

Six Sigma Improvement Opportunities for NGO

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Abstract—Six sigma is a measure of quality that strives for near perfection. The six sigma process uses data and rigorous statistical analysis to identify effects in a process or product reduced variability and achieve as close to zero defects as possible. Using a universal measurement scale six sigma defines and estimate the opportunity for error and calculate defects in the same way every time thus offering a means of measuring improvements.

Index Terms—Six sigma, NGO

I. INTRODUCTION

Bachhpan (childhood) is a student run NGO which educates children living in the slum areas for free since 5 years Bachhpan is registered NGO under Reg. no F/15754 dated 21th may 2011 Ahmedabad actively participating in Anand-Vidyanagar and Ahmedabad cities

An organization in which no stockholders or trustee shares in profit and losses which provides vast varieties of services using public participation and cultivating social unity. Bachhpan is an organization in which the college students teaches the slum kids for free. Providing 500+ children with basic needs like stationary, uniform and school bags.

II. FOUR ONGOING PROJECTS OF NGO

- 1) *Aadhar*: Child who wish to study and are talented but though they are labor , the ngo support them by enrolling them in best school of the area and take care of their needs (education).
- 2) *Pathshala*: A dedicated team of all volunteers provide education to the children in different slum area every day through evening classes.
- 3) *ABCD (anybody can dance)*: Providing the different types of books like as in real library to the student is the motivation ABCD.
- 4) *Jawahar Navodaya Vidyalaya (JNV)*: JNV is the central educated system sponsored by the government where students of fifth grade appear for the entrance exam conducted by central board of secondary education. And the merit student get the eligibility for free education in six grade up to 12th grade they also focus on some creative work like drawing, literature experiments, poems documentaries, stage fear, dance, music as in overall development.

III. PROBLEM DEFINITION

As the four projects mentioned are working for five years by NGO but they are somehow lagging to get the desirable result on the student maybe due to lack of proper technique in teaching leaving process at the same time volunteers also might be facing some problems because they fail to work with their full potential.

To overcome lacking problems a regular counselling of the students and volunteers is required that will help into the working method of the organization and proceed with essential steps for improving of student's education method.

By concluding the consequence, the six sigma methodology needs to be implemented to overcome the failure rate of students.

IV. SIX SIGMA REQUIRED IMPLEMENTATION OF THE FIVE PHASES

1. Define
2. Measure
3. Analyze
4. Improve
5. Control

A. Define

The NGO arise at helping the student with their academics performance irrespective of their financial condition, results of the student is the key point of the decision as results highlight flow and sources.

The failure rate of the students living in slum areas from standard 1st to 10th is 68.48% and calculated current sigma level to hence it is desire to reduce the failure rate by half. An examination paper is design by specific number of the subject marks allotment and level which helps to determine the initial level of knowledge and understand to the student by obtaining results. We can determine current sigma level needs which decides further improvement phase.

B. Measure

An examination was conducted without prior notice to the student to test their knowledge. the examination paper was design by the volunteers having experience of teaching different standards since the different level of student was not at par with the regular student .to student were combines into

one and both of them appeared for the same paper sharing similar course contains.

The bookmarks has to be set according by based on which it can be decided how the sigma level is to be calculated analyze is based on the result and the marks obtained by the student or failure or success rate.

The most significant method is defeat per million properties. The number of defeat present in one million opportunities. While considering the number of ways in which a product can fail.

Dpmo is given by:

$$\frac{\text{failure rate}}{\text{number of opportunities} + \text{total available opportunities}} \times 10^6 \quad (1)$$

C. Analyze

- Analyze includes brain streaming multi vaulting cause and effect diagram which use to identification and analyze problem.
- Brain storming includes discussion problem related students and volunteer.

Student problems are as follows

- Quality of education, discipline of student punctuality of student our sailing of student/parents teaching methods time table following etc.

Some volunteer's problems are as follows,

- Fund allocation approach to new volunteers social media awareness behavior of core team feedback and follow of don'ts living bachpan distribution of work to volunteers.in order to find which problem is needed the maximum focus opted for motivating and their techniques helped to narrow down the total number of problems in a fish diagram categorized by for volunteers problem and 9:5 in the category of student problems.

D. Improve

Based on the result opted by brainstorming, motivating and cause and effect technique the guidelines were designed for all volunteer student for the core team also.

Guidelines for all volunteers

- Not force to any individual to join as a volunteers should be punctual regular conduct test scolding should be avoided.

Guidelines for the student

- Should obey the teachers, should not misbehave, should not associated with tobacco smocking smoking and any other addiction ,if found he is liable to be cancel

Guidelines and directive principle for core team

- Focus on implement current plane make proper schedule of event, Regulate aadhar and pathshala students.

E. Control

As nearly suggested guidelines where implemented into day today teaching learning process of 2nd examination should be conducted with the same format as the previous one. Based on the result new sigma level should be calculated and changes can be implemented for the process to be carry forward with the inclusion of the old ones.

V. CONCLUSION

Although the small rise might not be appearing as in the case of manufacturing units but the improvement suggestion obtain during this phase stand on to be the ice breaker which when observed can change the whole scenario of the functioning of the organization.

The rise in sigma level by 0.07 units after second phase of examination indicates that this is the wide scope of improvement in Bachpan NGO. Even better results are possible after following proper guidelines.

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