SOCIAL MEDIA IN SUPPORT OF OUTAGE MANAGEMENT

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ABSTRACT

Social media is revolutionizing the way the world communicates. Utilities are now realizing the benefits of a powerful social media presence, especially in light of the large outages experienced during recent weather events such as Hurricane Sandy. Ongoing research at the Electric Power Research Institute (EPRI) involves integrating customer-generated data from social media into existing restoration efforts and systems, and identifying and monetizing the benefits of utility efforts in social media. Initial findings, from a series of three regional workshops are included in this paper.

INTRODUCTION

Utilities are recognizing the value of social media and how it helps them improve their engagement with customers. The use of social media for outage management comes with a range of new opportunities as well as some challenges. A recent set of workshops hosted by Consolidated Edison, TXU Energy, Pacific Gas and Electric (PG&E), and the Electric Power Research Institute (EPRI) with dozens of utilities across the U.S. in attendance, provided numerous insights into using social media as a communications outlet, and what the future may hold for integrating social media into existing utility systems to support outage management.

A key finding was that it is important to have trained social media personnel to respond to customers to keep the messaging consistent and enable the utility to take a proactive role by notifying customers what to expect when a storm approaches. Personnel trained to respond through social media also helps the utility to be prepared to address negative comments, identify internal staffing and resource needs early, and allows the utility to get to know their audience by developing niche group communications around certain topics as necessary.

Some challenges facing the utility industry in regards to social media and outage management include verifying the accuracy of data and information, consolidating the outage and damage data collected, and then integrating social media data into a visualization platform. Preliminary research has found that for a cross-section of utilities, the majority of Facebook and Twitter accounts are used for education and outreach purposes, and nearly a quarter use Twitter for outage management and emergency purposes. For any given utility facing severe weather events, these numbers will likely vary. EPRI will be releasing a summary report of the key findings from all three sessions this fall.

The use of social media by utilities is only a few years old. Usually, the utility starts with a Facebook page to disseminate information about energy efficiency programs or tips for keeping customers' large appliances running efficiently, or as part of their corporate social responsibility program outreach. Twitter tweets direct customers to the utility website with similar goals. The large, damaging storms that have captured the headlines in the last couple of years have changed that. Utilities now use social media before, during, and after storms to broadcast advisories, communicate outage status, and deliver vital safety information. Utilities such as Baltimore Gas & Electric, Consolidated Edison and Public Service Electric and Gas (PSE&G) were lauded for their efforts at using social media during Hurricane Sandy. Subscriptions to utility Facebook pages and Twitter feeds soared during the storm and now utilities are trying to identify ways of keeping the public's attention with this new media outlet.

With the renewed focus on grid resiliency, the question arises: Does social media have a place in the utility's overall restoration efforts? Utilities are exploring the use of drone technology and the use of tablets by utility employees for storm damage assessment. Social media may be a way to extend damage assessment, in some limited manner, to use input from the public. Another possibility could be the use of utility supplied applications to the smart devices that more and more people have. What are the relative roles of applications and social media? They could be the interactive voice response (IVR) systems of our time.

EPRI is conducting these workshops to sort out these and other issues regarding the integration of systems, including utility provided applications and social media. EPRI has a long history of supporting the development of open standards. Data integration requirements are being gathered at these workshops to help prepare utilities for the challenges they will face with restoration data coming in from drones, tablets and the public. Common infrastructures are being sought with the goal of creating an expandable, future-proof platform.

PRELIMINARY RESEARCH

The first e-mail was sent in 1971[1] and now over 40 years later few would have imagined that the on-line world would be as interconnected as it is today. According to a report by comScore[2], Social Media now reaches 82% of the world's online population (approximately 1.2 billion users across the globe). Prior to the three EPRI workshops, an initial examination was conducted into the utility industry's use of social media and mobile applications. The preliminary research looked at the use of social media primarily for outage management. A literature review of different journals, news articles, and approximately 160 utility company websites and social media accounts was conducted.

One industry source [3] estimates that approximately 57 million customers worldwide used social media to connect with their utilities in 2011 and by 2017 that number is expected to increase to 624 million. These statistics show that there is still tremendous opportunity to engage the customer base through social media over the next 5 years. The following section summarizes the literature review and identifies common challenges and opportunities that emerged from the research.

Uses of Social Media

The preliminary research revealed that the top three social media outlets for utilities in early 2013 were Facebook, YouTube, and Twitter. The study cited earlier echoes these findings in that the majority of respondents indicated that Facebook was the preferred service for communicating with their utility.

The most common applications (in no particular order) included outage and emergency management, education, outreach, news, job postings, and bill pay. A summary of the findings shows that the Facebook application was mostly used for education purposes, while others included outreach, and outage and emergency management. A sizeable number, 19%, of Facebook sites, though they were established had little to no content or activity as illustrated in Fig. 1. This observation reveals that a considerable number of utilities still have the opportunity to take advantage of this communications outlet. Of the 160 companies reviewed 84% had a Facebook account. The Twitter accounts were primarily used for education, though the Twitter accounts were used slightly more for outage and emergency management than the Facebook accounts. Also, 73% of the companies reviewed had a Twitter account. An inventory of mobile applications was also cataloged. The majority of mobile applications were used for outage and emergency management while the next most common application was for bill payment. Some utilities also used the mobile application for news and education. However, only 36% of the companies reviewed had a mobile application.

EPRI also conducted surveys focused on the use of mobile devices in the electric utility industry in October 2012. One survey focused on the use and deployment of mobile platforms that are internal to the utility/support utility operations, and a second survey focused on external, customer-facing uses of mobile platforms. About two thirds of about 30 responding utilities are currently using mobile devices for internal utility operations. In terms of how mobile devices are being used for field operations, the main uses currently are inspection assessment, followed by work order management, and work force deployment. The survey also asked if the utility currently provides communications/services to end customers via text messaging and downloadable applications. Close to two thirds of the 25 utilities that responded provide text messaging services or communications to their customers. For downloadable applications for customers, just over half have downloadable applications for their customers. These findings appear consistent with the literature review of mobile applications mentioned previously.

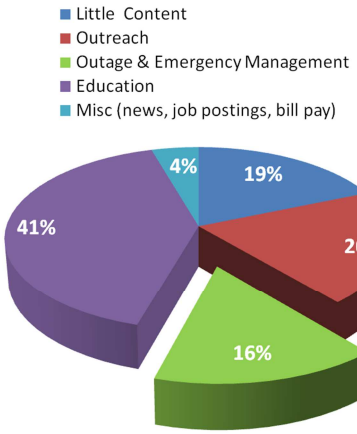

Fig. 1. Uses of Facebook at electric utilities (circa March 2013).

The research exposed some common themes that could be termed best practices. For example, defining a clear corporate strategy and objective for using social media, but being flexible with the plans as new uses make themselves known is essential.

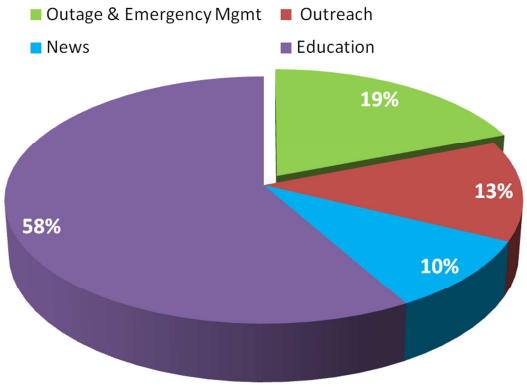

Fig. 2. Uses of Twitter at electric utilities (circa March 2013).

Being proactive by notifying customers via social media when a storm approaches in addition to letting them know how often they will be updated about the situation was viewed positively. Proactively preparing and addressing negative comments showing that the utility is active on their site can help retain customer engagement. Integration with existing communications channels is another best practice.

Knowing the audience and developing social media pages specific to certain customer groups and topics can also be helpful to gain increased participation on the sites for some utilities. Providing visuals of storm damage or related executive commentary and identifying staffing needs for this type of communication is also significant. Performing a dry run of outage and emergency management that incorporates the use of social media information could also be quite helpful.

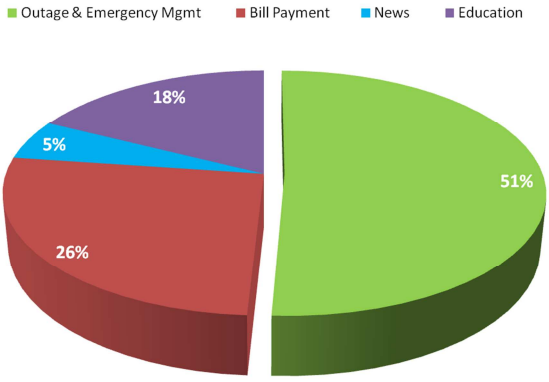

Fig. 3. Mobile Applications at electric utilities.

In addition to best practices several common opportunities and challenges were identified during the literature review as follows:

Opportunities

The ability to use social media to communicate various types of information including outage information, provide tips for saving energy, provide other educational information, community outreach, events, and safety tips, etc. varies from utility to utility. Some of the opportunities include:

- Direct two-way communication and interaction with the customer

- The ability to monitor public perception of outage restoration

- Provide timely and more accurate communications on estimated time of restoration (ETR) and outage map

Challenges

Despite the ever growing opportunities and benefits of using social media there are also risks involved regarding the cyber security aspect. A report by Dell™ [4] describes threats such as drive-by downloads, malvertising, targeted attacks, worms, and password theft. Fortunately there are preventative measures that users can take to minimize these threats such as using strong passwords, being cautious of the type of personal information that is shared online, installing anti-virus packages and keeping software up to date. Some challenges unique to the utility industry include:

- Verifying accuracy of data and outage information received through social media

- Consolidating collected outage and damage data

- Difficult to monitor website traffic during large weather events

- Associating social media accounts with customer accounts

WORKSHOP RESULTS

According to a report released by the U.S. government in August 2013[5], “Severe weather is the leading cause of power outages in the United States. Between 2003 and 2012, an estimated 679 widespread power outages occurred due to severe weather.” The report goes on to estimate the average annual cost of power outages due to severe weather to be between $18 and $33 billion per year.

As mentioned previously, three workshops were held in

New York, Texas, and California with utilities from across the U.S. to address ways to improve outage management communications.

Objectives

The objectives of the workshop were to understand and share how utilities are using customer information obtained via social media to improve situational awareness and response during extended and/or widespread outages. The workshops were also used to facilitate an understanding of the potential opportunities for customer communications and systematically integrating customer-generated data into existing utility systems (e.g., outage management, customer relationship management systems).

Issues

Several common issues arose during the workshop discussions. Management is looking for a measurable benefit for any investment in social media or building a social media team such as a positive return on investment (ROI). Therefore, it is important to tie social media to key business results, not necessarily just customer satisfaction. It was the consensus of the workshop attendees that this was critical if systems, processes, and technology were to move beyond small teams and become a cross-functional effort. Establishing a cross-functional team was the only way to maintain consistency of messaging across all communications outlets (mobile/social/web/call center) and the workshop attendees considered this extremely important. This consistancey of message was seen as especially difficult as keeping up with changing technologies can be a challenge as customers migrate to mobile platforms and social media sites while at the same time demanding more granularity of information.

Barriers

Several barriers were also echoed throughout the workshops. At least two utilities mentioned key management buy-in as a barrier to expanding the use of social media. The New York workshop attendees who experienced working through Hurricane Sandy witnessed the social media presence of their customers sky rocket directly showing the value of this form of communications to key management. The next question became: once buy-in is achieved, what are the next steps in process? In some cases a change to field work processes may be needed and getting employees to see the value in these changes can be a challenge. Cost constraints and resource needs were mentioned no less than six times as a major barrier to expanding the use of social media with the outage management systems. Integrating a mobile outage system into an existing platform requires coordination across departments especially with IT. Many utilities are also still struggling with the decision of whether to create these systems internally or use 3rd party solutions. The front end and back end communications technology to make these systems run together smoothly is also still in need of further design. Improved analytics so that the customer received meaningful estimated time to restoration (ETR) notices was also noted as being important.

Another barrier mentioned was incomplete/inaccurate damage assessments. Getting information from the field via the customer accurately and in a timely fashion is still a barrier. The safety and legal implications of customers posting content, particularly photographs, on utility social media pages was also mentioned. However, this can also be another opportunity to reinforce safety messages. Social media monitoring, response, and workflow management tools are not yet widely used by utilities. Many workshop participants mentioned the need for developing a clear strategy and guidelines for using social media and the necessity of prioritizing the company's needs with various solutions.

Key Points from the Workshops

Safety is the first priority. Keeping customers informed before, during, and after a storm is the most important mission of the social media team. To ensure that the public gets timely, accurate and consistent information, a cross-functional team needs to be utilized, not just one group. Particularly during a storm, what is on the television and radio must match what is on social media, the company website, and what is being said by field crews and customer service representatives.

To build a community of social media followers, utilities must keep followers engaged at all times, not just during storm events and continuously provide new information. To do that, once customers have opted into a channel (often during a storm), it is critical to offer/expand its use. Manage customer expectations which will vary (e.g., weather, temp, day of week, neighbors' power restored, return to work expectations).

So how does one "sell" the idea of a social media team at a utility? First, determine what kind of effort is likely to be approved. Each utility has a unique set of priorities with customer communications and the social media proposal should address the highest priorities. Next, consider the cost of scaling customer service through social media. What is the relative cost of an active social media engagement in comparison of doing less or nothing? This can be difficult to quantify but is a management requirement. Finally, build advocacy through inclusion of internal champions. Getting enthusiastic involvement is one way to grow the idea of

integrating social media with the other forms of corporate communications.

CONCLUSION

It is clear that social media has become part of the communications strategy for utilities. Use of social media is of value to utilities in reaching out to their customers, informing them of programs and opportunities to use electricity more efficiently, and to keep them up to date during emergencies. The use of social media in the outage management process is more nascent. Barriers such as positive identification of the person posting to social media and concerns about current and new security aspects are causing many utilities to tread carefully in these areas.

Fundamentally, the real questions are 1) can social media be safely, reliably, and securely integrated into a utility back office and 2) is there a business case for the use of social media in outage management or utility communications strategy in general? Both of these questions are still without definitive answers. The feedback from this research is that these questions are valuable areas for further study by EPRI.

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