



Research Paper

A research paper on Customer Satisfaction Evaluation Process

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Abstract:-

In today's world customer acquisition plays an important role to give more weight to the customer and providing values to them. Companies have to pay 4-5 times more cost than the costs of retaining customers, organizations need to focus on improving customer satisfaction and keeping customers happy. Customer satisfaction is one of the most essential elements of customer retention, customer loyalty, and product repurchase. The art and science of customer satisfaction involves strategically focusing on creating and reinforcing pleasurable experiences. Customer satisfaction is a key indicator as to the level of customer service. Customer satisfaction (CSat) evaluation process monitors customer's perceptions of the degree to which their needs and expectations have been fulfilled. As per ISO 9001:2015, organization shall determine the methods for obtaining, monitoring and reviewing this information.

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I. INTRODUCTION: -

Currently organizations are using two different methods of obtaining and monitoring information, one is the Manual CS at process, and other is the Automated CS at process. The Manual CS at process has been proven cumbersome whilst its implementation in the North America (NA) and Europe (EU) region as against the automated CSat process which is being implemented in the Asia Pacific region.

The task at hand is to replicate the success of implementing Automated CSat process at EU and NA locations. In order to do so, the following processes were to be implemented:

- Conduct a survey to understand the acceptability of Automated system by Customers and stakeholders.
- Analyse the results of the survey and perform necessary hypothesis testing.
- Use project management tools like CPM and Gantt Chart to identify critical path and plan the execution of activities respectively.
- Use of Quality documentation to identify risk and responsibilities.
- Creating awareness among stakeholders
- Collecting and validating customer information to enter into the Automated system.
- Performing pilot run and rollout of CSat.

After successful rollout and analysis of data from NA and EU locations, it was found that the Automated CSat process was much beneficial as compared to the manual CSat process as the Customer feedback response rate was found to be high.

The task at hand was to implement a fully functional Automated Customer Satisfaction (CSat) Evaluation process through established systems owned by the organization. The organization is currently operational in Europe, North America and Asia Pacific region. Organizational Vision and mission keeps the customer at the centre of its operations, hence it becomes very important for the company to improve and optimize its current processes to serve the customer better.

Currently the company has adopted 2 methods of evaluating Customer satisfaction, an Automated CSat process and a Manual CSat process. The Automated CSat process is successfully implemented in its Asia Pacific region. Due to assumptions and convenience of the customers in the EU and NA region, Customer Satisfaction Evaluation is done through Manual CSat process.

Conceptual Background for the research Automated CSat Process

Automated CSat evaluation process, currently implemented in APAC region is initiated through a software tool owned by the company. The tool helps to maintain a database of the customers being served by the company. The CSat is initiated every half yearly to get a fair idea of the performance of the projects. The flow chart shown in Figure 1 explains the Automated CSat process.

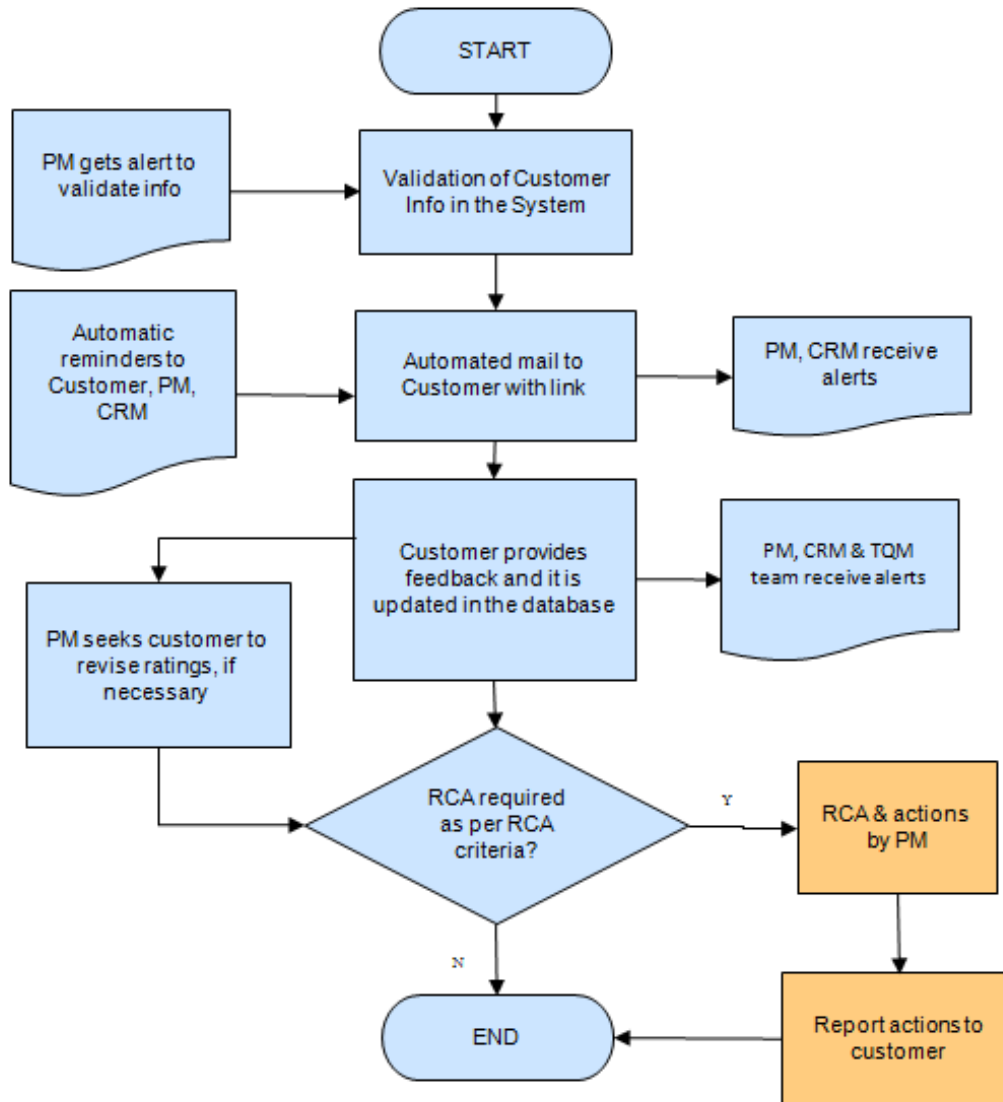


Figure 1-Automated CSat Process

Some advantages of the system to stakeholders is highlighted below:

To Project Manager (PM):

- PM to save time through CSat automated process.
- PM will identify important criteria for acceptance of deliverables based on global standards.
- Improved morale and motivation in the project team.
- Continued Learning for the PM and project team.

To Customer:

- Periodic feedback provided to project team on noteworthy points, dissatisfaction and areas of improvement.
- Better team working relationship with increased transparency in processes.
- Address aspiration to increase scope of collaboration.

To Organization:

- Better understanding of the customer expectations and areas of improvement.
- Help identify Strengths, Weaknesses and Opportunities.
- Improved customer satisfaction, customer retention and brand loyalty.

- Learn and Implement global practices across other business/project areas.
- Exposure to global delivery standards and practices.

1.1 Manual CSat Process

The manual CSat process when compared to automated CSat process is more cumbersome to use. The flowchart of the process shown in Figure 2 explains the process.

Some disadvantages of Manual CSat process is explained below,

- Customer details need to be manually entered into the CSat format (usually in excel).
- Customer Evaluation form exchanges many hands before it finally reaches customer, hence consumes a lot of time.
- Evaluation form can be shared via many mediums like Excel formats, printed formats, etc.
- Need many follow-ups from stakeholders to return filled CSat forms to register entry into the system.
- Response rate (total CSat's dispatched v/s CSat's received from customer) is low.
- Process remains non-transparent, as responses can be manipulated.
- Issues arising at various levels cannot be tracked.
- Reduces customer confidence, attrition and low morale of project teams.

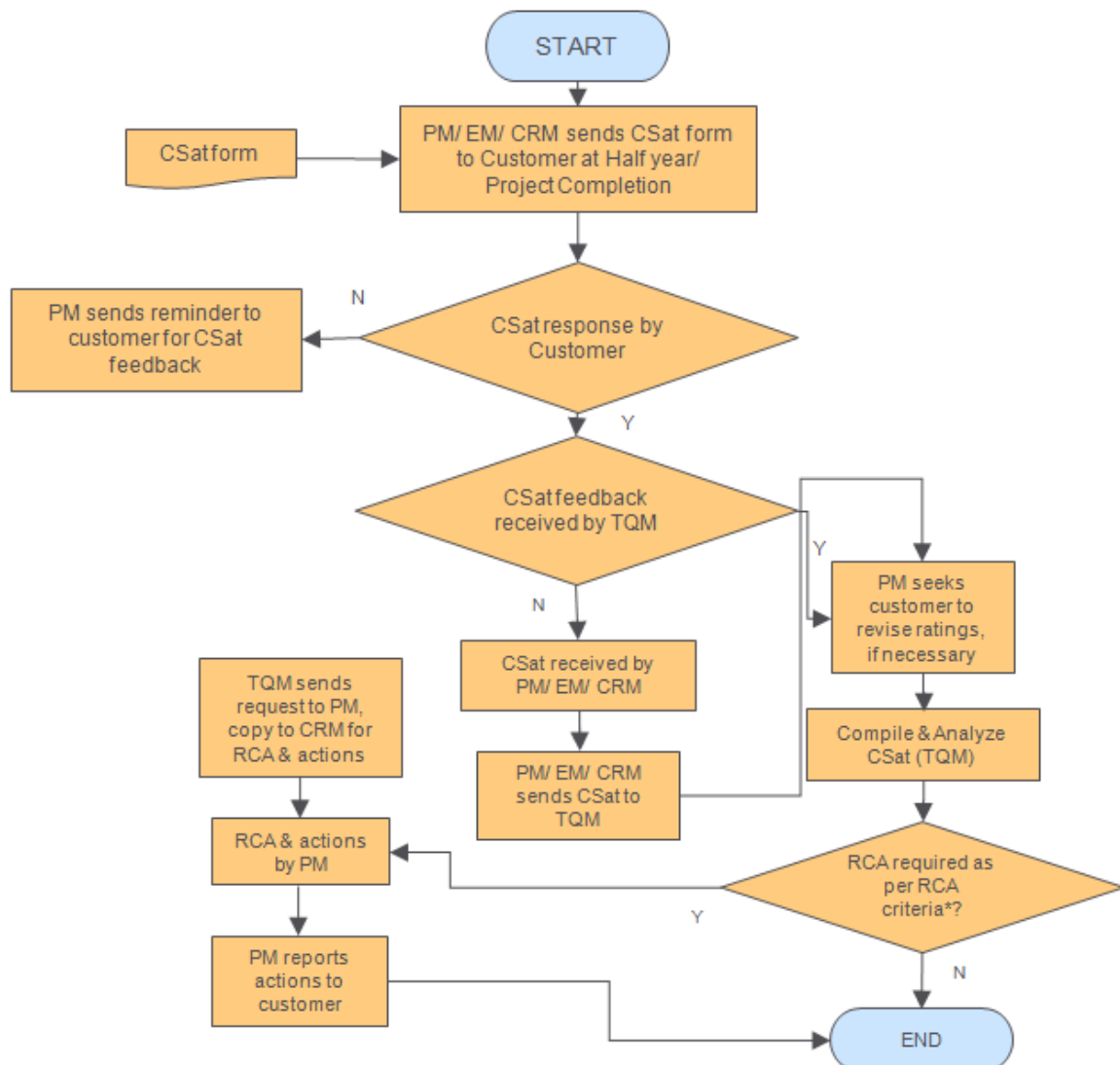


Figure 2-Manual CSat Process

Due to above disadvantages, the organization has decided to analyse and implement the Automated CSat process in EU and NA region.

1.2 Major Objectives

The major objectives of this project are as follows,

- Identify importance and acceptance of Automated feedback system from stakeholders at EU and NA locations.
- Identify risk and challenges in implementing the system.
- Use project management tools and identify quality management documents to effectively execute this project.
- Implement Automated CSat process through software tool and eliminate manual CSat initiation.
- Analyse and compare process adoption after successful implementation.

1.3 Scope:

- To help improve customer relationship and better understanding of customer perception.
- To Increase customer retention, resulting into business growth and increased profitability.
- To accomplish common process adoption across various Line of Business (LoB), across different geographies.
- Help project team identify priorities, increase morale and save time.
- Assist Customers in providing periodic feedback.

II. LITERATURE REVIEW & METHODOLOGY

2.1 Literature Review-

Customer Satisfaction has been the top most priority for any organization. Simplified methods and methodologies can help an organization achieve customer loyalty.

A study carried out by Leila Agha Kasiri, Kenny Teoh Guan Cheng, MuraliSambasivan and Samsinar Md. Sidin, was to analyse the direct and indirect impacts of standardization and customization of process on customer satisfaction and loyalty through service quality.

Integration of standardization and customization of service offerings is critical for improved service quality; Standardization has higher impact on service quality when compared to customization; Functional quality has higher impact on customer satisfaction when compared to technical quality; and Customer satisfaction has a significant effect on customer loyalty. This clearly identifies that a standard process can help to achieve better customer satisfaction and customer loyalty.

Research is an important step in any project, which when carried out gives the report a strong foundation. Petra Lietz, in her research paper mentions about the special context in which a questionnaire is developed, a number of general recommendations that emerge from her review of research into questionnaire design.

Lucienne Blessing and AmareshChakrabarti in their book, has highlighted that by formulation and validation of research models and theories about the phenomenon of design, as well as the development and validation of knowledge, help to improve the design process. They mention that design research must be scientific in order for the results to have validity in some generic, practical sense.

K.G. Lockyer (1969), in his book, *An Introduction to Critical Path Analysis*, presented the concept of critical path analysis, which helps to identify the alternate paths or plans that can be undertaken to reduce the blockades that may arise during the execution of the project. CP analysis thus allows project team members to determine the best estimates of the time that is needed to complete the project.

Alternatively, Ming Lu and Heng Li in their research paper, have tried to address the limitations of CPM based resource scheduling. Their findings on Resource-Activity Critical Path Method have proven quite useful in the field of Project Management.

Professor Guy Le Roy and Peter Stelth in their research paper differentiates between two major project scheduling techniques, the traditional Critical Path Method of project scheduling and the novel Critical Chain Scheduling. Both these project management techniques have been developed to ensure that projects are completed on time and within the proposed budget. They have touched upon various issues such as the influence of CPM and CCPM on project scheduling, the need for project tracking and monitoring, etc.

Quality has been considered one of the most important and competitive factors when executing a project. Reviewing literature pertinent to quality management concepts and its application has formulated the definition of "Quality Management" as meeting the owner's requirements or compliance with the set standards and specifications. This definition can be realized through the application of quality management concepts which are represented by "Total Quality Management" TQM as a higher management level which has been achieved by quality management works.

SendilMourougan & Dr. K. Sethuraman, in their research paper discusses the methods of working up a good hypothesis and statistical concepts of hypothesis testing [7]. They have highlighted 7 steps to conduct a hypothesis test which is listed as below,

1. The first step in hypothesis testing is to specify the null hypothesis (H_0) and the alternative hypothesis (H_1). If the research concerns whether one method of presenting pictorial stimuli leads to better recognition than

another, the null hypothesis would be that there is no difference between methods ($H_0: \mu_1 - \mu_2 = 0$). The alternative hypothesis would be $H_1: \mu_1 \neq \mu_2$.

2. The next step is to select a significance level. Typically the 0.05 or the 0.01 level is used.
3. The third step is to calculate a statistic analogous to the parameter specified by the null hypothesis. If the null hypothesis were defined by the parameter $\mu_1 - \mu_2$, then the statistic $M_1 - M_2$ would be computed.
4. The fourth step is to calculate the probability value (often called the p value). The p value is the probability of obtaining a statistic as different or more different from the parameter specified in the null hypothesis as the statistic computed from the data. The calculations are made assuming that the null hypothesis is true.
5. The probability value computed in Step 4 is compared with the significance level chosen in Step 2. If the probability is less than or equal to the significance level, then the null hypothesis is rejected; if the probability is greater than the significance level then the null hypothesis is not rejected. When the null hypothesis is rejected, the outcome is said to be "statistically significant" when the null hypothesis is not rejected then the outcome is said to be "not statistically significant."
6. If the outcome is statistically significant, then the null hypothesis is rejected in favor of the alternative hypothesis. If the rejected null hypothesis were that $\mu_1 - \mu_2 = 0$, then the alternative hypothesis would be that $\mu_1 \neq \mu_2$. If M_1 were greater than M_2 then the researcher would naturally conclude that $\mu_1 \geq \mu_2$.
7. The final step is to describe the result and the statistical conclusion in an understandable way. Be sure to present the descriptive statistics as well as whether the effect was significant or not.

After successfully validating the results, next step would be to implement the learning's through appropriate project methodology.

The researchers Raji Al-Ani and Firas I. Al-Adhmawi, have recommended a proposed Quality Management System for Construction Site aiming: firstly to raise the quality level of work in construction projects, and secondly to improve the construction staff consciousness, in different managerial levels, about quality management concepts and its importance for improving the quality of construction work

2.2 Methodology-

The researcher used different methodology for this study. In this study, a questionnaire-based survey collected data from 315 customers of three service industries: healthcare, hospitality, and education. Data from the system is collected and number of CSat's initiated v/s CSat's received is analysed and compared with the manual process. The data for research was the primary data collected from Engagement Managers, onsite coordinators, etc. The tool for data collection was questionnaire and follow-up was taken. After research, validation of results full proofs the study carried out.

Hypothesis testing will be performed for Question 4, 5 and 6 to confirm that the respondents view represent the total population at large because only these questions give us a fair idea to decide if the New Automated CSat will be effective. Following is the data analysis and hypothesis testing

Hypothesis Testing

Test Case study for Question 4

We will test the belief that the actual population will more likely find the current Manual CSat process not very effective. To test this, a sample population of 12 respondents was surveyed and it was found that 66.7% of the sample population finds the current CSat system not very effective.

Given:- $n=12$ (sample size),

$P_o=50\%$ and

$P=66.7\%$ (as per survey)

Assumed Significance level, $\alpha=5\%$

We will follow the following procedure for testing the hypothesis.

Step 1: Setting up of Null Hypothesis (H_o)

$H_o: P=P_o=50\% = 0.5$, (Belief is that actual population is more likely to find the current Manual CSat process not effective)

Step 2: Setting up Alternate Hypothesis (H_a)

$H_a: P > P_o$, (Belief is true that actual population finds the CSat process not effective is 66.7%)

Step 3: Finding the Value of 'Z' from statistical tables. This is called Critical Value

For $\alpha = 5\%$, $C.V = Z_{table} = 1.624$

Step 4: To find $Z_{calculated}$ value,

$$Z_{cal} = \frac{P - P_o}{\sqrt{\frac{P_o(1-P_o)}{n}}} = \frac{0.667 - 0.50}{\sqrt{\frac{0.50(1-0.50)}{12}}}$$

$Z_{cal} = 1.15$

Step 5: Conclusion

$Z_{cal} = 1.15 < Z_{table} = 1.624$, Hence we Accept Ho (Reject Ha).

Here, we can conclude that 50% of total population is likely to find the current Manual CSat process not effective.

Test Case study for Question 5

We will test the belief that the actual population will more likely be interested in participating in Customer Satisfaction Survey conducted by the organization. To test this a sample population of 12 respondents was surveyed and it was found that 80.3% of the sample population was interested in the survey by the organization.

Given:- $n=12$,

$P_o = 50\%$ and

$P = 80.3\%$ (as per survey)

Assumed Significance level, $\alpha = 5\%$

We will follow the following procedure for testing the hypothesis.

Step 1: Setting up of Null Hypothesis (Ho)

Ho: $P = P_o = 50\% = 0.5$, (Belief is that actual population is more likely be interested in participating in Customer Satisfaction Survey conducted by the organization)

Step 2: Setting up Alternate Hypothesis (Ha)

Ha: $P > P_o$, (Belief is true that actual population interested in customer feedback from the organization is 80.3%)

Step 3: Find the Value of 'Z' from statistical tables. This is called Critical Value

For $\alpha = 5\%$, $C.V = Z_{table} = 1.624$

Step 4: To find $Z_{calculated}$ value,

$$Z_{cal} = \frac{P - P_o}{\sqrt{\frac{P_o(1-P_o)}{n}}} = \frac{0.803 - 0.50}{\sqrt{\frac{0.50(1-0.50)}{12}}}$$

$Z_{cal} = 2.10$

Step 5: Conclusion

$Z_{cal} = 2.10 > Z_{table} = 1.624$, Hence we Reject Ho (Accept Ha).

Hence, we can conclude that 80.3% of total population will participate in customer satisfaction survey by the Organization.

Test Case study for Question 6

We will test the belief that the actual population will more likely be comfortable providing feedback using online survey method. To test this, a sample population of 12 respondents was surveyed and it was found that 80% of the sample population was comfortable providing feedback using online survey method.

Given:- $n=12$,

$P_o = 50\%$ and

$P = 80\%$ (as per survey)

Assumed Significance level, $\alpha = 5\%$

We will follow the following procedure for testing the hypothesis.

Step 1: Setting up of Null Hypothesis (Ho)

Ho: $P = P_o = 50\% = 0.5$, (Belief is that actual population is more likely to be interested in participating in Customer Satisfaction Survey conducted by the organization)

Step 2: Setting up Alternate Hypothesis (Ha)

Ha: $P > P_o$, (Belief is true that actual population interested in customer feedback from the organization is 80%)

Step 3: Find the Value of 'Z' from statistical tables. This is called Critical Value

For $\alpha = 5\%$, $C.V = Z_{table} = 1.624$

Step 4: To find $Z_{calculated}$ value,

$$Z_{cal} = \frac{P - P_o}{\sqrt{\frac{P_o(1-P_o)}{n}}} = \frac{0.80 - 0.50}{\sqrt{\frac{0.50(1-0.50)}{12}}}$$

$$Z_{cal} = 2.07$$

Step 5: Conclusion

$Z_{cal} = 2.07 > Z_{table} = 1.624$, Hence we Reject H_0 (Accept H_a).

Hence, we can conclude that 80% of total population will be comfortable providing feedback using online survey method.

III. FINDINGS & CONCLUSION

- 100% of the respondents to the questionnaire had participated in a CSat process, which meant they all have been part of the process in some form or the other.
- More than 66% respondents believe that the current CSat Evaluation process is not effective. The reason could be that the current process is manual and due to long process of returning the feedback form to the process owner, it was causing customer dissatisfaction.
- 80% of the respondent have agreed to accept online feedback process which means they are okay for implementation of Automated CSat process.
- 70% respondents are comfortable with English language as feedback medium. It can be inferred that maximum respondents have chosen English as the primary language which means the risk of conducting the survey in any other language is eliminated. Even if other language was chosen, CSat forms could be accommodated with a translation script to convert the feedback to their local language for convenience.
- Hypothesis testing done to validate the responses of the sample population against the entire population, resulted into acceptance of the fact that facts highlighted in points 13 and 14 holds true.
- Response rate for Manual CSat process is only 55% for EU and 58% for NA region. This indicates that due to process inability, the responses to feedback have dropped which validates the responses from questionnaire highlighted in point 12 of this chapter.
- After process automation, the feedback response rate increased to 77% for EU and 79% for NA. This validates the responses from questionnaire highlighted in point 13 and 14 of this chapter as the results are very close to the percentage acceptance of the system
- It was found that 80% of respondents have opted for half yearly feedback cycle. This input was helpful for the project manager to fix the feedback cycle in the System to trigger when the cycle commences. Also the current system need not be tweaked to deploy the process globally which saved costs.

IV. CONCLUSION:-

The organization was immense as support was provided in implementing the project by performing the following activities:

- Implementation of project scheduling methodology like CPM and network diagram.
- Providing information on questionnaire creation, sampling and selecting target population before proceeding with project implementation.
- Performing hypothesis testing, explaining the benefits and successfully implementing in research methodology stage.
- Creation of Gantt chart and tracking project progress.
- Creation of project presentation to share with ELT team.
- Project documentation creation like Internal MoM, RASE chart and Risk analysis.
- Support with regards to identifying the number of resources required to execute the project.

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