

# SIX SIGMA: GREEN BELT AND BLACK BELT

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## Abstract

This paper is introduced the six sigma, green belt and black belt. The term "Six sigma" how originate. What is need six sigma and how affect the factor of quality improvement. It's applications in various fields like in manufacturing, automotive, telecommunication. This paper can help serve as a foundation for developing scientific knowledge about six sigma.

**Keyword-** Six sigma, master black belt, Black belt, Green belt, yellow belt and white belt.

## 1. Introduction

1.1. **History of six sigma**-Simplistically, Six Sigma was a program that was generated around targeting a process Mean (average) six Standard Deviations away from the closest specification limit. By using the process Standard Deviation to determine the location of the Mean the results could be predicted at 3.4 defects per million by the use of statistics.

- 1984 Bob Galvin of Motorola edicted the first objectives of Six Sigma
  - 10x levels of improvement in service and quality by 1989
  - 100x improvement by 1991
  - Six Sigma capability by 1992
  - Bill Smith, an engineer from Motorola, is the person credited as the father of Six Sigma.
- 1984 Texas Instruments and ABB Work closely with Motorola to further develop Six Sigma
- 1994 Application experts leave Motorola
- 1995 AlliedSignal begins Six Sigma initiative as directed by Larry Bossidy – Captured the interest of Wall Street.

- 1995 General Electric, led by Jack Welch, began the most widespread undertaking of Six Sigma even attempted.
- 1997 To present Six Sigma spans industries worldwide<sup>[1]</sup>.

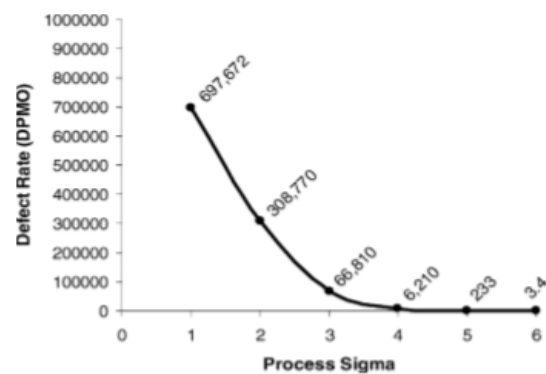


Fig. 1. Defect rate (DPMO) versus Process Sigma Level.

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## 1.2 What is six sigma benchmark?

This data represents the sigma level of companies. As you can see less than 10% of companies are at a 6 sigma level!

Yield	PPMO	COPQ	Sigma	
99.9997%	3.4	<10%	6	World Class Benchmarks
99.976%	233	10-15%	5	↑ 10% GAP
99.4%	6,210	15-20%	4	Industry Average
93%	66,807	20-30%	3	↓ 10% GAP
65%	308,537	30-40%	2	Non Competitive
50%	500,000	>40%	1	

Source: Journal for Quality and Participation, Strategy and Planning Analysis

**What does 20 - 40% of Sales represent to your Organization?**

## 2. Methodology-

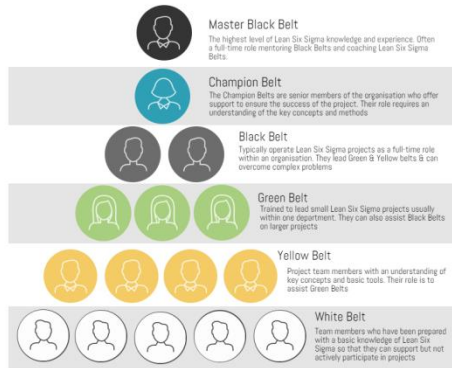
**2.1.** The deployment of Six Sigma consists of Champions, Master Black Belts (MBB), Black Belts (BB), Green Belts (GB) and Team members (TM). Champion is a Head of the institution who is the leader and is responsible for promoting and directing the development of an institutions. The Champion provides leadership and commitment and work to implement Six Sigma throughout their institution and lead to the success of Six Sigma. He/she approves all Six Sigma projects, review progress on a regular basis and ensure that the improvements are sustained.

**2.2.** Master Black Belts (MBB): The MBB is a head of the department. MBBs are fully trained quality leaders responsible for Six Sigma implementation, training, mentoring and results. They are the people most responsible for creating, lasting, fundamental changes in the way the institution operates from top to bottom. They act as internal coaches to Black Belts to reach their the project goals. They are generally a statistical and change management experts who regularly deal with resistance to change and resolve team conflicts.

**2.3.** Black Belts (BB): The BB is a Asst. Professor, Lecturer and Teaching Assistant. BBs are the key functionaries and fully trained experts who are experienced in leading improvement teams. They are the project leaders and process both management and technical skills. Black Belts are fast trackers who have credentials for accomplishments. They are the people who turn Six Sigma vision into reality. The BB's should provide leadership and create a vision, provide necessary resources, in given time and review the progress. He should take the responsibility to ensure that everyone gets involved in the implementation effort.

**2.4.** Green Belts (GB): The Green Belts are the supporters of Black Belts in a Six Sigma project. Their role is to assist and follow the Black Belt while implementing the tools of Six Sigma within their confined projects.

**2.5.** Team Members (TM): TMs are individuals in supporting specific projects, working in teams in their areas for continuously improving and controlling quality of all curricula offered by our institution. They are the employees who carry on with improvements together with their regular work.<sup>[4]</sup>



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### 3. Scope of six sigma-

- 3.1 **Accountants**—To improve ever prepared your income tax returns correctly.
- 3.2 **Advertising and Media**—Enhance business you ever spent too much for advertising without the return you expected on your investment.
- 3.3 **Automobiles**—Have you ever had a dissatisfying experience at your local car dealership? Is there anyone out there who hasn't? Let's move on to the B's.
- 3.4 **Banks**—To improve ATM service and save time. Or maybe you drove all over town and couldn't find an ATM that worked at all?
- 3.5 **Beauty**—Have you or your spouse ever received a bad haircut or color at a beauty salon?
- 3.6 **Burglar Alarms**—Has your home or business security alarm ever Six Sigma, Your Business, and You 17 malfunctioned? Why does it always seem to happen in the middle of the night? Let's skip to the R's.
- 3.7 **Real Estate**—To save time and money by using some tiny filters and avoid an agent ever shown you homes completely out of your

price range or located in an undesirable area, wasting your time?

3.8 **Restaurants**—Have you ever gotten food poisoning? Then you need to improve your service.

3.9 **Roofers**—Have you ever had your roof repaired, only to have it leak soon after? Or, maybe you waited all day, but the roofer never showed up?<sup>[6]</sup>

**Conclusion**-Six Sigma is a process that brings additional benefits and helps institutions to adopt best practices for service delivery through a quality process which ensure its success. This paper has discussed approached which are highly complementary and can be used in combination effectively for the continual quality improvement. Fundamental perspectives on the role of six sigma for transforming higher education have been presented in this paper.

### References

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