INTRODUCTION

Even in-house service groups need loyal customers to survive and succeed in today’s challenging circumstances. In-house medical engineering departments, particularly imaging service groups, face the challenge of meeting the high expectations of their customers while competing with giant multinational OEM service organizations. This is a case study of improving the service excellence through focusing customer needs, measuring service performance, and increasing the communication skills of the team.

Needs, reasons, and goals for this effort

Our in-house medical imaging support group has been experiencing rising expectations from our customer, the Medical Imaging Department. We needed to understand the issues and needs of our customers to be able to improve the quality of the service. Medical Imaging, a very process oriented department view of quality—encompassed consistency of processes, documentation, and communication. Historically the Imaging Service team’s view on quality focused on low cost, speed of response, and ensuring the systems were operating. The different focus on quality aspects meant that the team was not meeting all our customer expectations, even though we were meeting our own.

The imaging service team had been receiving feedback with regards to service concerns from Medical Imaging. These were in the form of a negative feeling, some based on actual occurrences, but others were more of a general feeling. The team had made changes to try and address these concerns (e.g., changed processes, increased documentation, personnel changes), but were still getting the general negative feedback. This was frustrating for the team as we did not know what else to do to address the issues. We needed a method of measuring and addressing the feedback to ensure we met our customers’ expectations.

Alternatives to in-house service cost substantially more, but low cost is not always enough to keep the customers. We needed to go beyond just meeting customer expectations; we needed to exceed them by providing more value than they expected from the service.

PROCESS, RESULTS, AND ANALYSIS

Value is a combination of customer perceptions composed of the following factors: service, people, image, selling price, and overall cost. We decided to see the issues from our customer’s perspective by getting first-hand information from surveys.

Measuring the service excellence

Customer surveys are one of the most common ways to obtain feedback. However, the logistics of running these surveys without annoying the customers and with maximum participation have always been a challenge. To overcome this problem we decided to utilize the available online tools. Using an online survey service would be easy for us to conduct, and convenient for our customers to give their feedback.

We selected [www.Surveymonkey.com](http://www.Surveymonkey.com) as our online survey tool, which had already been used by some of the departments in our organization.

Involvement of stakeholders

Having the stakeholders involved in each step is the key to the success for any project. After having several meetings with different levels of customers and staff, it was agreed to conduct two different types of surveys.

i- Benchmark Surveys: These would help us understand the issues and satisfaction levels of our customers at the start of this process improvement project. Another benchmark survey would be conducted at the end of the project to compare the results and identify the effects of the actions taken.

ii- Incident Specific Surveys: After each service intervention, we decided to email our customers with the details of that service and with a link to the online survey form. This would allow us to get specific feedback for that...
service intervention. This would also help us respond to our customer needs instantly and fine-tune the service quality continuously.

Both surveys were designed with the involvement of customers and staff members.

Benchmark survey and results

In April 2004, we conducted the first benchmark survey by sending online form links to more than 200 Medical Imaging Department employees. The online survey form had 6 pages with 25 questions. There were open-ended questions for comments and the rest were multiple-choice, questions. Response rate for our first benchmark survey was around 40%, which was a considerable response for such a detailed questionnaire. Here are the brief results of the first survey:

Call Centre

- How satisfied are you with the call centre when you place your call during working hours?

Corrective/ Unscheduled Maintenance

- How satisfied are you with the repair services overall?

Scheduled Maintenance

- How satisfied are you with our scheduled maintenance service?

Overall

- Generally speaking, how satisfied are you with our overall level of service support to your area?
**Incident specific surveys and results**

These surveys provide us with constant measurement of our service excellence. A database application was developed as a tool to send standard emails to customers after a work order was closed. This survey is designed to be completed in 30 seconds. There is also one open-ended question available for comments. Here are the current results of ongoing surveys:

- How satisfied are you with this specific service intervention overall?

- How satisfied are you with the response time of our staff?
Generally speaking, how satisfied are you with our overall level of service support to your area?

- Completely Satisfied: 30%
- Very Satisfied: 58%
- Satisfied: 10%
- Very Dissatisfied: 2%
- Somewhat Dissatisfied: 0%

**Results, actions taken, and effects**

The most striking issue that emerged from both surveys was the “Call Centre” issue, which had been expected by our team. Thus, we decided to implement a 24x7 professional call-centre service. We are currently in the process of setting this service up. We will be able to measure the effect of this action when we complete our final benchmark survey at the end of the project.

Until the new call centre is launched, we have decided to improve our voicemail and paging setups so that whenever a message is received, the system will automatically page for the proper service member. This alone increased the level of satisfaction from 74% to 97%. The ratio of customers “Completely Satisfied” with our response time has jumped from 2% to 35%.

The other highlight of the benchmark survey was the need for better communication with our customers. Increasing the awareness and understanding of the value of communication in the office affected the overall satisfaction level of customers. We also encouraged our staff to take communication-skills courses.

The overall satisfaction level has increased from 89% to 98% while “Somewhat Dissatisfied” ratio has dropped from 11% to 0%. Also, “Completely Satisfied” ratio has increased from 6% to 30%.

We have found the incident specific surveys to be effective. They allow a method for the clinical team to provide somewhat anonymous feedback (positive, and/or on issues of concern). The service team can then address these issues immediately. Our initial experience is that this a very effective method. Previously issues would build up gradually to a critical point and then the clinical team would express serious concerns. The desired effect is that the incident surveys will allow avoiding this cycle by taking action as required.

**CONCLUSION**

Although most of the issues identified by the surveys were not a surprise to the team, the surveys have provided us with first-hand comments of our customers. The results have triggered useful discussions among our staff and we have learned to see the service from our customers’ perspectives.

The survey results have defined for the team what issues needed to be addressed and also prioritized them.
We are constantly monitoring our service with service-specific surveys. The other added benefit of service-specific surveys is that they have made our team realize the effects of customer relations. This has motivated the staff to pay more attention to customer relations and communication skills.

Initially, we focused on the issues that would bring us the highest “return on investment” but now with the data we have at hand and the data constantly coming in from the “incident-specific” surveys, we can focus on moving towards the service excellence.

The second benchmark survey will be conducted in August, the results and a detailed analysis of which will be presented and discussed at the CMBEC 28.

ACKNOWLEDGEMENT

We would like to thank the Medical Imaging Department for their support and cooperation. Also, we would like to acknowledge and thank the valuable inputs and contributions of the Medical Engineering Department, Imaging Support Group. This has been a great experience and a team effort for achieving service excellence.