How Customer Satisfaction Drives Return On Equity for Regulated Electric Utilities

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Executive Summary

During the past decade, J.D. Power and Associates and Standard & Poor's have examined the relationship between customer satisfaction and key financial metrics in the electric utility industry, such as profitability and credit ratings. During the same period, the number of electric rate cases has steadily increased. Due to this increase, J.D. Power has undertaken an examination of the relationship between customer satisfaction and return on equity (ROE) in the industry. Similar to profitability and credit ratings, customer satisfaction has a notable impact on ROE for regulated electric utilities. This white paper details the findings from these analyses.

When the customer satisfaction results of regulated electric utilities are categorized into quartiles, results show that higher levels of customer satisfaction one year prior to a rate case are associated with higher ROE. On average, a 10-point increase in customer satisfaction, based on the 1,000-point index scale utilized by J.D. Power and Associates, is associated with a .04% increase in ROE. More notable is the finding of a .5% increase in ROE among utilities in the top quartile of customer satisfaction one year prior to a rate case, compared with utilities in the bottom quartile of customer satisfaction during the same time frame. This .5% increase applied to an equity base of $1 billion equates to $5 million in annualized increase in earnings available to shareholders. Moreover, utilities in the top quartile also received rate increases closer to their requests than did utilities in the bottom quartile.

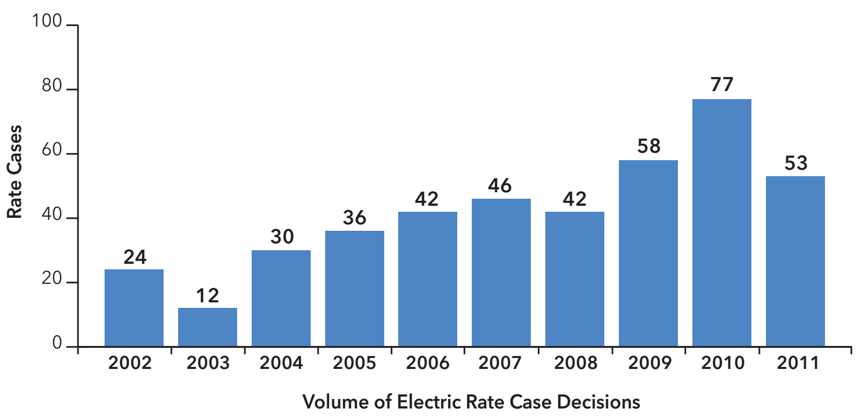
The main implication of these findings is that investing in the customer experience may yield rewards as significant as investing in tangible assets, such as power plants, transmission lines, and distribution infrastructure.

Background

Despite the recent growth in deregulated retailing of electricity, a majority of US customers still have no choice in selecting their electric provider. Some providers are publically owned, such as municipal electric providers typically located in midsize and smaller US cities. Others are co-operatives collectively owned by their customers. However, more than 80% of customers receiving service from utilities included in the industry-specific customer satisfaction studies conducted by J.D. Power and Associates receive their service from a regulated investor-owned utility (IOU). To maintain reliable and affordable power, IOUs need to invest in their infrastructure, business systems, and processes while also providing return on investments to their shareholders. To ensure an appropriate balance between these investment returns and the need to protect customers, utility regulators must determine an appropriate ROE for IOUs requesting a rate increase. Although the allowed ROE is driven by the financial environment and prevailing interest rates, other factors, such as customer satisfaction with the utility, also have an impact.

During the past decade, J.D. Power and Associates and Standard & Poor's have examined the relationship between customer satisfaction and key financial metrics in the electric utility industry, such as profitability and credit ratings. Due to the nationwide increase in electric rate cases, this research has been extended to include the relationship with ROE.

Number of Electric Rate Case Decisions 2002 – 2011



Source: Regulatory Research Associates, an SNL Energy Company

Figure 1

"In the early 2000's, the idea that competition could reduce ratepayers' electricity costs was pervasive throughout the industry. However, the implosion of the California energy market in 2000-2001 stopped competition in its tracks. A few years later, 'back to basics' became a familiar term. Companies started to file rate cases again. The back-to-basics philosophy continues, and the required infrastructure upgrades and expansion, as well as increased expenses in the electric utility industry, has caused rate cases to be back in style, and to be a necessity."

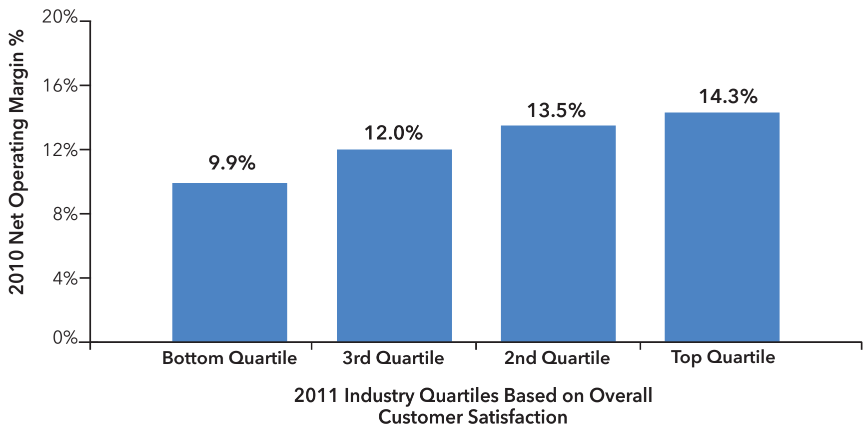
—Rob Schain,
Senior Vice President
Regulatory Research Associates

In 2005, S&P provided insights regarding how they use customer satisfaction information to determine utility credit ratings.[1] The report included the findings from their internal study comparing the credit analysts' opinions about the regulatory environment and a utility's customer satisfaction index score, as measured by J.D. Power and Associates. S&P's analysis identified a correlation between the credit analyst's view of regulatory risk and customer satisfaction. Furthermore, based on their findings, S&P clarified how their methodology would include customer satisfaction as one of the many variables they use to assess risk and, ultimately, their credit ratings.

S&P conducted a study in 2005 comparing their opinion of a utility's regulatory environment and the utility's customer satisfaction index score. The study found a fairly strong correlation between the two metrics.

One of the primary drivers and key performance indicators for all companies is profit. Research conducted by J.D. Power in 2011 examined the relationship of electric utilities' customer satisfaction performance against their most recently published net operating margin data, as reported by utilities to the Federal Energy Regulatory Commission (FERC) for 2010. These data were merged with the corresponding customer satisfaction results from the *J.D. Power and Associates 2011 Electric Utility Residential Customer Satisfaction Study.*℠ Results show a positive relationship between the level of customer satisfaction and net operating margin. In fact, electric utilities performing in the top quartile of customer satisfaction also report higher levels of net operating margin, or profit.

Profitability is Higher for Utilities with Higher Customer Satisfaction



Sources: J.D. Power and Associates 2011 Electric Utility Residential Customer Satisfaction Study℠
Federal Energy Regulatory Commission (FERC) Data, 2010

Figure 2

Regulated US electric utilities that achieve the highest customer satisfaction in J.D. Power studies also reported the highest rates of net operating margin to FERC. On average, the profit margins of electric utilities in the bottom quartile, those with the highest number of dissatisfied customers, were 4% lower than among utilities in the top quartile.

1 *"Customer Satisfaction Levels Can Affect U.S. Utility Credit Quality," Todd Shipman. Standard & Poor's Ratings Direct Service. August 2005. J.D. Power and Associates and Standard & Poor's are leading brands of The McGraw-Hill Companies, Inc.*

Annual profit levels and the cost of credit are important metrics when considering the financial health of a company. Due to the growth in rate cases, ROE is also a major contributor to the financial health of many electric utilities.

Three Key Measures Impacted by Customer Satisfaction in The Electric Utility Industry

Figure 3

Improved levels of customer satisfaction contribute to improved credit ratings, operating margins, and ROE for regulated US electric utilities.

Given the increased importance of rate cases, J.D. Power conducted research to test whether rate case outcome metrics, similar to credit ratings and profit, could be predicted by customer satisfaction performance, e.g., in understanding whether brand-level satisfaction scores are associated with return on equity, disallowance amounts, and the time it takes to complete a rate case. The following sections explain the approach used to test this hypothesis and discuss the results of the analysis.

Methodology

To assess the relationship between satisfaction and rate case outcomes, the approved ROE from each rate case and the customer satisfaction results of the *J.D. Power and Associates Electric Utility Residential Customer Satisfaction Study*SM from 2001 to 2010 were compared. The study surveys customers of large and midsize utilities regarding their experience with their utility in six key factors: power quality and reliability; price; billing and payment; communications; corporate citizenship; and customer service. The relative importance of each factor in relation to overall customer satisfaction with a utility's performance is derived using J.D. Power and Associates' proprietary index methodology. These derived importance weights are then applied to customer ratings, and utility company customer satisfaction performance is then based on aggregating the weighted ratings into an overall satisfaction index score that ranges from 100 to 1,000 points.

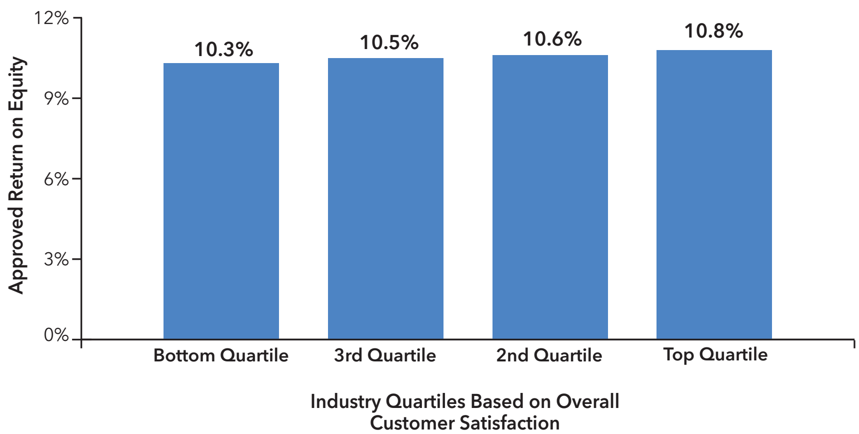
National rate case information for 2002 to 2011 was gathered from SNL's RRA database and the *Public Utilities Fortnightly* database of regulator requests and outcomes. The majority of the rate cases included in the final analyses occurred between 2006 and 2011. The rate case databases included the submission and close dates for each rate case; the initial requested amount; the return on equity; the authorized amount; the RRA commission utility score; the first counter-offer amount; and the second counter-offer amount.

To assess the relationship between satisfaction and rate case outcomes, brand-level customer satisfaction data by year were merged with rate case data, yielding 197 data points. Customer satisfaction one year prior to the rate case submission was used to predict the various rate case outcomes. Pearson product moment correlations and simple linear regression models were used to determine the degree to which customer satisfaction impacts rate case outcomes.

Results

A significant positive relationship was found between customer satisfaction and subsequent ROE one year later, such that a 10-point improvement in the overall satisfaction index score yielded a .04% increase in ROE (R^2 = .37). In dollar amounts, if a utility were requesting a rate change on an equity base of $1 billion, it would equate to an increase of $400,000 for every 10-point increase in the overall satisfaction index score. Moreover, when utilities in the top quartile were compared to those in the bottom quartile, an ROE difference of .5% was found. Again, that translates to $5 million more per rate case for the top-quartile vs. bottom-quartile utilities (assuming an equity base of $1 billion).

Approved Return on Equity by Quartiles of Satisfaction



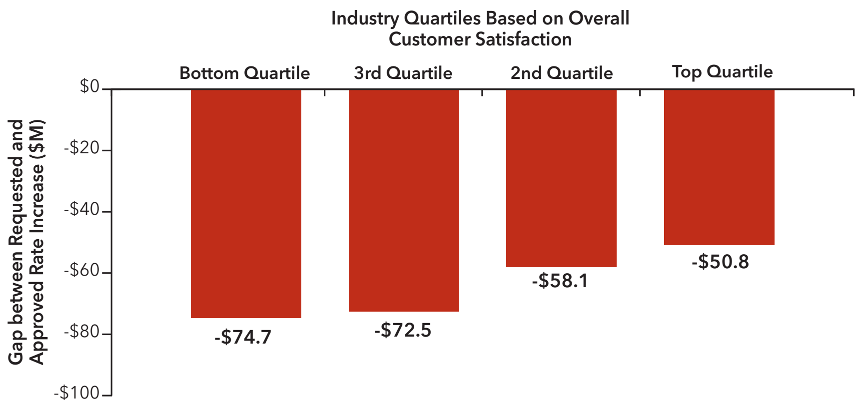
Sources: *J.D. Power and Associates Electric Utility Residential Customer Satisfaction Study℠ 2002 – 2010*
Regulatory Research Associates, an SNL Energy Company

Figure 4

When regulated electric utilities are categorized into quartiles of satisfaction, higher levels of customer satisfaction one year prior to a rate case are associated with higher ROE.

This analysis was based on the overall satisfaction index score from the year previous to the rate case. Interestingly, a slightly stronger influence was also observed in the index score two years earlier. This suggests that it is the recent history of satisfaction, not just the most recent value, that influences the approved ROE. Additionally, findings show that utilities with the highest proportions of highly satisfied customers (i.e., top quartile) received rate increases closer to their requests than did utilities in the bottom quartile. When measured in absolute terms, the average utility in the bottom quartile received an approved rate increase $74 million below the original request, whereas top quartile utilities received an approved rate increase $50 million less than initially requested.

Gap between Requested and Approved Rate Increase by Satisfaction Quartiles



Sources: J.D. Power and Associates Electric Utility Residential Customer Satisfaction Study[SM] 2002 – 2010
Regulatory Research Associates, an SNL Energy Company

Figure 5

On average, in the past 10 years, all regulated electric utilities received a lower amount than requested. Utilities with the most highly satisfied customers received rate increases closer to their requests than did utilities in the bottom quartile.

Utility regulation is a complex process, and it would be naïve to assume any process this complex can be simplified into a single linear equation with just one predictor such as customer satisfaction. However, it is encouraging that the findings show that one of the many variables associated with approved ROE is customer satisfaction, and that the utilities that satisfy their customers are also more likely to be those that also satisfy their shareholders.

In considering these findings, it important to note two caveats. First, although the analyses show a substantial linear relationship between a company's level of customer satisfaction and their ROE, the effect is not the same for all utilities. Some utilities with higher-than-average customer satisfaction receive lower levels of ROE, and, conversely, utilities with lower-than-average customer satisfaction receive higher levels of ROE. This variability is to be expected, considering the complex processes associated with submitting, reviewing, and approving a rate case. Indeed, it would be surprising if the data failed to reflect these complexities.

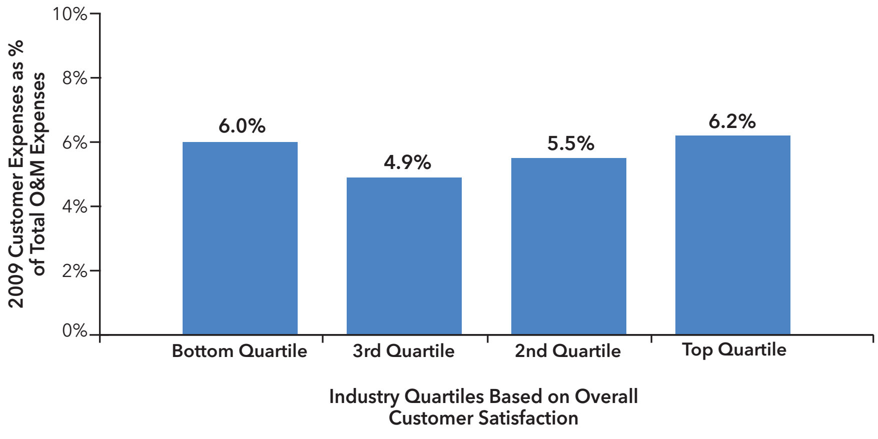
The second caveat is that correlation does not imply causation, and there may be additional factors driving the relationship between customer satisfaction and ROE. That is, customer satisfaction and approved ROE may be moving together in response to some undetermined third variable.

That said, it would be prudent to note the finding that a 10-point increase in satisfaction is associated with an average .04% increase in approved ROE. When equity is measured in billions, this increase translates to a notable improvement in financial performance.

Conclusions

That customer satisfaction can be a leading indicator of return on equity is an important discovery of the analysis J.D. Power conducted. This finding clearly suggests that utility companies may benefit directly from investment in programs aimed specifically at improving customer satisfaction. Data submitted to FERC indicate that when electric utilities invest in their customers, there is a corresponding improvement in customer satisfaction, suggesting that efforts can be aligned to achieve benefits for both customers and utilities.

The Highest-Performing Utilities Spend Proportionally More On Their Customers



Sources: J.D. Power and Associates 2010 Electric Utility Residential Customer Satisfaction Study^{SM}
Federal Energy Regulatory Commission (FERC) Data, 2009

Figure 6

Top quartile utilities spend an average of 6.2% of their operating expenses on their customers, according to the data reported to FERC. Perhaps surprisingly, the bottom quartile companies also spend more than average on customer expenses. One possible explanation is that these are unavoidable expenses, incurred as a result of resolving issues related to complaints from dissatisfied customers.

The electric utilities in the top quartile of customer satisfaction invest an average of 6.2% of their operations and maintenance (O&M) expenses on their customers, which is higher than among utilities in the other three quartiles. The anomaly in the data is in the bottom quartile, in which 6.0% of O&M expenses relate to customers. One possible explanation is that these are unavoidable expenses incurred when dealing with dissatisfied customers who require more customer service support. Another explanation is that the utility's business practices may be expensive and inefficient, and these inefficiencies tend to generate dissatisfaction. For example, a call center that focuses only on average call handle times rather than first-call resolution may create inefficiencies that result in customers needing more phone calls or other methods of contact to get their issue resolved.

For regulated electric utilities, higher customer satisfaction is associated with higher rates of ROE and allowed returns that are closer to the requested returns. Other factors, especially prevailing interest rates, also drive ROE. Indeed, it is unlikely that customer satisfaction is a primary driver of ROE. However, even a relatively small influence on ROE is noteworthy, given the major impact that approved ROE has on a regulated utility's financial performance.

For utilities with higher levels of customer satisfaction, it is encouraging that, on average, regulators are likely to view more favorably their requested ROE when reviewing a rate case. This positive regulatory environment, in turn, provides the utilities with additional support for further investments in their operations that continue to promote customer satisfaction. Unfortunately, the same dynamic may also explain why many utilities with dissatisfied customers fail to improve–they lack the regulatory support necessary to secure approval for the investments required to convert their dissatisfied customers into satisfied customers.

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Customer Satisfaction, Regulatory Outcomes, and Investments May Reinforce Each Other

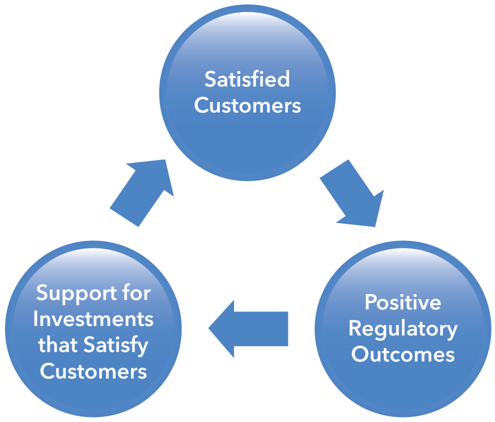

Figure 7

Positive customer satisfaction creates positive regulatory outcomes that, in turn, support further investments to promote customer satisfaction. Conversely, customer dissatisfaction may constrain a utility's ability to secure the funding needed to resolve the causes of dissatisfaction.

For regulated electric utilities looking to maximize ROE during a rate case, it is important to know that customer satisfaction makes a difference. Therefore, regulated utilities need to understand their levels of customer satisfaction and what drives satisfaction. Furthermore, knowing how to increase customer satisfaction is important and may play a critical role helping them improve both customer satisfaction and ROE.

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