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Gaining and keeping satisfied customers is an integral part of the reason your business exists, and the health of your bottom line is directly related to having customers that are both satisfied with the job you do and loyal to your business. This article explains one metric that can be used to track customer satisfaction...the **Customer Loyalty Index (CLI)**.

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A gap in its construction work order tracking and costing system prompted one South Carolina electric cooperative to design a construction time estimation program to assist with crew management, scheduling, and cost estimation. Turn to page 3 to find out more.

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HOW LOYAL ARE YOUR CUSTOMERS?

All businesses compete for customers in some form or another. Even if your utility is in a regulated state, consider some of the ways you compete. Perhaps you offer services such as home security or cable television. Maybe you compete with another energy source such as natural gas or propane. Or, you could be offering special rate incentives for electric appliance purchases, or load management and peak control programs. At any rate, gaining and keeping satisfied customers is an integral part of the reason your business exists, and the health of your bottom line is directly related to having customers that are both satisfied with the job you do and loyal to your business. A good question to ask, then, is how are you doing at building loyal customers?



All businesses are comfortable with tracking several different financial metrics to help analyze their performance: margins, TIER, rate of return, and many others probably come to mind right away. But how many businesses have a metric for tracking their ability

to satisfy customers? One key reason for measuring customer satisfaction is that your customers' view of your business is a leading indicator of future performance whereas financial metrics are lagging indicators of past performance. It does you little good to have a great rate of return last month if this month half your customers are going to drop you for some reason or another. This distinction is more pronounced in a highly competitive environment.

...it typically costs anywhere from 3-5 times more to gain a new customer than it does to keep an existing one.

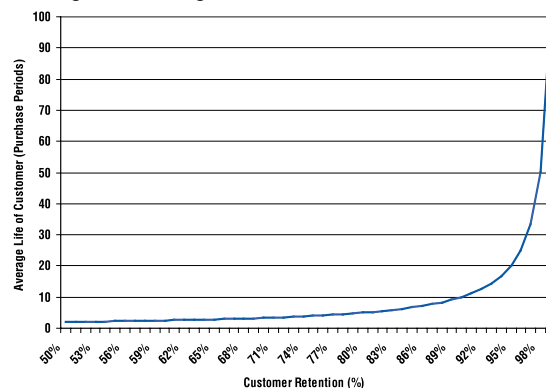
One metric that can be used to track customer satisfaction is the **Customer Loyalty Index (CLI)**. The CLI is comprised of three components that are multiplied together:

$$\text{CLI} = (\text{Customer Satisfaction}) \times (\text{Customer Retention}) \times (\text{Customer Recommendation})$$

Customer satisfaction can be composed of its own index, having a score for each customer from 0-100 in increments of 20, ranging from Very Dissatisfied with service to Very Satisfied. Customer retention measures the likelihood of a customer buying from your business again at the next purchase decision. This is a vital element of the CLI, because it typically costs anywhere from 3-5 times more to gain a new customer than it does to keep an existing one. Therefore, the average life of a customer to your business is directly related to profitability, and the average life of a customer can be measured by customer retention, as demonstrated in **Figure 1**.

Finally, customer recommendation is the ultimate indicator of a loyal customer. A customer recommendation is not only inexpensive marketing for your company, it is also a more powerful message than any marketing

Figure 1 - Average Customer Life vs. Customer Retention



material you could provide.

The table below shows an example CLI table. If such a table is prepared on a regular basis, such as quarterly or annually, then the firm can track the trends in each of the major components of customer loyalty. These trends, in turn, are leading indicators of short-term performance and can help identify problems to be addressed. For instance, you may have a high percentage of satisfied customers, but not customers who would recommend your business. This helps identify where your investigation into overall customer loyalty can begin. For benchmarking, a couple of different options are available. Obviously, as you begin to regularly calculate a CLI, you can benchmark based on historical trends for each component. Usually, data on your competition is not readily available, but if it is you can try to estimate their CLI and compare it to yours. The maximum CLI would be 100 in the structure shown below (100% very satisfied, 100% retention, 100% recommendation). However, an effective maximum could be the CLI that results when you simply put all 100% of customers in the very satisfied category but assume the retention and recommendation proportions would remain as they are now. For the sample below, this effective CLI would be 86.4 (100 satisfaction x .96 retention x .90 recommendation).

A customer recommendation is not only inexpensive marketing for your company, it is also a more powerful message than any marketing material you could provide.

Now that you know how to calculate and track the CLI, the hard part remains how to estimate satisfaction, repurchase, and recommendation statistics for your customers. The simple answer is to ask them. Through regular customer surveys, you can collect representative data to build CLI tables like the one above. However, you must be careful conducting your survey in order to ensure your results are representative of your customer base.

Table 1 - Sample Customer Loyalty Index Calculation

Level of Satisfaction	Number Surveyed	Percent	Satisfaction Score	Satisfaction Index	Percent Repurchase	Percent Recommend	Customer Loyalty
Very Satisfied	75	19%	100	18.8	96%	90%	16.2
Satisfied	100	25%	80	20.0	87%	75%	13.1
Somewhat Satisfied	125	31%	60	18.8	80%	50%	7.5
Somewhat Dissatisfied	55	14%	40	5.5	60%	0%	0.0
Dissatisfied	40	10%	20	2.0	35%	0%	0.0
Very Dissatisfied	5	1%	0	0.0	0%	0%	0.0
TOTAL	400	100%		65.0	77%	51%	36.8

There are several issues to consider when conducting a consumer survey. The costs and response rates vary for different methodologies including mail questionnaires, telephone surveys, or interviews. For instance, incentives can be offered, which increase both your costs and your response rate. You should carefully consider questionnaire design, sample selection, data tabulation, and interpretation of results. Once you get results, you must ensure that they are still representative of your overall customer population. If not, then statistical adjustments to the data should be made.

Consumer surveys not only help you develop and track your Customer Loyalty Index and help determine how you can better meet customer expectations, they can also be used to gather other very useful planning data. You can gather demographic data, determine customer views about various issues affecting your industry, or collect other important information. For instance, an electric utility might want to ask about ownership of various electric appliances in their homes. This market penetration data can then assist in development of forecasts, budgets, or strategic marketing plans.

GDS Associates has extensive experience in designing and conducting all aspects of consumer surveys in varying industries including utilities, retail trade, hotels, banking, commercial real estate, education, recreation, and others. Contact GDS if you need assistance in conducting statistically valid consumer surveys and developing your Customer Loyalty Index.



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software, and the UAI Mapping system together to allow for not only time and budget estimation, but also for construction travel time estimation in order to better schedule crews, based on job priority and location.

BEC and Hi-Line both agree that this type of application is something other cooperatives and utilities would find useful. To learn more about how a similar application, using the data developed for BEC, could be developed for your utility, please give Braxton Underwood, P.E., or Scott Shepherd a call at the contact numbers below.

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TIME IS OF THE ESSENCE!

Berkeley Electric Cooperative (BEC), a 69,000 consumer cooperative located

in the low country coastal area of South Carolina, identified a gap in its construction work order tracking and costing system which is a common concern -- the inability to consistently and accurately estimate construction elapsed time requirements and costs. While many utilities try to rely on labor times or costs captured in their

Continuing Property Records to schedule and estimate construction time for distribution line projects, the reality is that most utilities do not have good enough data to prepare accurate estimates of project costs and time required to complete the project. In this day and time, giving a cost estimate to an applicant for service and then presenting him with an actual cost bill that may deviate significantly from the estimate is not an acceptable way to do business. And from an operational perspective, the inability to schedule crews optimally results in wasted resources, manifested in higher installed cost of plant.

BEC acquired access to construction time raw data when a neighboring utility offered to share the results of a construction time analysis study. The data provided to BEC was organized by individual major assemblies used by that utility and contained a "stop watch" analysis of the time required to construct the assemblies and components of assemblies. BEC has grown tremendously during the last decade and just could not devote the time commitment in-house required to convert the voluminous raw data obtained into usable data for the Cooperative. The difficulty was compounded by differences between the RUS construction specifications used by BEC and the construction specifications upon which the data was based. Due to the time requirements and complexity of converting the raw data into BEC usable data, Scott Shepherd, Vice President, Administration/Information Services at BEC, contacted GDS Associates, Inc. (GDS) and its wholly owned subsidiary, Hi-Line Engineering, LLC (Hi-Line) to provide specialized assistance in modifying the data to match BEC's construction assemblies. This required analyzing the assemblies upon which the data was based and modifying the assemblies to match RUS assemblies and then recalibrating the raw data to fit the RUS assemblies. In addition, Hi-Line had to generate construction times for additional BEC assembly units where there was nothing comparable in the data provided.

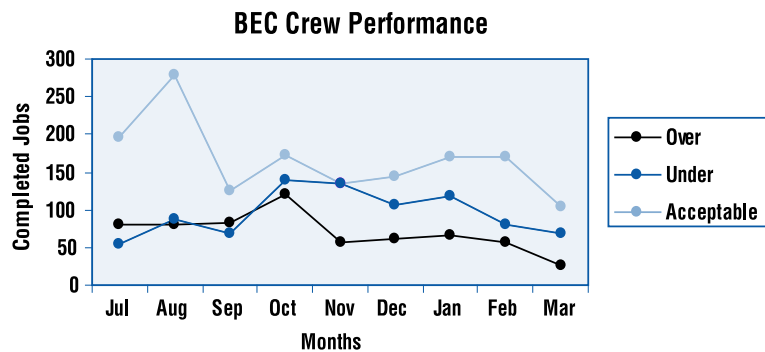
Hi-Line began by organizing the raw data into assembly categories and then matching corresponding units to the BEC assemblies. Data was also developed using available construction times and field experience for additional BEC assemblies that could not be matched to the existing data. The result of this effort was the creation of an assembly database with assembly types, descriptions, and construction and removal standard elapsed times for the units. The

database was then calibrated over a period of several months by comparing the standard elapsed time data to elapsed times from closed construction work orders, provided by BEC, typical of construction projects completed by BEC construction crews.

The goal of this calibration was to arrive at standard construction times that approximated the typical time that construction crews spent on frequently installed assemblies. It was not the goal of the project to develop a tool to pressure work crews to increase their speed at the expense of safety. With minor adjustments for travel time and set up time at the job site, the calibration resulted in solid average construction times, with some jobs taking more time and others taking less.

BEC then asked GDS/Hi-Line to design a construction time estimation program to assist with crew management/scheduling and cost estimation, using the database of construction times. This was accomplished by designing a program application that uses SQL Server and a website interface. The software solution developed allows for work order data transfer between BEC's accounting system, supplied by Southeastern Data Cooperative (SEDC), and the Cooperative's staking software, provided by Utility

Automation, Inc. (UAI). The program has the ability to estimate the construction/removal time requirement for work orders and the ability to receive actual construction time feedback and compare actual construction time to the estimate. The program was also expanded to show the efficiency of



BEC's construction crews through the use of an analysis report which can be exported to Microsoft Excel for further analysis.

BEC has been extremely pleased with the results of the software after comparing 6 months of actual construction time data to the estimates generated by the software. The chart above shows that 80% of the work orders completed by BEC's construction crews either met the acceptable range of elapsed time or were constructed in less than the estimated time.

The success of the program with the estimation of construction time and crew management/scheduling has prompted BEC to begin considering additional uses for the data and software. Some of these applications include:

- construction cost estimation
- determining optimal crew size and equipment complement
- optimizing work assignments to crews
- continuous revisions to standard cost estimates (used for allocating work order costs to plant accounts)
- vehicle and equipment maintenance logging
- right-of-way management
- work order management and record keeping

In addition, BEC also sees potential in tying the SEDC accounting system, the construction time estimation

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GDS Associates, Inc.
Engineers and Consultants

Mission Statement:

To help our clients succeed by anticipating and understanding their needs, and by efficiently delivering quality services with confidence and integrity.

GDS Associates, Inc. is a multi-service consulting and engineering firm formed in 1986 and now employs a staff of over 100 in five locations across the U.S. Our broad range of expertise focuses on clients associated with, or affected by, electric, gas, and water utilities. In addition, we offer information technology, market research, and statistical services to a diverse client base. The size and depth of our firm permits us to offer clients multiple sources of assistance, ensuring complete, competent, and timely service. Some of the consulting areas in which GDS has specialized skills are:

1. Power Supply Planning Services
2. Financial Analysis and Rate Services
3. Generation Services
4. Regulatory and Restructuring Services
5. Transmission Services
6. Renewable Energy Resources, Dist. Generation, & CHP
7. Energy Efficiency and Demand-Side Mgmt. Services
8. Risk Management Services
9. Electric Planning and Design Services (Hi-Line Engineering, LLC)
10. Environmental Management Services (GreenLine Environmental)
11. Deregulation and Retail Energy Procurement Services
12. Utility Privatization Services
13. Water and Wastewater Utility Consulting Services
14. Natural Gas Consulting Services
15. Statistics and Market Research Services
16. Information Technology Services

GDS consultants are recognized leaders in their respective fields, dedicated to their clients, innovative in their approach to meeting unique challenges, and known for consistently being available when needed. GDS strives to develop long-term client relationships. Our goal is to be a wise investment in consulting services for our clients.

Hi-Line Engineering, LLC is a wholly owned subsidiary of GDS Associates, Inc. Hi-Line specializes in providing safe, reliable, and efficient planning and design for electric cooperatives, investor owned utilities, municipal electric systems, and the military in all types of terrain and all three NESC loading districts. Hi-Line's areas of expertise include:

1. Overhead Distribution Line Design and Staking
2. Underground Distribution System Design
3. Inspection and Inventory
4. Contract Administration
5. System Planning and Analysis
6. Right-of-Way Vegetation Management
7. GIS/GPS Mapping and Inventory
8. Training Services
9. Specialized Design Services

Hi-Line uses the latest technology to increase efficiency and accuracy. Our commitment to client satisfaction and diversity of expertise ensures that we provide the highest quality of service.

GreenLine Environmental, a division of Hi-Line Engineering, LLC, provides environmental services specially geared to the electric utility industry. GreenLine's staff is composed of registered foresters and ISA certified arborists. Our experience in both power line design and operation complement our expertise in vegetation management on right-of-ways. GreenLine offers the following services to utilities, municipals, developers, industry, and the military:

1. Right-of-Way Vegetation Management
2. GIS/GPS Mapping and Inventory
3. Environmental Assessments
4. Urban Forestry Consulting

Our goal is to use our technology and experience to provide efficient long-term control of trees and brush in harmony with the biological ecosystem.



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