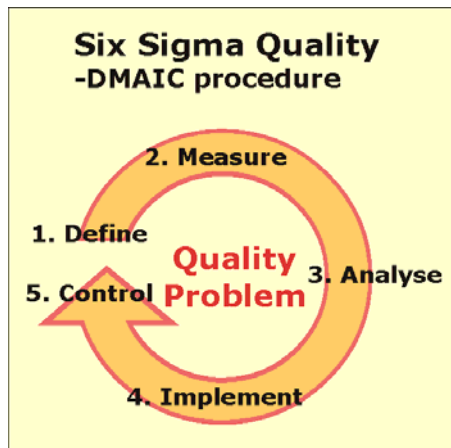




## Six Sigma Quality

### Overview:

Six Sigma Quality is quality to a level where there are 3.4 defects in one million opportunities. It is an approach to quality that is part statistical, part management and mostly common sense.



In essence, Six Sigma Quality is about management: process design, process management and process improvement. It is a five step process comprising: Determine, Measure, Analyse, Implement and Control or DMAIC. The important point to remember about Six Sigma Quality is that it is based on “facts”- measured quality defects and analysis. Decisions are taken based on hard data.

There is a lot of jargon associated with Six Sigma Quality ranging from karate phrases (black belt, green belt: these are people running the campaign), acronyms (SIPOC which stands for: suppliers - inputs - process - outputs - customers), to words that sound important (the “Six Sigma Roadmap” meaning: your programme). And then there are the statistics, it is not possible to avoid the statistics since it is based on measuring the “out of spec-ness” of products and processes.

Even the most effective Six Sigma champion rarely achieves Six Sigma Quality across their entire company. Many companies achieve Six Sigma Quality at the departmental or process level.

### Origins:

Six Sigma Quality was invented by Motorola in the mid-1980's to ensure the quality of its numerous operations assembling equipment with millions of components. It was then adopted by many other “big names” - Allied Signal, General Electric and many others. It then became a “hot” topic once GE gain an estimated £4.3 billion or 5.5% of sales from Six Sigma improvements in 2000.

### Using Six Sigma Quality:

The Six Sigma Quality approach is applicable in all organisations- whether they are industrial, service, government, not-for-profits and both large or small organisations. The tools are quite adaptable and are essentially logical. One of the most important steps in Six Sigma Quality is to determine the process map (for example using the SIPOC analysis). A detail analysis of the

process will show up problems which lead to in quality defects. It is in measuring these defects that the statistics come in.

## Six Sigma Quality - the SIPOC Analysis



The techniques for problem solving and implementing solutions in Six Sigma Quality are generally well-established approaches although you will need the statistics again when you are in the Control phase of Six Sigma programme to sustaining the improvements made to your process.

### Issues with Six Sigma Quality:

Many of the famous Six Sigma champions are finding that high quality processes alone does not solve all their problems: Polaroid has gone and Motorola still report losses occasionally. Having the highest quality products mean little if customers wanted something else.

### Resources:

The I Six Sigma Resource website <http://www.isixsigma.com/>

The Quality Digest website <http://www.qualitydigest.com/>

Eckes, G., The Six Sigma Revolution, John Wiley & Sons, 2001

Pande, P., Neuman, R. and Cavanagh, R., The Six Sigma Way, McGraw Hill, 2000

There are many Six Sigma Quality books available. However, some appear to have left out one or two topics. The interested reader may need to look at more than one to get an all round picture of Six Sigma Quality.