

CASE STUDY

ACTIONABLE INSIGHTS TO BRAND TEAMS THROUGH TEXT MINING AND SENTIMENT ANALYSIS – GLOBAL TOP 5 PHARMA

ANALYZING UNSTRUCTURED CALL NOTES TO UNCOVER PHYSICIANS' INSIGHTS AND SENTIMENTS, AND HOW COMMUNICATION STRATEGY AFFECTS THEM



INTRODUCTION

The role of the medical affairs team at pharmaceutical organizations has been evolving over the years. Medical science liaisons (MSLs) communicate between stakeholders on two sides: physicians, researchers, and other key opinion leaders (KOLs) on one, and drugmakers – who are their employers – on the other. They disseminate information from the companies and bring feedback and thoughts from KOLs. The discussions of MSLs with KOLs have far-reaching effects on individual patients who gain more treatment opportunities because of these conversations. MSLs can bring back important insights that drive data generation strategies for their companies to address unmet patient needs.

MSLs are well-positioned to gather insights from the field that can be used to develop research strategies, medical communications, medical plans, brand plans, launch plans, and materials.

Continuing to deliver information on drugs with scientific integrity, but also taking the time to understand the healthcare professional's (HCP's) reactions and beliefs help the MSL provide HCPs with the information they need to ensure that the education is thorough.

Sales forces also connect the pharmaceutical industry and healthcare providers by introducing their prospects to innovative therapies and industry trends. Sales rep call feedback can also be used to gather customer insights and sentiments to facilitate the sales rep and HCP interaction, ultimately leading to better patient outcomes.

However, the value of MSLs and sales reps won't be fully realized until pharmaceutical companies have established systems in place. Field teams, including sales reps and MSLs, are empowered when they fully understand the information at their fingertips.

Text mining and sentiment analysis can provide interesting insights when used to analyze free-form text such as MSL and sales rep call notes. Text mining is the process of exploring and analyzing large amounts of unstructured text data aided by software that can identify concepts, patterns, topics, keywords, and other attributes in the data. Key phrases extracted from text sources are useful to identify common topics and themes. Further, sentiment scores provide a way to perform quantitative analysis on text data. Sentiment analysis mines text from data sources to identify common threads that point to customers' feelings. Combining these techniques, using visually engaging dashboards can help unlock the value of call notes.

This case study illustrates how Atria helped a top 5 global pharmaceutical client gather insights on content and sentiment from analysis of the unstructured data captured in the form of call notes.



BUSINESS SCENARIO

A top global pharmaceutical company wanted to analyze sales rep and MSL call notes pertaining to its breast cancer brands. These notes were in its database and were not being used. The company wanted to structure and understand the content of the notes and identify the physicians' sentiments (positive or neutral) to gather insights for the brand teams.

The objectives of the study were:

- Provide actionable insights to help drive decisions for the brand teams
- Demonstrate the value of these insights and encourage data collection across other countries
- Create a dashboard template to track and compare the statistics

AXTRIA'S APPROACH

Axtria followed a **two-phased approach**:

- Phase 1: Conducted exploratory data analysis and developed an initial sentiment model using call notes in the UK. Two breast cancer brands were prioritized for this phase.
- Phase 2: Developed an additional model for content, analyzed rep and MSL call notes, and expanded the analysis to four countries.

The following key steps were followed:



Three thousand notes from four countries and two brands were analyzed. Data cleaning involved decoding and homogenizing. Content categories were created using common keywords to identify key discussion areas such as safety issues/adverse events, patient survival, clinical trials, company's drugs, competitors, etc.



The Latent Dirichlet Allocation (LDA) technique was used to classify words in the notes into overlapping topics without user intervention.



Bidirectional Encoder Representations from Transformers (BERT) methodology was used to determine and predict customer sentiments.

Key Deliverables

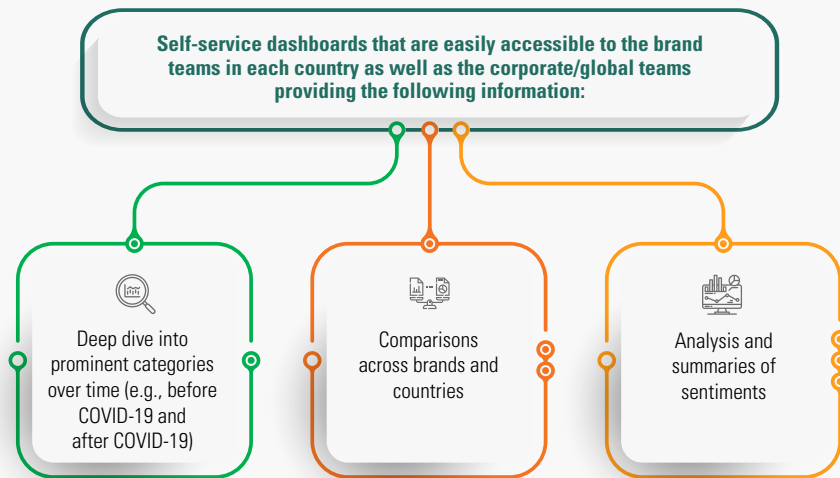


Figure 1: Dashboard – Global View

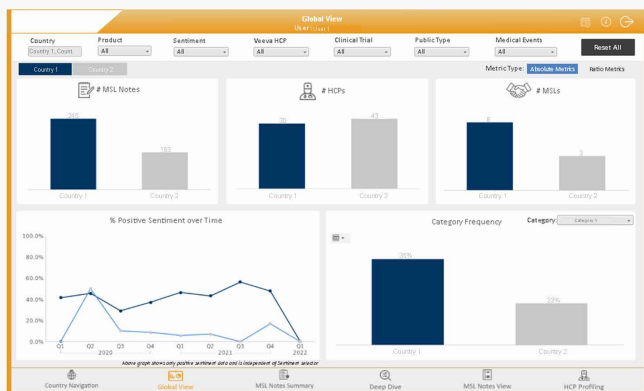


Figure 2: Dashboard – MSL Notes Summary View

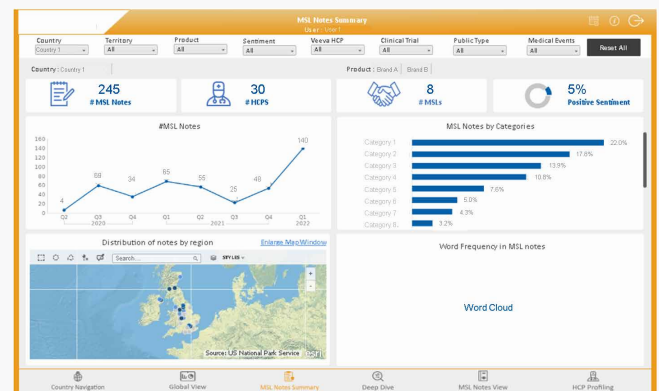


Figure 3: Dashboard – Deep Dive

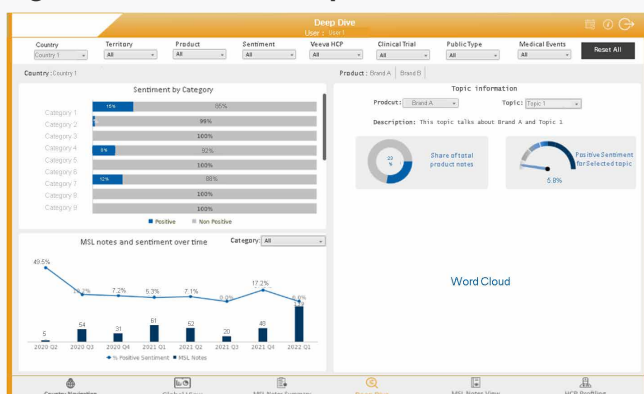
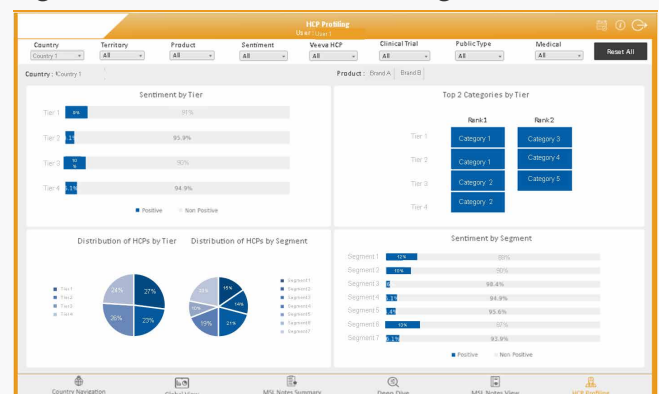


Figure 4: Dashboard – HCP Profiling





KEY TAKEAWAYS

Analysis of the call notes provided the following benefits to the client:

Demonstrate the value of the call notes:

The call notes provide insights into the market landscape and reflect physicians' opinions, not just behaviors. They are readily and internally available and are current.

Early insights for the brand teams:

Insights into the effect of the company's communication strategy can be gained through the call notes.

Scalability:

The analysis can be scaled up for multiple countries and multiple brands (covering various disease areas) with minor effort.

CONCLUSION

Pharmaceutical organizations are starting to understand the true value of field teams. They bring relevant, timely, and actionable insights to an organization with the ultimate objective of helping the right patients gain access to the right drugs. Organizations that invest in data collection, curation, management, and analysis can help their field teams succeed when communicating information and collecting it.

Text mining and sentiment analysis of call notes enable pharmaceutical organizations to unlock the hidden value in data sources to drive their commercial strategy and meet unmet patient needs. Axtria's team of experts can help you understand MSL and sales rep call notes to provide physician insights and sentiments to ultimately help you improve patient outcomes.

Learn More about Axtria's Research & Development Services

Founded in 2010, Axtria is a global provider of cloud software and data analytics to the life sciences industry. We help life sciences companies transform the product commercialization journey to drive sales growth and improve healthcare outcomes for patients. We continue to leapfrog competition with platforms that deploy artificial intelligence and machine learning. Our cloud-based platforms - Axtria DataMax™, Axtria SalesIQ™, Axtria InsightsMAX™, Axtria CustomerIQ™ - enable customers to efficiently manage data, leverage data science to deliver insights for sales and marketing planning, and manage end-to-end commercial operations. We help customers in the complete journey from data to insights to operations.

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