Luxury hotel assessment company turns customer feedback into action using AI

Luminoso and AWS automatically extract valuable insights from customer feedback

LQA

Leading Quality Assurance, Ltd. (LQA) provides quality assurance audits, benchmarking analyses, learning programs, AI-powered insights, and action planning services to luxury hospitality brands.

With the goal of helping clients deliver better guest service, LQA pursued a more comprehensive approach to assess and frame customer feedback across all channels. The company had several challenges to address:

- **The customer feedback was text-based and largely unstructured.** Such data is difficult to analyze using standard analytics approaches. LQA needed a solution that went beyond conventional methodologies—and even its current artificial intelligence and machine learning solutions.

- **The data sources were highly varied.** Luxury hotels need to analyze how different aspects of the hotel experience affect scores across multiple types of data—guest satisfaction surveys, social media reviews, and LQA audits.

- **The data volumes can be large.** A single luxury hotel can receive thousands of customer communications daily. In addition to its own data, a hotel also needs to evaluate its competition. The solution needed to be able to scale up or down to meet demand.

"Processing customer feedback from the luxury hotel industry poses some unique challenges," explains Heath Daughtrey, Managing Director of Product Development at LQA. "The unique vocabulary and multiple languages that are a part of hospitality make it difficult to get the level of accuracy and insight that we wanted."

LUMINOSO: INTELLIGENT ANALYSIS OF UNSTRUCTURED, TEXT-BASED DATA

With Luminoso Daylight and AWS, you can extract business-critical insights from all your text-based data in minutes.

Luminoso Daylight can:

- Analyze customer feedback at scale with no human intervention.
- Work seamlessly with AWS solutions including Amazon S3, Amazon EMR, and Amazon Redshift.
- Operate with a variety of independent software vendor solutions available in AWS Marketplace, such as Apache Hadoop.

CHALLENGE

LQA, a luxury hotel assessment company that helps clients understand their guests, needed an easy way to extract valuable insights from customer feedback. The company wanted to increase the accuracy of these insights, regardless of scale, and without in-house data science expertise or months of setup.

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LQA turns to Luminoso running on AWS

To address its challenges, LQA sought out Luminoso Technologies and Amazon Web Services (AWS). Luminoso Daylight's foundation in machine learning and natural language understanding allowed LQA to quickly and more accurately analyze customer feedback. Luminoso Daylight works with a broad variety of AWS services to meet the requirements of customer feedback analysis projects.

These include customer support and survey platforms such as Amazon Connect, and data staging services such as Amazon Redshift and Amazon RDS. Luminoso Daylight also works with other popular data storage, data analysis, and customer relationship management (CRM) solutions available in AWS Marketplace.

Using Luminoso Daylight, LQA began processing and analyzing its clients' unstructured, text-based data in five phases:

1 LQA uploaded a broad variety of customer feedback into Luminoso Daylight. This can be done through the user interface or in real time using APIs. The types of data can include open-ended survey responses, social media reviews, LQA hotel assessments, support tickets, articles, emails, service or product reviews, net promoter score (NPS) open-ends, and call or chatbot transcripts.

2 Luminoso Daylight parsed the text using natural language processing (NLP) to identify how often relevant concepts appeared in the data.

3 Luminoso Daylight augmented this input with a blend of semantic networks to pick out the underlying vocabulary that can be challenging to understand, especially when they refer to contextually unique concepts such as restaurant names and service offerings. Luminoso Daylight learns new words in the same way humans do: through context.

SOLUTION

LQA implemented a machine learning solution that automatically extracts top themes and important concepts from unstructured, text-based customer feedback. The solution needed just 1/1000th of the data typically required for such projects, necessitated no human-supervised tuning, and yielded accurate insights with the power to improve business outcomes.

RESULTS

- Analyze customer feedback in minutes.
- Extract top themes and priorities without human intervention.
- Identify critical issues or friction points and track them over time.
- Address customer feedback through solutions that resolve issues raised in the data.
- Prioritize tasks among scarce resources more efficiently, improving custom service delivery.

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4 In under 10 minutes, Luminoso Daylight began analyzing the data. This analysis, which can be initiated through the user interface or API, included:

- **Theme identification** to surface key topics and concepts.
- **Trend analysis** to uncover and monitor trends over time.
- **Emotion analysis** to detect nuances in sentiment and their root causes.
- **Key differences analysis** to identify differences across metadata.

5 Once the analysis was completed, Luminoso Daylight was ready to generate output viewable in a number of ways, such as using Luminoso Dashboards or other data visualization tools.

Luminoso Daylight uses semantic networks to identify, learn, and expand its understanding of language within a given context.

Luminoso Daylight was able to extract the underlying concepts—including vocabulary unique to the hotel and hospitality industry—to quantify what people were really talking about using the LQA framework.

LQA could now view the data output through a number of lenses:

- Root drivers of customer satisfaction and NPS scores
- Churn and retention analysis
- Brand monitoring and competitor set analysis
- Issue detection and monitoring

The benefits for LQA

Using the output it receives from Luminoso Daylight on AWS, LQA now has the ability to run regression analyses on how people talk about luxury hotels in both guest surveys and social media. These analyses provide LQA with scientific and quantifiable score drivers that activate the service/profit chain for its hospitality clients. Clients are able to:

- Take action on these insights.
- Elevate the guest experience.
- Generate economic impact for the hotel and the brand.

> "We're getting more accurate analysis fast using less data and without the need for a lot of data science expertise. Plus, it ties in with all of our AWS subscriptions. Luminoso has given us the ability to listen to our clients' customers and prioritize the areas that offer the greatest improvement in guest satisfaction without the need for human intervention or training."

Heath Daughtrey
Managing Director of Product Development
LQA

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With Luminoso Daylight, LQA brings to the Hospitality industry a new capability to quantify customer feedback. As a result, LQA's hospitality customers have become more profitable, and more effective in their decision-making.

What's more, going forward, LQA and its clients can process and understand customer feedback without data scientists, hand-picked keyword lists, or months of manual training. They can now analyze customer feedback in minutes, not months.
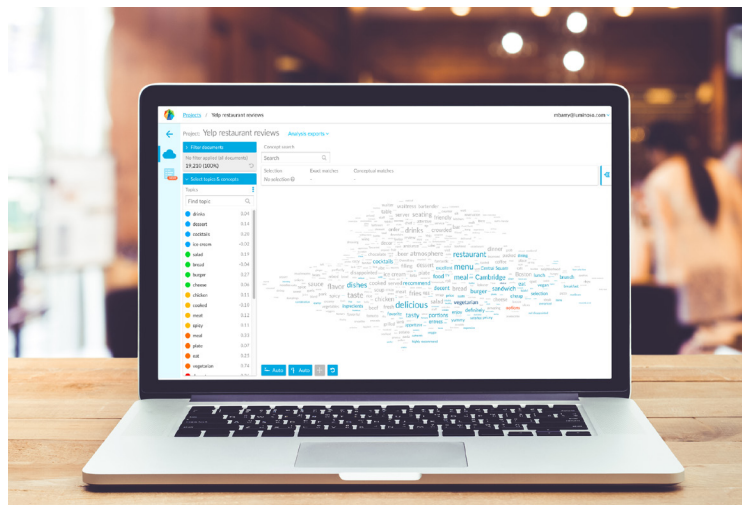
Luminoso helped LQA:

- Extract actionable insights from their client's customer feedback.
- Identify and resolve the most impactful customer feedback.
- Discover trending topics to proactively address customer interests.
- Evaluate feedback in 14 different languages.

LUMINOSO DAYLIGHT: INTELLIGENT CUSTOMER SATISFACTION ANALYSIS USING MACHINE LEARNING

Luminoso Daylight automatically analyzes all of your feedback so you can discover hot topics, identify top complaints, and track critical trends over time.

- Cut costs through automation of customer research.
- Reduce product time to market.
- Increase net profits through improved NPS.
- Detect defects faster.

ABOUT LUMINOSO

Luminoso Technologies is an artificial intelligence (AI) and natural language understanding (NLU) company that enables companies to rapidly discover value in unstructured data. Luminoso's award-winning software applies AI to accurately analyze text-based data, from any industry, without lengthy setup time or training. Luminoso can analyze unstructured data natively in 14 languages, including English, Chinese, Korean, Japanese, and most European languages. Companies use the insights that Luminoso's solutions uncover to streamline contact center processes, monitor brand perception, and optimize the customer experience. The company is privately held and headquartered in Cambridge, MA. Learn more about Luminoso for AWS.

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