PQ&R / CCG Analysis Update

A Study of the Relationships Between CCG Scores and PQ&R Performance

January 19, 2005
Goals of the Study

• Learn more about the drivers of our customer satisfaction scores
• Determine the relationship, if any, between CCG scores and our PQ&R performance
• Work with Corporate Communications and provide PQ&R message for refined communications
• Solidify the PQ&R role and strategy to improve and maintain positive customer scores
Details of The Study

• Data used in the Study:
  – Residential and Small Business CCG Scores
  – General “Overall” CCG Questions
    • Satisfaction, Value, Quality, Fair Rates, Continue Using, Recommend, and Loyalty
  – Specific CCG Questions related to PQ&R topics
    • Provide reliable electricity, Maintain assets, Appropriate tree trimming, Prompt service restoration, and Number of outages/surges/flickers
  – PQ&R Indices and Measurements
    • SAIDI, CEMI-5, MAIFI, FFM, SAIFI

• Calculated Over 1,800 One-to-One Pearson Correlations
  – No Time Lag
Results of the Study

- Number of data points varied depending on availability of the data
- PQ&R and CCG relationship found on a Carolinas System and Region level
  - MAIFI – 12 month rolling
  - Faults per Feeder Mile (FFM) – 12 month rolling
- Region results are unique and show different correlation strengths
- Quarterly Results have stronger correlations (smoothing effect)
Results of the Study (cont’d.)

Quarterly Small Business – Carolinas System

Correlation Value *

- Lower number of faults, momentaries, and outages show higher satisfaction scores

Q2. Overall Satisfaction
Q3. Overall Value
Q5. Fair Rates
Q7. Continue Using
Q12. Provide Reliable Electricity
Q13B. Maintain/Update Assets
Q15. Prompt Service Restoration

Q20A. # of Outages < 1 Minute
Q20B. # of Outages > 1 Minute

FFM
MAIFI
Results of the Study (cont’d.)

Quarterly Residential – Carolinas System

Correlation Value *

0.00  -0.20  -0.40  -0.60  -0.80  -1.00

Q2. Overall Satisfaction
Q4. Overall Quality
Q9. Earned Loyalty
Q13B. Maintain/Update Assets
Q13C. Adequate Tree Trimming
Q15. Prompt Service Restoration
Q20B. # of Outages > 1 Minute

* i.e. Lower number of faults, momentaries, and outages show higher satisfaction scores
Results of the Study (cont’d.)

Quarterly Small Business – Northern Region

Correlation Value *

Q2. Overall Satisfaction
Q3. Overall Value
Q5. Fair Rates
Q12. Provide Reliable Electricity
Q13B. Maintain/Update Assets
Q13C. Adequate Tree Trimming
Q15. Prompt Service Restoration
Q20B. # of Outages > 1 Minute

* i.e. Lower number of faults, momentaries, and outages show higher satisfaction scores

FFM
MAIFI
SAIDI
CEMI-5
Results of the Study (cont’d.)

Quarterly Residential – Northern Region

<table>
<thead>
<tr>
<th>Question</th>
<th>FFM</th>
<th>MAIFI</th>
<th>SAIDI</th>
<th>CEMI-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q2. Overall Satisfaction</td>
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<td></td>
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<tr>
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<td>Q20B. # of Outages &gt; 1 Minute</td>
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</tbody>
</table>

* i.e. Lower number of faults, momentaries, and outages show higher satisfaction scores

*Correlation Value *
Results of the Study (cont’d.)

Quarterly Small Business and Residential – Eastern Region

* i.e. Lower number of faults, momentaries, and outages show higher satisfaction scores

Correlation Value *

0.00 0.20 0.40 0.60 0.80 1.00

Small Business
Q20B. # of Outages > 1 Minute

Residential
Q20B. # of Outages > 1 Minute

<table>
<thead>
<tr>
<th>FFM</th>
<th>MAIFI</th>
<th>SAIDI</th>
<th>CEMI-5</th>
</tr>
</thead>
</table>
Results of the Study (cont’d.)

Quarterly Small Business – Southern Region

Correlation Value *

- FFM
- MAIFI
- SAIDI
- CEMI-5

*i.e. Lower number of faults, momentaries, and outages show higher satisfaction scores*
Results of the Study (cont’d.)

Quarterly Residential – Southern Region

Correlation Value *

Q2. Overall Satisfaction
Q5. Fair Rates
Q9. Earned Loyalty
Q15. Prompt Service Restoration

* i.e. Lower number of faults, momentaries, and outages show higher satisfaction scores
Results of the Study (cont’d.)

Quarterly Small Business – Western Region

Correlation Value *

-0.20 -0.40 -0.60 -0.80 -1.00

Q3. Overall Value
Q5. Fair Rates
Q7. Continue Using
Q8. Recommend w/out Reservation
Q13C. Adequate Tree Trimming

* i.e. Lower number of faults, momentaries, and outages show higher satisfaction scores

FFM
MAIFI
SAIDI
CEMI-5

Q20A. # of Outages < 1 Minute
Q20B. # of Outages > 1 Minute
Results of the Study (cont’d.)

*Quarterly Residential – Western Region*

<table>
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<th>Question</th>
<th>Correlation Value</th>
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<tbody>
<tr>
<td>Q3. Overall Value</td>
<td>-1.00</td>
</tr>
<tr>
<td>Q5. Fair Rates</td>
<td>-0.80</td>
</tr>
<tr>
<td>Q7. Continue Using</td>
<td>-0.60</td>
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<td>-0.40</td>
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<td>Q20A. # of Outages &lt; 1 Minute</td>
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</tr>
<tr>
<td>Q20B. # of Outages &gt; 1 Minute</td>
<td>0.00</td>
</tr>
</tbody>
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- FFM
- MAIFI
- SAIDI
- CEMI-5
Summary / Next Steps

Summary
• FFM is the predominant relationship to Customer Satisfaction Scores but not the only driver
• Northern Region and Southern Region have the strongest region correlations

Next Steps
• Further analyze the FFM and MAIFI measurements in more detail (Include shifts in time frames, time lag, etc.)
• Begin building PQ&R/CCG strategy
  – Possibly adjust programs
  – Track new indices
Progress Energy Carolinas - MAIFI

12 Month Rolling Average

- Without Storms
- With Storms