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MEASUREMENT AND ANALYSIS OF CUSTOMER SATISFACTION USING SIX SIGMA IN NIGERIAN BANKING INDUSTRY

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Abstract

Nowadays, there has been huge pressure on organizations to improve on their customer's satisfaction in order to maintain and increase their customer base. This study seeks to measure and analyse customer satisfaction in Nigerian Banking Sector using Six Sigma Methodology. Primary data was collected through questionnaires, telephone interviews, personal interviews and group interviews. The DMAIC tool of six sigma methodology which is capable of eliminating the slightest problems in a process, was used in this study to analyse the data. The results obtained showed the 13 critical complaints by bank customers along with their intensity. The Pareto chart clearly showed that the main problems experienced by customers are long waiting time and excessive deductions with the scale of 8 out of 10. This showed that these problems need to be addressed quickly. The next intense problems include cumbersome loan procedures, inaccessible customer care, lack of follow up and ignoring the customer. The least problem was found to be incompetent staff with an intensity of 0.5. By addressing these problems, the industry will be in a better shape to combat the challenges of growing completion.

***Keywords*:** DMAIC, Six Sigma, Pareto Chart, Banking Sector, Measure.

1. INTRODUCTION

In today's fierce economy, most industries and businesses have moved from product orientation to customer focus. This is because many areas of business, such as customer service, product or service delivery, product quality, etc. impact on satisfaction [1]. Satisfying the customer is not an easy process and many studies show it is multidimensional. This is why many researchers argue that customer satisfaction has a direct impact on customer loyalty [2]. Also, Shankar, Smith and Rangaswamy[3] confirmed that customer satisfaction and customer loyalty are positively correlated.

Six Sigma is a great tool deployed in many industrial applications such as manufacturing and engineering management. It leads to massive savings and performance improvement for many organizations. It has been accepted by industries as a proven methodology used for business process improvement. This methodology helps organizations to achieve excellent performance and improved profitability, and is very effective for service-based businesses as well as those that are product-related[4, 5, 6].

Due to the great success of Six-Sigma, many customer-oriented service industries have begun to utilize it in improving service quality. Service-based industries have employed Six-Sigma to provide improved knowledge of the customer's requirements and expectations. Laureani and Antony [7] stated that the six-sigma applications in a fast-growing call centre of the service industry, assist companies to identify the areas of development for their call centres. Ferrin et al [8], opined that the benefits of applying Six-Sigma include: reduced costs, reduced project time, improved results and improved data integrity.

The implementation of Six Sigma methodology consists of the development of the DMAIC (Define, Measure, Analyze, Improve and Control) phases to improve existent processes. Each of the phases of utilizes statistical as well as qualitative tools to fix variability sources and assess the process to a six sigma level of quality. It leads a

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team from the problem definition and measurement throughout solution implementation linked to underlying causes, and establishes practices to make sure that solutions are controlled and maintained.
In this research, a study was performed to measure and analyse how XYZ Bank of Nigeria Plc met the expectations of the customers. In addition, the research also identified potential improvements to increase satisfaction level in order to make them more competitive.

2. Research Methodology

This research is based on the analytical descriptive approach in solving the problem, which is based on the examination and analysis focused on accurate information. Kristensen, Kanji and Dahlgaard [9] established a framework to measure customer satisfaction. Their framework have seven steps. The first step is identifying the product quality characteristics that results in increase in customer satisfaction. The second step is to state the customer. Later on, the decision should be made to identify whether the company is going to sample the total potential market or just the existing customers. Then the framework for the sampling should be constructed. The fifth step is that the questionnaires should be designed and appropriate scales are made to measure customer satisfaction. Next, the surveys should be conducted which can be done by personal interviews, telephone interviews, or electronic surveys. Finally, Statistical tools are used to organize and analyse the collected data from the previous step after the results are communicated.
One of Six Sigma methodologies was utilized for this research. It is known as DMAIC. DMAIC stands for define, measure, analyze, improve and control which is a five-phase process improvement methodology. It is used to control and to improve the products or systems that already exist [10]. Figure 1 is a representation of DMAIC methodology.

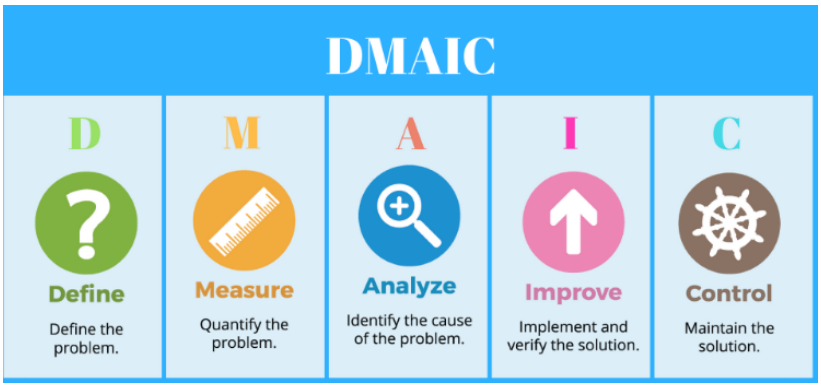

Figure 1: Meaning of DMAIC

2.1 Methods of Data Collection

The four methods used to collect data were:
(a)Questionnaire.
(b) Personal interviews.
(c) Telephone interviews.
(d) Group interviews.
The Seven main problems identified are:
i. To identify the problems in the customer service unit.
ii. To identify the problem of long waiting time in banking halls and Atm centres.
iii. To identify problems faced by new customers in the bank.
iv. To identify the problems of unpleasant staff.
V To identify the problems of poor internet banking.
vi To identify the problems of Frequent failures of ATMs (Automated Teller Machines).
vii To identify the problems of Cumbersome loan procedures.
A sample of 500 customers was taken who represented the overall population. A
Questionnaire has been used with 7 main problems associated with the banking industry:

a. Do bank staff cooperate to make banking activities better?
b. Are the bank staff skilful?
c. Do staff take so much time to solve problems?
d. Do bank staff assist customers?
e. Are you satisfied with services of Nigerian banks?
f. Do you like the quality of machines/technology in Nigerian Banks?
g. Do you like the quality of internet Banking?
Dichotomous format questions was used to prepare the questionnaire.

3. Results and Discussion

In Table 1, the questions were created in such a manner that 'Disagree' represents the problem.

Table1: Responses by Customers

Questions	Agree (%)	Disagree (%)
Staff Cooperation	45	55
Skill/competence	51	49
Time	31	69
Guidance	51	49
Satisfaction	42	58
Machine/Technology	25	75
Internet Banking	52	48

In the above table, 51% of the customers agreed that bank staff were Skilful and offer necessary guidance while 49% of the customers disagreed. However, respondents were not satisfied with the automated teller machine services as 75% expressed their displeasure while only 25% were satisfied.
The Pareto Chart on a scale of 0 – 10 points in figure 2 shows the complaints by the bank customers.

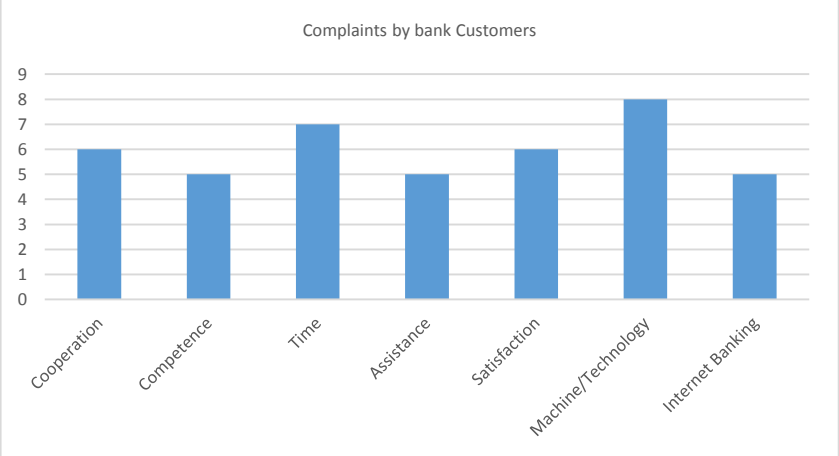

Figure 2: Complaints by Bank customers

To identify the problems with existing customers in XYZ bank Nigeria Plc, a separate survey was conducted. A sample of 200 customers was taken. The selected male customers were 100 and the female customers were also 100. Looking into their educational level, the majority of them (90%) had an education up to upper secondary or even tertiary level; while the remaining 10% with secondary education level.
The survey was conducted carefully and respondents were asked to fill the questionnaires in the supervision and guidance of the group members in order to avoid any errors. The questionnaire had 13 different questions which represented a typical problems that can be encountered by the customers in the banking industry. The questionnaire was designed in such a manner that the responses 'yes' showed the problem. The percentage of the respondents of said yes or no was calculated.
Table 2 represents customers' complaints in different departments of the Bank.

Table 2: Customers' Complaints

Questions	Agree %	Disagree %
1.Long waiting time	75	25
2.Technical Problem	40	60
3.Unfair Treatment	41	59
4.Poor service	55	45
5.Customer ignored	35	65
6.Excessive/hidden fees	80	20
7.Could not reach customer care	65	35
8. Unavailable or Out of Stock Product	45	55
9. Lack of Follow Up	61	39
10. Unprofessional conduct	33	67
11. Incompetent staff	5	95
12. Busy in office work	60	40
13 Cumbersome loan procedures	71	29

On the basis of that percentage, a scale was created from 0-10 which showed the intensity of the problems. On this scale, 0 is the least problematic and 10 is the most problematic issue. Pareto chart for problems was made on the basis of this scale. This is shown in figure 3.

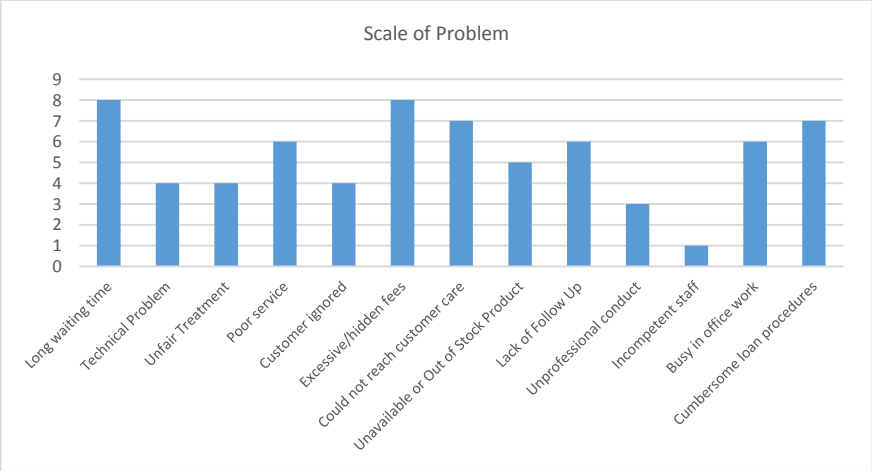

Figure 3: Problems encountered by Customers in different departments of the Bank

Six sigma techniques have been employed in this study. Pareto chart is a technique that plots the problem in a graph. These charts help to breakdown a problem into the relative contributions of its components. They are based on the common empirical finding that a large percentage of problems are due to small percentage of causes.

Figure 3 that the problems encountered by Customers in different departments of the Bank ,include issues like expired/stolen atm cards, Technical problem, hidden fees, opening new account, crediting/withdrawal of money issues, etc. In the chart there are 13 main problems shown along with their intensity. The chart clearly shows that the main problems that the customers are having are long waiting time and excessive deductions with the scale of 8 out of 10. This shows that these problems need to be addressed quickly. The next intense problems include cumbersome loan procedures, inaccessible customer care, lack of follow up and ignoring the customer. 55 percent customers complained of poor services. At the scale of 5 which shows a middling level problem is that the customers were not able to get banking products. Unfair treatment and technical problems at the intensity scale of 4.1 and 4.0 respectively means these problems also need

attention although it's not a big problem but the six sigma methodology refers that tries to eliminate the slightest of the problems. Next is the problem of unprofessional conduct/rude staff. This problem can be eliminated if problems like Unfair treatment, ignoring customers, busy in office work will be addressed. Lastly the issue of incompetent staff is the least intense problem with an intensity of 0.5. By addressing these problems, the issue of customer satisfaction will be improved to a very large degree.

4. Conclusion

The purpose of the study is to measure and analyse customer satisfaction in XYZ bank of Nigeria Plc using six sigma approach. The results of Pareto chart shows that there are number of problems which are facing the existing

Bank customers like expired/stolen atm cards, Technical problem, hidden fees, opening new account, crediting/withdrawal of money issues, etc.

The conclusion gathered from the study is that:

(i) Cooperation of the staff is crucial in this type of sector because the

business relies upon customer's positive feed-back as many other options can easily be obtained.

(ii) Bank staff should undergo in-service training so that they can deal with customers according to their specific problems. There should be minimum time to respond to

Customer's problems. This will improve the perception of customers about the bank.

(iii) Enough guidance needed to be provided to the new as well as existing customers. This will increase customers' satisfaction and more usage of their services.

(iv) Staff guidance in financial activities will lead to improved customer satisfaction.

(v) Atm centre should have many machines to reducing queuing problem. Also machines should be serviced and maintained to reduce technical problems.

(vi) This research has shown that there is a relationship between customer satisfaction and customer base. This approach if implemented will help to manage the existing customers, attract new ones and lead to greater financial benefits.

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