



Preferences and Proactive Alerts for Utilities

A study of return on investment

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Purpose of Study

This study reviews the return on investment (ROI) for multichannel notifications for utility contact centers. Reasons include: improved customer satisfaction, mitigation of inbound communications, and regulatory requirements such as demand response programs. This study includes the technology, service costs, and financial motivations for creating multichannel communications notifications programs.

Investment

Platform Components

A utility customer contact center notification program requires the following components in order to deliver automated alerts across channels such as SMS text message, electronic mail, voice, and mobile app push.

- User interface and database to acquire and record customer preferences that further correlates notification preferences with account and/or premise and flexible fields to store a customer’s communication preferences;
- Interface to a utility information system such as outage management system (OMS) or billing platform (like Oracle CC&B) to initiate automated alerts;
- Complex event processor to filter events and apply business rules that trigger notifications in accordance with preferences and communication templates; and
- Notification gateway between the complex event process and preference manager that sends messages via carrier text messaging gateway, e-mail server, automated voice system, or mobile app interface.

These combined components allow the utility customer contact center to trigger proactive communications for power outages, appointment reminders, payment reminders and past due notices, and energy usage events.

Cost Comparison

The aforementioned system can be purchased as traditional licensed software with annual maintenance, especially for the purpose of capitalizing software and professional services in accordance with Generally Accepted Accounting Principles (GAAP). Modern communications software can now be purchased as a service, deployed in a redundant cloud. Table 1 describes the unit pricing for each communications channel. The unit cost for the platform components described above, at volume, is approximately \$0.015 per notification message. Additional costs may include a monthly SMS dedicated short code number (\$500-1,000) and concurrent voice capacity.

Table 1: Approximate incremental notification unit cost.

Channel	Unit Cost
SMS	\$0.025
E-mail	\$0.005
Automated voice/IVR	\$0.050

Live agent (per call)	\$5-12
Mobile app push alert	\$0.005
Web	Nominal

Message Intensity

According to AGENT511 statistics across major utilities, there are approximately 4.5 annual average outage messages per customer. Outage messages include reported, ERT and restoration statuses. Table 2 that shows the number of annual messages per campaign type.

Table 2: Approximate incremental notification unit cost.

Campaign	Annual average
Unplanned outage	4.5
Billing reminder	12
Load curtailment/event	1
Appointment reminder/event	3

Customer Call to Action

The end customers' responsiveness to messages directly contributes to the actual value propositions. Mobile app notification is expected to perform comparably to text messages.

Table 3: Channel specific open rates.

Channel	Open rate
SMS text	98 open ¹ %
Email	60% ² spam & 30 ^{Error! Bookmark not defined.} % open
IVR	3% ³ live answered
Live agent	Depends on model

Financial Benefits

Customer Satisfaction

According to a JD Power survey, for a utility whose customers recall receiving a communication message from their utility, their overall satisfaction is 75 percentage points higher on average as compared to those whose customers have no recollection of any communications message. The report also indicated that customers should receive multiple communications from the utility—as such, one channel alone may not be sufficient. Text messaging is one important real-time channel because of its value to the customer.

According to a Cambridge Technology report, a SDG&E blackout alert program was predicated to result in a 2% increase in customer satisfaction, yielding a \$150,000 annual benefit.

In a 2006 Spark Magazine article by John Egan, there is a direct correlation between utilities with higher customer satisfaction ratings and financial bond ratings. Utilities with excellent customer satisfaction were more likely to have less difficulty with regulators—which in turn, translated to better credit worthiness. For a \$200 million bond over 15 years, the interest difference between utilities with better credit ratings versus worse credit ratings is approximately \$1 million annually. While this is not a direct cause-and-effect, it highlights the correlation between customer satisfaction and credit worthiness⁴. A May 2012 JD Power report indicated that a 10-point increase in customer satisfaction relates to a 0.04% improvement in return on equity and further, utilities in the top quartile prior to a rate increase, improved ROE by 0.5%⁵.

Interestingly, customer service exceeded price by 50% in terms of the overall contribution to customer satisfaction. Reliability still was viewed as most important⁶.

Live Agent Call Remediation

Mobile self-service is intended to mitigate call volumes, especially during peak times. Messages can be updated in real-time to reflect the call center's immediate needs.

Call volume can be calculated using telecommunications theory. As an example, a small contact center, open 16 hours daily, reports 474 calls on average, each of which is 133 seconds in length. This means the average number of CSRs required, not including breaks, is 1.75. However, based upon the mathematical model, the number of CSRs required to meet a 5% service level is 5.

Self-service on the mobile phone is intended to enhance the number of callers that can be served, especially during the peak; the number of CSRs can be reduced to only 4 while the service level is maintained⁷.

Pre-Disconnect Notification

One utility at the EUCL Communications Summit reported 24% conversion on pre-disconnection SMS notifications service. Given the immediacy of text vs. door hanger or postage, a truck roll is averted, thereby saving \$100.

Higher Consumption (average)

A direct benefit of real-time information via text messaging is the opportunity cost associated with downtime. When a customer shaves a few minutes off reporting an outage or returns home 60 minutes earlier than the ERT upon restoration to turn on the lights, air conditioning, television, and computer, the incremental revenue is \$0.50-\$1.00 due to timely notification.

For commercial customers the opportunity cost is even higher. While there are specialized communication channels for these customers, a May 2003 National Renewable Energy Laboratory report indicated the value of downtime ranged from

\$70,000 per hour to nearly \$3 million per hour for a credit card processor⁸. Small businesses and retail operations depend on timely information to manage the workforce and implement back-up plans for computer systems and perishable items. Quality information is invaluable and may even mitigate concerns over a blown service level agreement (SLA).

Peak Demand

Text alerts can notify residential and commercial (C&I) customers of peak demand events and by adding two-way messaging with AMI/Smart Grid, consumers can even throttle their power consumption remotely. This helps utilities to meet their energy conservation goals – as an example a utility in Illinois that achieves 125% of its goal is likely to recognize a 2% increase in return on equity⁹. Similar returns are observed in other states with energy conservation goals and in many cases, peak energy savings are passed along to the consumer, thereby increasing customer satisfaction.

Avoid Settlements

In many cases, utilities will settle claims with customers who experienced outages attributed to qualified utility negligence. A white paper by Resources for the Future (RFF) exemplified the impact of outages and noted that “installation of ‘smart meters’ that can communicate outage information back to the utility when a customer loses power” is likely to reduce risk.¹⁰ Two-way outage reporting makes reporting more convenient and may decrease the duration of the outage. Similarly, in municipal government, the liability associated with a pothole¹¹ can be substantially reduced by providing a convenient mechanism by which a crew can remediate the unsafe conditions.

Ancillary Benefits

Drive Website Utilization

By encouraging consumers to subscribe for notifications via Preference Portal, a utility is able to promote other notifications, products, and services such as Green tips and paperless billing. For consumers who may not have registered on the website, subscribing to notifications may be the impetus to create a web account.

Marketing

Marketing messages, new programs, and cross promotions may be occasionally interspersed in other communications. Text and email messages may include brand identification that not only lead to increased customer satisfaction, but also to pave the way for customer power generation and electric vehicle charge loyalty programs.

Summary

Clearly there are a number of ways to monetize a single notification or two-way message and actual return on investment depends on utility size. As an example, a single \$.045 notification leads to a potential \$24 in value. Likewise, a mid-size utility’s \$100,000 annual outage notification program has the ability to improve satisfaction and lead to \$1 million in bond savings. In order to perform a complete analysis to achieve

each benefit, the unit pricing and benefit must be determined. The benefit will increase with organization size.

¹<https://theblog.adobe.com/marketing-with-98-percent-read-rate-and-10-more-compelling-stats/>

²<https://www.statista.com/statistics/420391/spam-email-traffic-share/>

³<https://www.business2community.com/sales-management/sell-97-percent-calls-now-go-voicemail-0689990>

⁴<https://eganenergy.com/industry-expertise/customer-satisfaction/>

⁵<http://www.jdpower.com/sites/default/files/How%20Customer%20Satisfaction%20Drives%20Return%20On%20Equity%20for%20Regulated%20Electric%20Utilities%20White%20Paper.pdf>

⁶ http://www.oliverwyman.com/ow/pdf_files/Energy05-CustSatisfaction.pdf

⁷<http://www.erlang.com/calculator/erlb/>

⁸www.netl.doe.gov/moderngrid/docs/The_Value_of_Electricity_When_It's_Not_Availble.pdf

⁹<https://www.power-eng.com/articles/print/volume-121/issue-11/features/expanding-the-toolbox-how-to-use-demand-response-to-increase-grid-reliability.html>

¹⁰<http://www.rff.org/files/sharepoint/WorkImages/Download/RFF-DP-13-16.pdf>

¹¹<https://www.lawyersandsettlements.com/settlements/06702/pothole-injuries.html>