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Customer Satisfaction Survey for SABIC Engineering Services

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Abstract

Engineering and Project Management (E&PM), is a consultant entity that provides both technical support and project management services to all SABIC affiliates.

This paper investigates and measures the satisfaction degree among some SABIC companies who considered as the customers toward the services supplied by engineering and project management department (E&PM).

This investigation was done through a survey was conducted by distributing a prescribed questionnaire to some selected customers. The affecting factors upon which the questionnaire was built and designed are specified by previous undocumented feedback and with a consultancy of experienced engineers inside the department. These factors are starting from service request, service delivery, qualifications and attitude, post service support, and complaints resolution. Results show that generally there is a significant fluctuation from 70% up to 98% in the level of satisfaction, some customers have stressed that complaint resolution factor is the least satisfied factor. Simplified procedures and policies should be established to improve these services continuously and further surveys with wider range of customers are recommended to measure the satisfaction degree more precisely.

Chapter 1

Introduction

1.1 Overview

SABIC was established in 1976 to add value to Saudi Arabia's natural hydrocarbon resources. Today, SABIC is among the leading petrochemical companies in terms of sales and product diversity. SABIC is the Middle East's largest non-oil industrial company.

SABIC's businesses are grouped into 11 business lines including six strategic business units and supported by 4 corporate business lines and a Shared Services organization. The SBUs are Basic Chemicals; Intermediates; Polyolefins; PVC and Polyester; Fertilizers and Metals. And the corporate business departments are Finance, Control, Human Resources and Research & Technology. SABIC's manufacturing network in Saudi Arabia consists of 18 affiliates. Most of these are based in the Al-Jubail Industrial City on the Arabian Gulf. Two are located in Yanbu Industrial City on the Red Sea and one in eastern province city of Dammam.

Engineering and Project Management Dept. (E&PM) is a service provider organization was established in 2003 to develop and maintain organizational structure, systems and procedures and best practices to support and execute all major and site capital projects for SABIC and its affiliated companies which means internal SABIC customers.

1.2 SABIC E&PM Values Added

Organizational impact on affiliate to execute projects. (staffing and de-staffing) are minimized

- Procedures, system and standards are unified i.e. Standard Invitation To Bid (ITB) formats and Contract evaluation and awards.
- Safety and environmental practice in engineered projects are enhanced i.e. consistent application of safety, health and environmental reviews.
- Cost optimization benefits through application of uniform procedure and best practices a capital cost reduction of 10% is anticipated for medium sized projects.

1.3 Engineering and Project Management Departments

E &PM consists of four departments:

Engineering: which is concern about providing quality electrical, process control, mechanical, civil, process engineering in support of all E&PM activities as required. Meet and exceed customer expectations in all areas of engineering discipline expertise. And to ensure that company codes and standard are up to date according to the latest released by coordinating with E&PM engineers and external agencies and ensure career development to all E&PM Staff been developed and implemented

Site Project: To plan and execute site projects providing the highest levels of safety and efficiency within the agreed parameter for safety, cost, schedule and quality. And to ensure site project executed safely and per defined standard through quality assurance and inspection.

Project Management: to administrate project contracts to ensure minimum change orders and correct project financial accounting. To produce highly accurate cost estimate and project plans in support of project budget development and execution. To ensure project cost and schedule are controlled within approved budget and timeline. To provide inspection to projects construction execution and ensure quality per defined standards. Project managers ensure that all assigned projects are receiving the highest levels of professional project management with major emphasis given to the areas of safety, quality, cost and schedule. The department is supporting project mangers in order to execute projects in an effective manner by effectively managing safety, quality, cost and schedule.

Design: to provide E&PM with accurate and effective electrical, process control, mechanical and civil design engineering detailed design to ensure the project package has been built per SABIC standards. To generate all required project drawings and packages accurately to facilitate proper project execution. To ensure that plant drawings are up to date

This study is prepared to focus on the Engineering Department since the investigators are belonging to it.

1.4 Engineering department functions and objectives:

To establish and maintain effective Process, mechanical, civil, electrical, capabilities and expertise and to provide required engineering services within mandate of the E &PM department. The functional responsibilities of this department are the acquisition development and application of the state of the art process engineering and discipline engineering tools, procedures, practices engineering standards and guide involving the following function:

- Technical services which includes taking a lead role in the acquisition development and application of process engineering simulation, flow sheeting and equipment sizing programs, undertaking the development of appropriate process and discipline engineering design guides and their application SABIC business units. In addition to act as a focal point and to conduct plant engineering, plant investigations, plant upgrade, and de-bottle necking studies.
- engineering standards which include developing and leading the implementation of SABIC engineering standards during project development and execution and acting as the custodian for keeping these standards current, it also include training and updating affiliate's technical staff in the use of the standards and establishing a system for receiving a feedback from the end-users.
- Project Support includes: supporting project teams in all related core engineering functions during project development and implementation including design reviews and assessment. And also to provide prime input to SBUs and affiliates for the development of conceptual and process design packages. And leading the effort in the development of basic design packages for in-house developed technology.
- Training Support: serving as resource base for process and discipline engineering with respect top training needs and to make available such resources to other groups and department. It also includes assuming a stewardship role for insuring effective engineering networking with SABIC and affiliates. Also to set up, organize a system for continues professional development for engineering personnel.

1.5 Current Status of Customer Satisfaction

From a previous undocumented feedback of the engineering customers it has been indicated that there is a high degree of dissatisfaction about the services provided by the engineering department. There were unclear measures of the Engineering performance.

1.6 Objectives:

The objectives of this study help:

- To reflect the level of the customer satisfaction, to obtain the opinion of different managerial levels of the customers who deal with the Engineering dept. and to investigate the root causes of the dissatisfaction
- To come up with reasonable and applicable suggestions and recommendations to improve E&PM's customers satisfaction

Chapter 2

Methodology

2.1 Introduction

This section clarifies the selected strategies for conducting the survey, the type of data required and the techniques for collecting data.

The survey methodology including the following essential seven steps:

Step 1: a literature review of the previous feedbacks and impressions of the customers. It gives a comprehensive knowledge about the development of factors related to the customer satisfaction.

Step 2: definition of important customer satisfaction parameters and categories.

Step 3: design of a questionnaire related to the engineering dept. services to reflect the satisfaction level of the end user. The questionnaire was e-mailed to different levels of employees from team members up to managers of the involved departments.

Step 4: data was collected and compiled through survey

Step 5: collected data was analyzed

Step 6: results from the analyzed data were summarized and presented.

Step 7: conclusion of the survey, recommendations and suggestion for further studies were incorporated.

2.2 Development of a list of customer satisfaction factors

A list of satisfaction factors was developed from previous feedbacks and with the help of the expertise within the engineering dept.

A list of five important factors was established:

1) Service Request: includes utilization of the technology like SAP system, e-mail, fax, letter and telephone call. It also includes the easiness of request and the availability of resources to resolve the issue.

2) Service Delivery: includes quickness of delivery, tendency to support and the estimated cost.

3) Qualification & Attitude: it includes assessment of the level of cooperation, innovation, commitment and communication skills of the E&PM involved staff.

4) Post Service Support: it includes following up the issue after it has been finalized, updating the customer through meetings and final report.

5) Complaint Resolution: includes assessment of quality of service and resolution time.

These five factors are the most important factors stressed by the customer from the previous experience.

2.3 Design of questionnaire:

Questionnaire contains short and straight - forward questions, and is designed in such a way that completing it should not take more than 15 minutes. Considering the busy schedule of the target customers.

The questionnaire includes two sections. The first section will provide general information about applicant who filled the questionnaire and general background information such as years of experience and number of times of requesting services from E&PM during the last 3 months.

The second section include the main questions about the assessment of customer satisfaction through the five previous customer satisfaction factors. The responses to each question are divided into five levels of satisfaction. Starting with Very Satisfied, Satisfied, Average, Unsatisfied and Very Unsatisfied.

At the end of the questionnaire he chance is given to the applicant to add any additional comments, suggestion and/or recommendations.

Finally, full contact of the surveyors is included at the end of the questionnaire for the applicant if they need any clarification or if they have any questions regarding the questionnaire.

2.4 Layout of the questionnaire:

The layout of the questionnaire is shown in Fig 2.1.and a copy of the questionnaire is shown in appendix A. [Al-Saman, Ali Abdullah. (2004)]

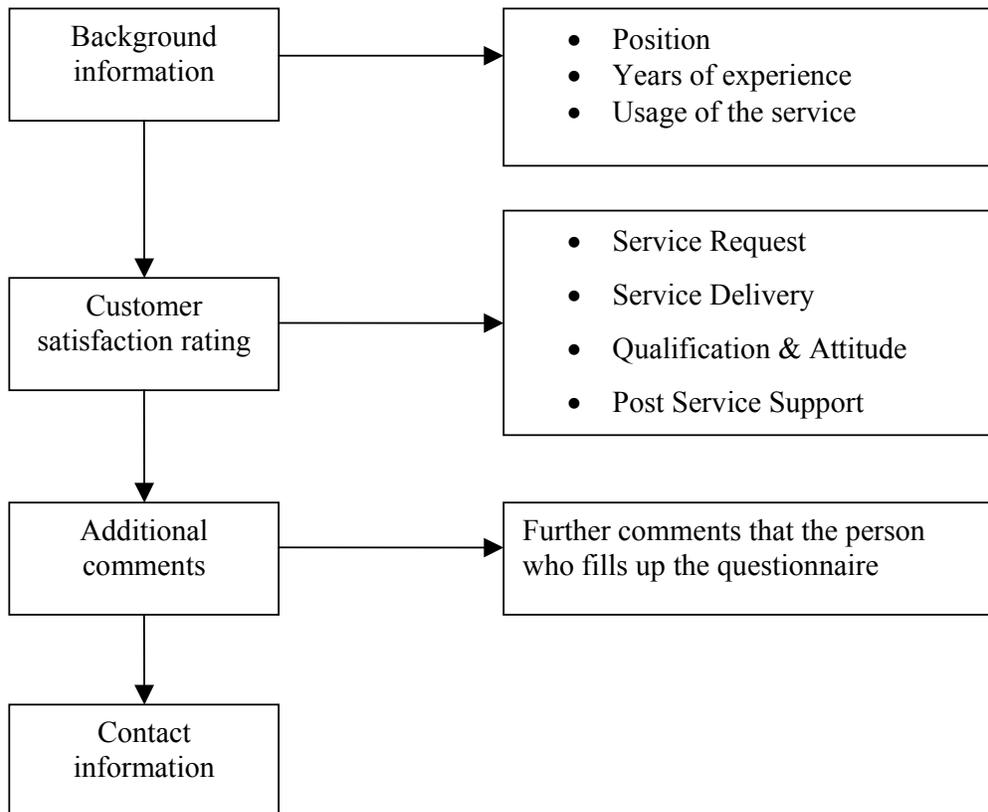


Fig 2.1: layout of the questionnaire

2.5 Sample Survey:

Selection of the sample for the survey from a list of SABIC affiliates in Jubail industrial city plays a major role in making the study more representative. By carefully considering the time limit allowable for the study, only 10 affiliates located in Jubail industrial city were involved.

2.6 Data Analysis:

Data gathered from questionnaire is analyzed and used to identify the respondents' satisfaction level of each factor. The analyzed data is presented in a tabulated format and figures.

By carefully studying the results of the survey, a better understanding will be gained of the current situation of the satisfaction level on the provided service by the engineering department.

2.7 Scoring:

The main section of the questionnaire-second section- on the customer satisfaction, basically uses an ordinal scale, namely Very Satisfied, Satisfied, Average, Unsatisfied and Very Unsatisfied.

Scoring will be as follows:

- “Very Unsatisfied” equals 1 point.
- “Unsatisfied” equals 2 points
- “Average” equals 3 points
- “Satisfied” equals 4 points
- “Very Satisfied” equals 5 points.

Chapter 3

Results Discussion

3.1 Introduction

In this section, the results of the questionnaire are discussed, summarized and presented in tabulated format as well as in charts.

3.2 Difficulties Encountered

There were some problems encountered during the survey. The first problem was the low response rate. Second problem, was the time limit allowable for the survey. Initially the questionnaire was sent to the applicants using the company e-mail system but it took 30 days to get feedback from some of the targeted customers.

3.3 Response Rate

At the beginning, the customers were contacted by telephone to ensure they have already received services from the engineering department during the last three months and if they were interested to participate in the research. Then the questionnaire was sent to a total 15 customers by e-mail. The response rate was very low and only 10 responded customers were obtained after a follow up e-mails and phone calls some times.

3.4 Description of results

A summary of overall satisfaction rate of the engineering department obtained from the customers is shown in Fig 3.1.

From that figure the customer H has the lowest overall satisfaction rate i.e. 2.98 and customer D has the highest overall satisfaction rate i.e. 3.64 and the overall average of all customers is 3.27 which is classified as Average.

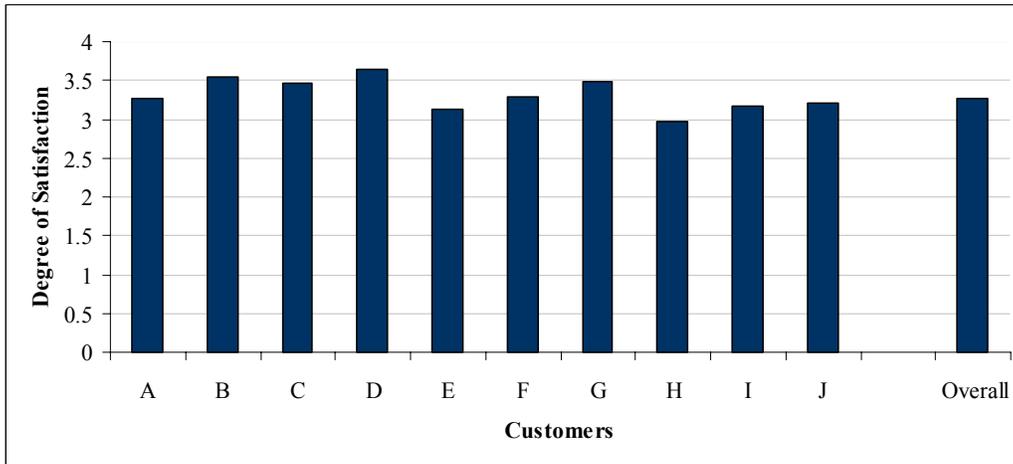


Fig 3.1: The average satisfaction rating of the engineering services.

From Figure 3.2 it can be noted that: Overall, the number of End-Users per Customer averagely satisfied to very satisfied with Engineering Services vary between 98% (Customer D) and 70% (Customer H)

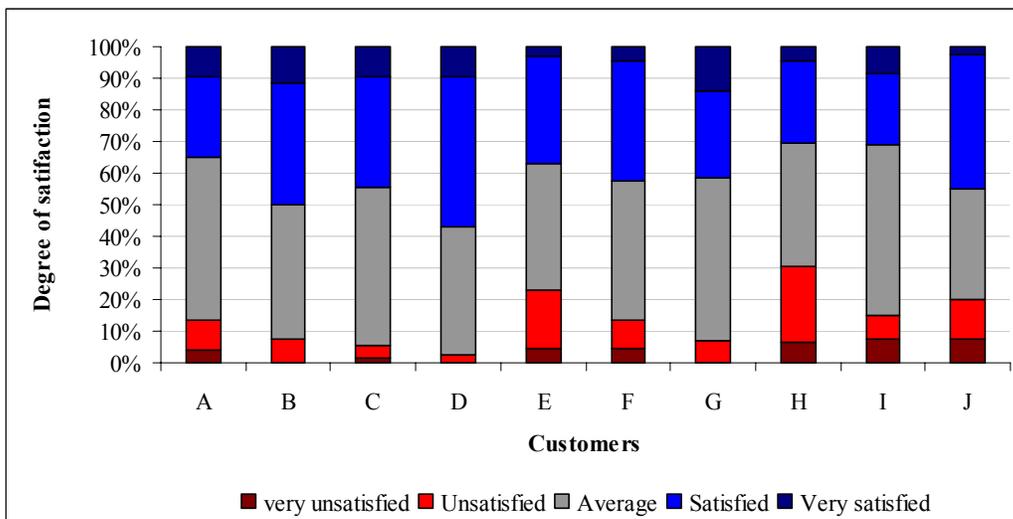


Fig 3.2: Engineering Services Overall Satisfaction by Customer

Fig 3.3 summarizing that the complaint resolution factor has the lowest End-User satisfaction rating within Engineering Services whereas the factor of qualifications and attitude is the highest one

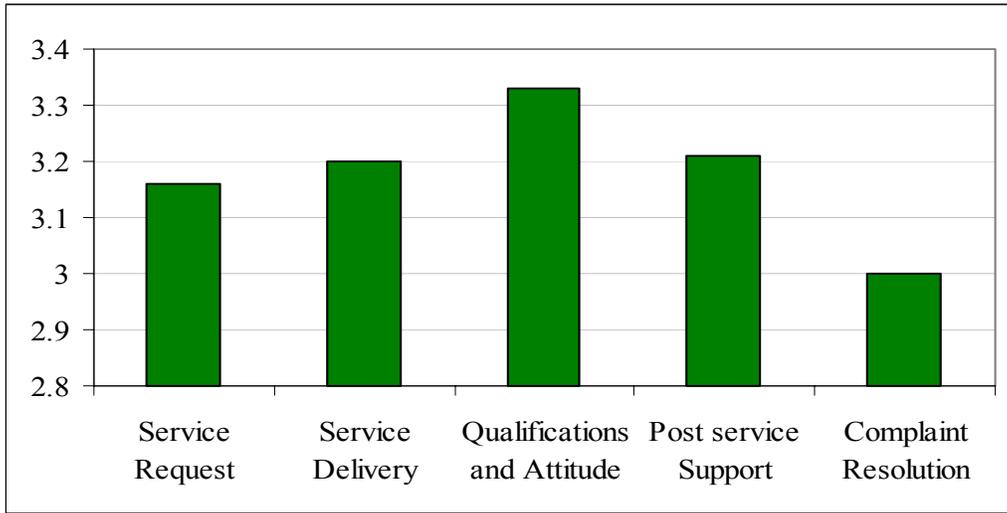


Fig 3.3: Engineering Service Performance Satisfaction in the 5 Service Factors

Figures 3.4, 3.5, 3.6, 3.7 and 3.8 are showing that, there are large fluctuations of satisfaction level between customers toward service factors. Figures depict that, customer H is the least satisfied with most of service factors due to the process of starting the job and the one who should do the job is not clear and not specified, they had many conflicts with Engineering department on these items. And they suggested solving the problem that very detailed steps should be available to avoid conflicts and waste of time

. Fig 3.8 particularly is illustrating 3 customers E, H and J which are unsatisfied (less than 3) with the factor of complaint resolution.

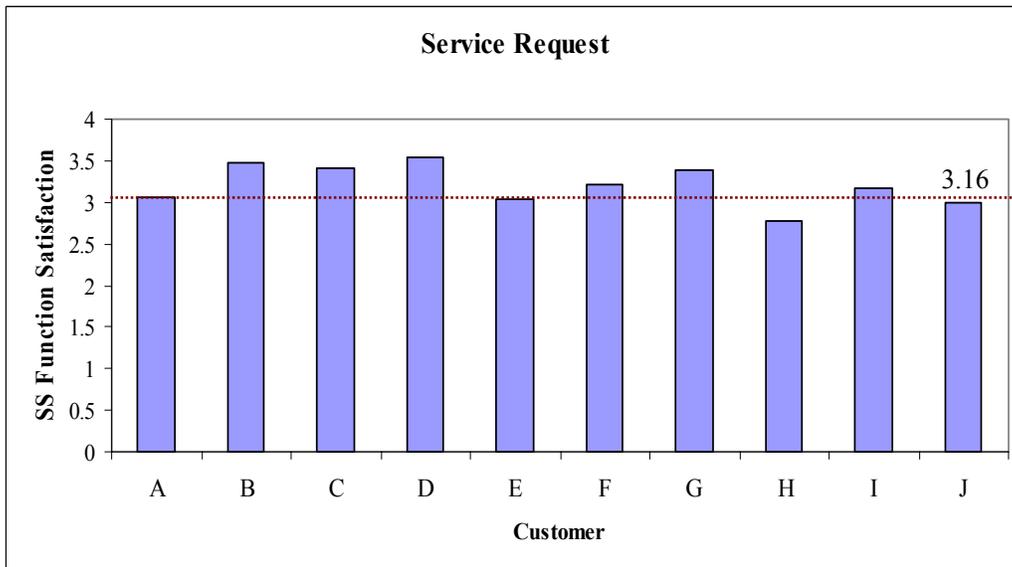


Fig 3.4: Service Request satisfaction rating by customers

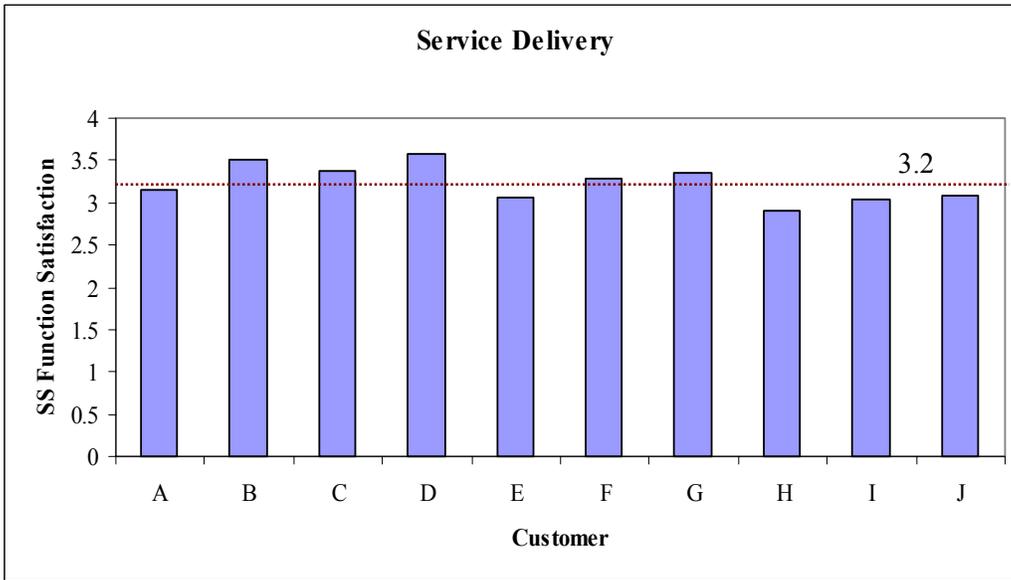


Fig 3.5: Service Delivery satisfaction rating by customer

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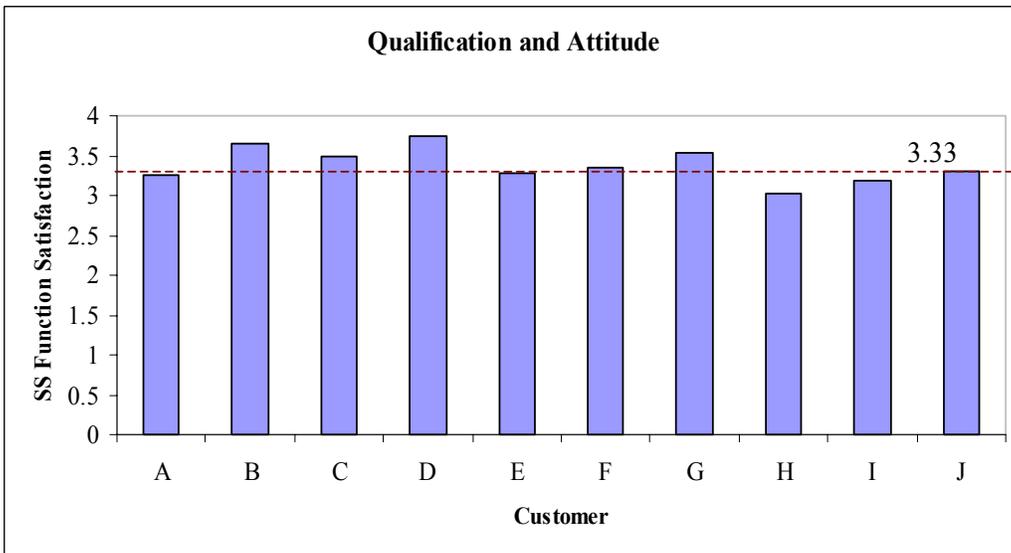


Fig 3.6: Qualifications and Attitude satisfaction rating by customers

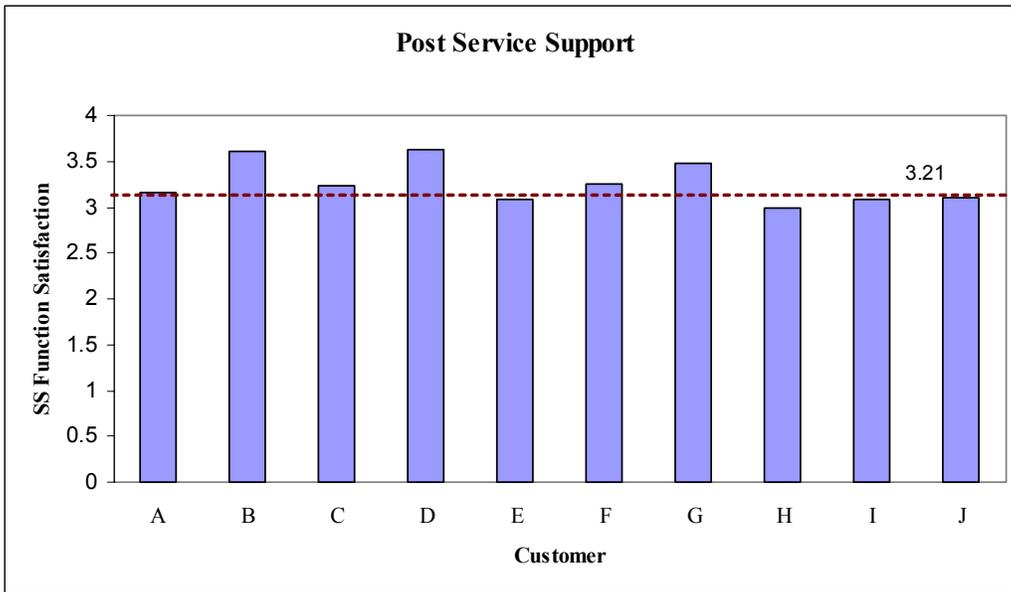


Fig 3.7: Post Service Support satisfaction rating by customers

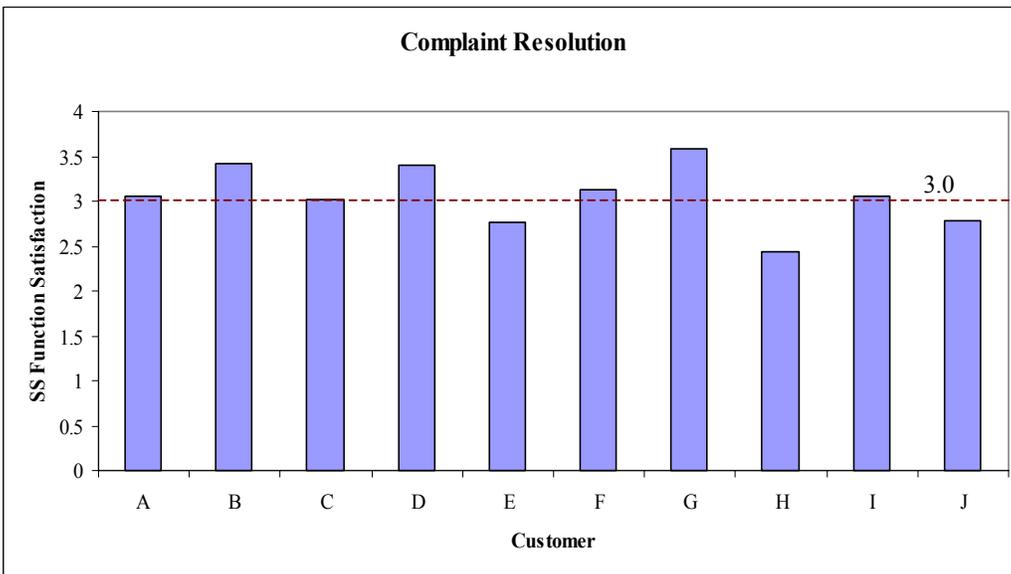


Fig 3.8: Complaint Resolution satisfaction rating by customers

Fig 3.9 and Table 3.1 are showing that there is a considerable difference in the level of satisfaction between staff and leadership. Staff is more satisfied with all service performance factors compared to leadership. It can be noticed that, leadership is unsatisfied with the complaint resolution factor.

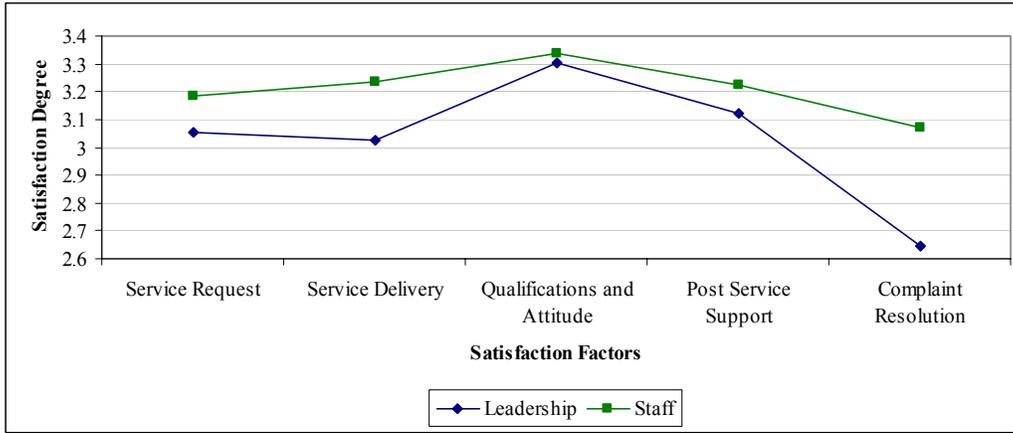


Fig 3.10: Engineering Services Service Performance Satisfaction by Job Role

Years of Experience/ Factors	Service Request	Serviced Delivery	Qualifications & Attitude	Post Service Support	Complaint Resolution
Under 5 years	3.2	3.32	3.39	3.27	3.03
5-15 years	3.11	3.13	3.26	3.13	<u>2.98</u>
15+ Years	3.2	3.2	3.38	3.27	<u>2.99</u>

Table 3.1: Engineering Services Service Performance Satisfaction by Job role

Fig 3.10 and Table 3.2 show that End-Users with less than 5 years experience are the most satisfied with all service performance factors

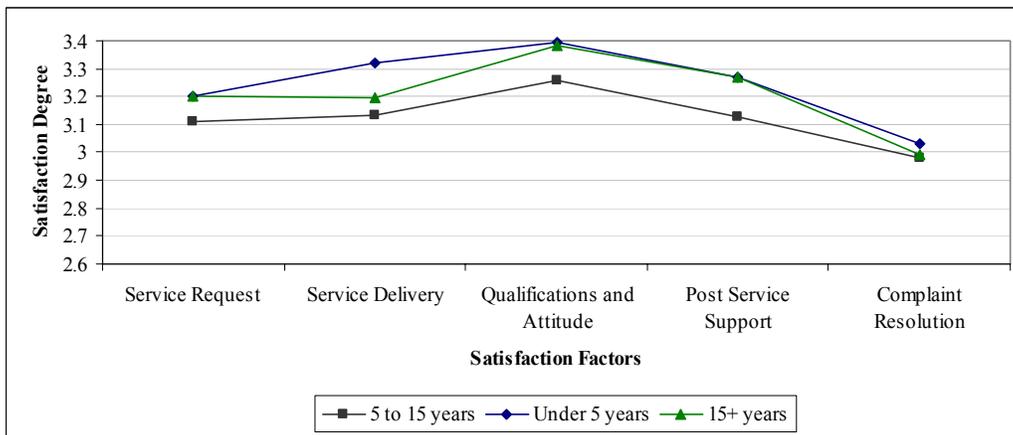


Fig 3.11: Engineering Services Service Performance Satisfaction by Time in Job

Job Role/ Factors	Service Request	Serviced Delivery	Qualifications & Attitude	Post Service Support	Complaint Resolution
Leadership	3.06	3.03	3.30	3.12	2.65
Staff	3.18	3.24	3.33	3.23	3.07

Table 3.2: Engineering Services Service Performance Satisfaction by Time in Job

3.5 General Comments

This section summarizing some comments obtained from the section of additional comments in the questionnaire. These comments as stated by customers can be categorized into three main categories: Very Satisfied to Satisfied, Average and Unsatisfied to Very Unsatisfied.

A) Very Satisfied to Satisfied Comments:

- major projects closing need to improved.
- It requires frequent follow up to get services from Engineering Service
- Thank you.
- Good service.
- it is not clear cut where client responsibility ends and E&PM starts.

B) Average Comments:

- Please increase the manpower.
- Engineering Services always trying to help but they lack competent staff and they have very complicated procedures. For example any minor design change has to be approved by the top management of engineering department.
- Most of project is not moving well and we need to make extensive follow up.
- The cost estimates are very high and sometimes unrealistic compare to what we used to get before creation of E&PM.
- Delay in handling some projects is not acceptable. The shortage in resources can be managed through out contractors.
- For any reason if the affiliates are having any difficulties with the SAP system, it is requested that the job be done by E-mail requests & once the SAP problems are resolved request will be sent.
- Slow in responding to provide related Engineering documents for client use.
- The process of starting the job and who should do what is not clear and not specified, we had many conflicts with E&PM on these items. very detailed steps should be available to avoid conflicts and waste of time.

C) Unsatisfied to Very Unsatisfied Comments:

- Resources are low. The nature of service to be provided changed after go-live (still dependent on customers to provide certain resources)

- The contribution from E&PM is very less and customers have to contribute more for any jobs
- On-Site Engineering Service at Customer H is poor in term of management skills, competence and knowledge.
- There is a little clarity which people will handle what type of requests. When a request for engineering service is made, type of inputs is not clear. There are located at far of place and seems do not feel quick service to plant is not a priority.

Chapter 4

Conclusions and Recommendations

4.1 Conclusions:

Based on the results discussed in the previous section, the following conclusions were reached:

- A continuous improvement should be considered for all the services factors, particularly the factor of complaints resolution.
- the functions and responsibilities of the engineering department is not very clear for some of the customers and a clear procedure should be known by all customers
- lack of strong coordination between the customer and the service supplier
- customer's voice should has the top priority in the improvement process
- The is lack of SAP awareness and its practice by all customers.
- There are some internal approval systems which take a long time and effect timely service
- Strength of engineering team is not sufficient to cater for all customers.

4.2 Suggestions and recommendations

As a result of this study, the following recommendations can be made:

- It is recommended to resolve all issues related to SAP business process to avoid the failure during transition period ..
- Various E&PM procedures and Formats needed fine tuning for improving service quality.
- Uplifting technical expertise by appointing experienced Engineers
- Service from contractor employees is a major share. Sabic benefits like annual bonus, gift vouchers etc. to be incorporated in contractor's policy for committed service.
- SABIC should not be focus alone with the End-User Satisfaction but also the one doing the Engineering Services to provide Quality Service.
- Procedure for requesting the services should be simplified
- More familiarization is to be provided to End users regrding the type of services offered by Engineering to enable them to obtain the maximum benefit of the service
- more engineers are required to give fast and good services for different plants

- More coordination with monthly internal meeting to work as family
- E & PM strength is depending on contract employees or more. Such be the case the quality and service of the contract employees plays vital role in performance measure.
- End user cooperation/support is the key element to provide excellent services
- Customer must give enough lead time for service provider in order to plan and execute the service.

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