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Works

GE Life sciences

Social listening for scientists

Agency: Bottom-Line Analytics

The first cross-industry collaboration between



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Market context

GE customers cover the entire life science spectrum from organisations involved in the initial drug discovery to clinical trials and the application process, to large manufacturers of the approved product.

Typically, the scientific purchase journey starts with the recognition of the need for a drug. Scientists will then confirm this need, and research available options. They will then select potential solutions, evaluate these, and choose what they believe to be the most suitable. After purchase, scientists will report on their experience of a purchase and feed this back into the purchasing loop.

In recent years, GE's customers have been devoting more time to the earlier exploration and research phases of the buying journey, and thus delaying conversations with suppliers.

Historically, GE's Life Sciences digital team has focused on creating collateral and brochures related to the later evaluation, purchase and use stages of the customer journey.

However, the market's changing dynamic made it important for GE to provide its customers with trusted content relevant to earlier recognition, evaluation and research stages. It was thus critical to understand as well as possible what scientists were talking about in this area, where they were holding social or online conversations, and the terms they were using in these discussions.

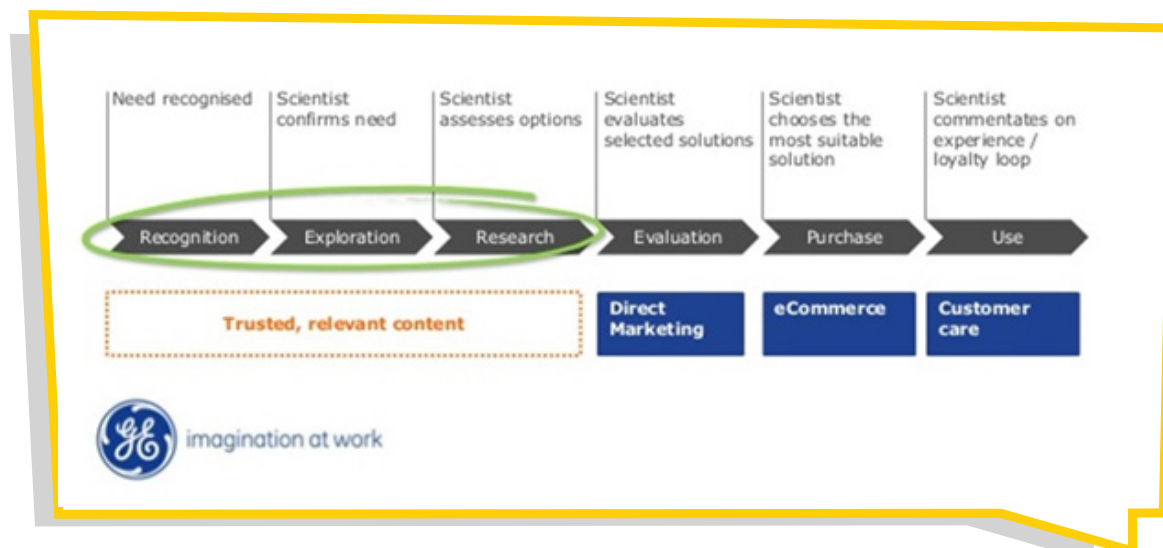


Fig 1: The scientific buying process at GE Life Sciences

Business/marketing objectives

Our initial brief covered the area of protein purification. Protein purification is a series of processes used to isolate one or a few proteins from a complex mixture, usually comprising cells, tissues or whole organisms. It is a vital process in drug discovery, medicinal treatments and product development across the life sciences sector.

Our objectives were to:

- Listen on social and digital platforms to scientific discourse around protein purification
- Size, scale and trend key themes and topics related to protein purification
- Generate actionable insights that editorial contributors to GE Life Sciences could use to create digital content that resonated with an audience of researchers and doctoral students working within laboratories.

Research implementation

From unstructured corpus to content applications

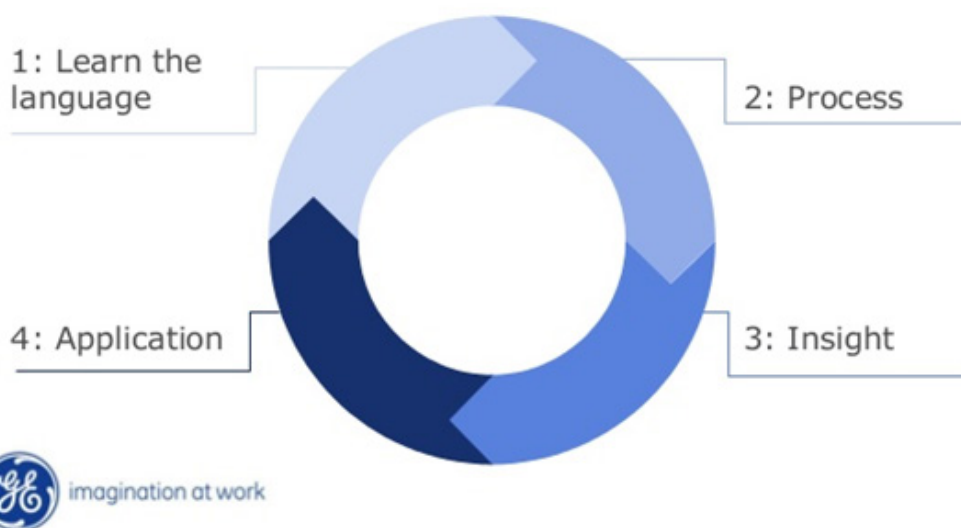


Fig 2: A four-stage model was used to meet the brief

The initial stage was to **understand the language** used by customers when discussing protein purification.

We worked with GE's teams in sales, customer care, marketing and R&D on a workshop and card sorting exercise to collate insights from internal specialists and stakeholders on the terms and language used by customers in this area.

We then structured this language into recurring themes, such as "type of protein" and "purification-related terms", and the topics that could be grouped under these themes.

The second stage was to **capture the volume, channels used and trends** that characterised scientists' discourse around protein purification.

This involved desk research by GE to highlight the platforms most used by its target audiences; these platforms typically ranged from Twitter to blogs and specialist forums.

Employing a list of platforms and key search terms used by target customers – with advice from GE – the team then used a social media listening tool to identify relevant social conversations and recognise patterns within them.

Typically, this involved logging the channel and date of related conversations which involved key topics (e.g. 'protein purification', 'recombinant'), and then applying language rules to these instances, such as the proximity of key terms and any lexical co-occurrences. (Lexical co-occurrences are the above-chance frequency of words appearing in a certain order in a body of text, which suggests the interdependency of these terms).

The body of text was cleaned of spam words, non-words and those with multiple meanings.

From an initial number of approximately 500,000 protein-related comments, the number of relevant discussions for Protein Purification was just over 48,000. After cleaning, the number of discussions to analyse fell to about 38,000.

Conversations were divided into two different time periods (Dec 2012 – Nov 2013, and Dec 2013–Nov 2014), and also segmented into those that developed close to laboratories and those which took place outside of the laboratory.

The **insight** stage of the process encompassed sizing the volume of discussion of themes, calculating any change in this volume over the previous year, and showing the relative scale of discussions.

Discussions were also clustered by theme. It was evident early on that discussions fell into those that were process-related and those that were treatment-related, and this was fine-tuned with input from GE colleagues. The project team also analysed the relative importance of different channels in discussions.

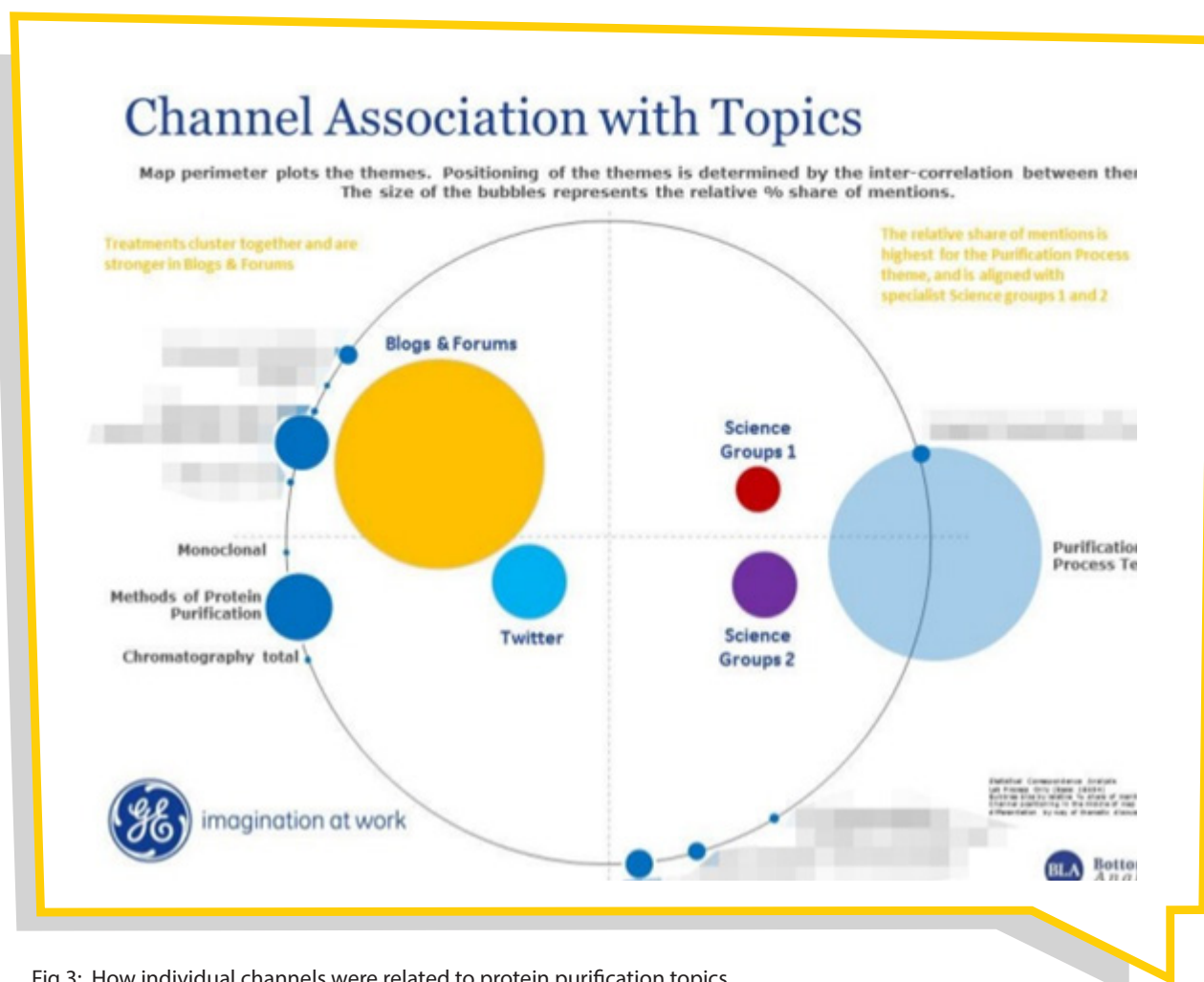


Fig 3: How individual channels were related to protein purification topics

Analysis showed how discussions of individual topics were more or less prominent in different channels and among different audiences.

The above Radial Landscape Map (Fig 3) illustrated this analysis. The size of bubbles reflected the relative percentage share of mentions of terms and channels by target audiences.

For instance, terms related to the purification process accounted for the largest share of mentions, and these were closely aligned to specialist science groups. Terms about treatments tended to cluster together and had a stronger presence on blogs, forums and Twitter.

The final stage of the process was the application of insights from the research work. This was used directly to guide the creation of scientific content by the GE Life Sciences team to make it more relevant to customers spending more time researching and evaluating solutions. It was also applied indirectly to advise on the revision of the taxonomy used on GE's Life Sciences website, and to highlight key search terms and shape the SEO keyword management used by GE Life Sciences.

Insights summary

This work tackled a large body of chaotic, unstructured text across social and digital platforms, cleaned it of slang and noise, and turned it into structured analysis and actionable insights.

It enabled GE Life Sciences to identify the key trends and language used by customers, test internal assumptions about its target audiences, and to align GE's content and website with the findings of the research.

Dimithri Wignarajah, Head of Social & Content at GE Healthcare Life Sciences, commented:

"What really impressed me was the approach the team took to understanding our business, and customers, so as to best interpret the data."

"Each stage of their process yielded value to us, from working with their enthusiastic social team to set up the tool, filtering out the slang and the noise, to identifying trends and language. For a complex and niche market like ours, having the data and confidence to make connections and validate our assumptions was great."

Key learnings

- Social listening can be used to analyse and respond to complex specialist markets, such as Life Sciences, as well as in consumer markets
- Working closely with the client's team can refine the vocabulary used in social listening and in the subsequent analysis of online conversations
- Cleaning unstructured text of 'noise' and 'spam' is likely to reduce considerably the volume of text examined in the analysis phase
- Social listening insights can be applied widely from direct content creation and website vocabulary to SEO keyword strategy.

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