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Quant Lens

Has Sentiment Returned to Normal?

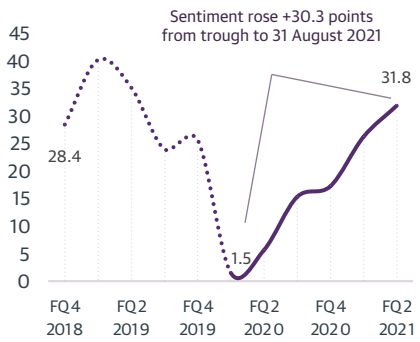
Iridium Quant Lens: AI-powered Earnings Call Analysis

September 2021

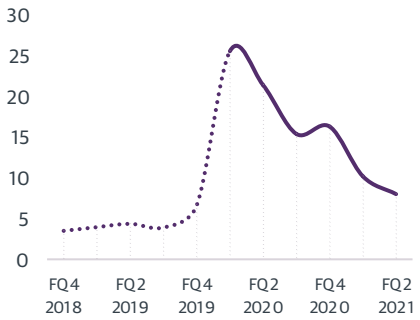
Iridium Quant Lens

Market Sentiment Indicates Return to Normal as Covid Fears Subside in Quarterly Earnings Calls

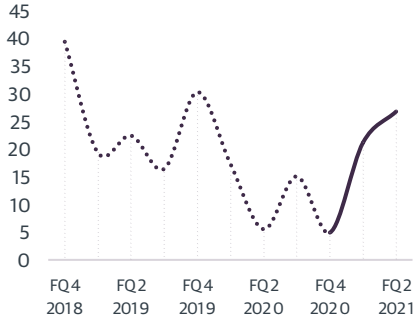
GCC Earnings Call Sentiment



Covid-Related Language



Management Sentiment Bias



Iridium Quant Lens decodes Earnings Calls language

The Iridium Quant Lens NLP algorithms quantify the language used during earnings calls. We introduced this data science last year (see: Sentiment Quantified) to explore sentiment trends in the immediate aftermath of the pandemic. In this report, we revisit this topic to investigate how sentiment trends for GCC listed companies have evolved. For this quarter, we analyzed earnings calls from 1 July to 31 August 2021 (FQ2 2021) for 80 listed companies, representing 73% of the GCC's total market capitalization.

What is management telling us?

Net sentiment, the difference between positive and negative language used during earnings calls, is now back to a level prevailing in 2019, having climbed for five consecutive quarters from its all-time low of 1Q 2020, when the pandemic was at its most disruptive.

The improvement in sentiment was widespread across all GCC countries during the last year, with the most remarkable recovery in Saudi Arabia, followed by the United Arab Emirates, where sentiment now stands at its highest point since 2015.

The rebound in sentiment coincides with a sharp reduction in the number of mentions of Covid and other health-related words in earnings calls and undoubtedly reflects improving corporate profitability as well as the recovery seen in regional equity markets.

On an industry basis, sentiment also improved across all sectors, albeit with more variability in the overall rate of improvement. Sentiment rebounded the most in the Financials, Real Estate and Materials sectors.

By contrast, the Industrials, Consumer Discretionary and Energy sectors were more muted in their recovery, a potential indication of the ongoing impact of covid on these sectors.

Is management sentiment racing ahead of analyst and investors?

While the market welcomes the continued rise in sentiment, there is an elevated risk that companies could fall back into the old habit of becoming "over-bullish", a factor revealed by measuring management's "Sentiment Bias". This measure tracks the difference in sentiment between the language used in management presentations and the Q&A sessions with analysts and investors. Sentiment Bias declined during the onset of Covid in early 2020 as management teams generally took a more sobering and realistic view but has increased rapidly since the fourth quarter of 2020 from 5 to 27 points. This indicates that management positivity has raced ahead of the analyst and investor community.

High sentiment bias could be a warning sign: Left unchecked, an imbalance between what management says and how investors interpret that sentiment could damage management credibility and reputation and a fall in the market's trust in the company, sector, or country.

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Throughout this report, we refer to "FQ" as the Fiscal Results Reporting Period after the close of a quarter. For example, FQ2 2021 refers to the earnings cycle that discussed second quarter results between 1 July and 31 August 2021.

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Introduction

"Iridium advances the science and practice of investor relations to help organizations and leaders unlock their potential."

Oliver Schutzmann, CEO

Decoding management language

Senior management of listed companies conduct Earnings Calls to engage with analysts and investors, inform on the latest financial results, give earnings guidance and provide 'color' on strategy and value drivers - all with the intention to offer meaningful insights on past performance as well as a glimpse of the company's future.

In their never-ending quest for alpha, analysts and investors scrutinize the market-moving management language used in Earnings Calls for any evidence that would confirm or discredit their investment opinion about those companies. The problem with this traditionally instinctive approach to listening in on Earnings Calls and forming an opinion of management is that the analysis is entirely subjective, time-consuming and impossible for humans to do at scale.

Consequently, analysts and investors are increasingly using a new prism through which they view the information contained in management presentations that converts their instinct into real data. The technology of Natural Language Processing (NLP) enables them to consume and analyze millions of words and numbers for additional clues about management sentiment, confidence, clarity and credibility in minutes instead of days.

In August 2020, we launched the Iridium Quant Lens NLP platform which analyses and aggregates Earnings Call transcripts to determine language sentiment, confidence and certainty. Using these NLP algorithms, we published aggregate sentiment trends across the Gulf region as well as for individual countries and industries, particularly within the context of Covid-19. We then used this data to show how divergences between management and its audience can be quantified on a stock-specific level.

In this report, we now take another look at how sentiment trends have evolved over the last year for GCC companies.

Big Picture Trends

As Covid Fears Subside, Management Sentiment Returns to Normal Levels Last Seen in 2019

Usage of Covid-19 & Health related words increased exponentially in FQ1 2020 but has steadily abated since then

At the onset of the Coronavirus pandemic in the first fiscal quarter of 2020 (FQ1 2020), the number of Covid-19 and Health related words expressed in company earnings calls rose exponentially from their historic usage, increasing to 26 average mentions per call compared to 4 mentions historically.

However, the number of mentions has been steadily declining since this peak, in both the management presentation and the question-and-answer sections of the calls to only 8 mentions per call in FQ2 2021 (between 1 July and 31 August 2021). This clearly indicates that management teams have adjusted to the new environment and that analysts and investors have increasingly moved away from this theme.

Exhibit 1: Trend in Covid-19 and Health Related Words

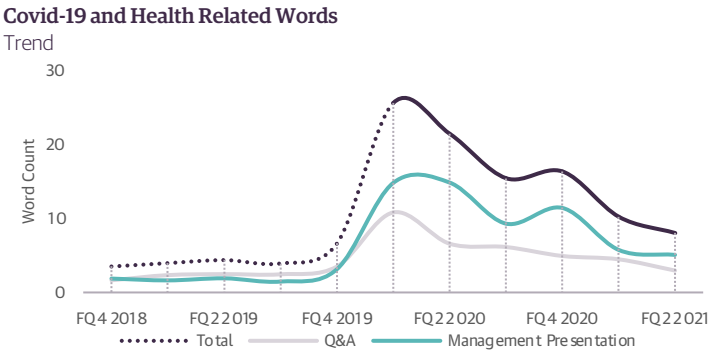


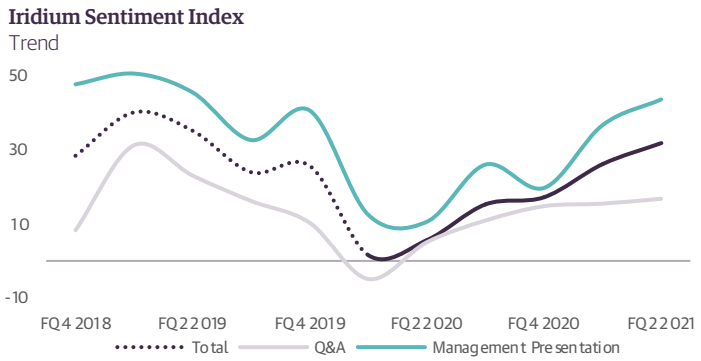
Exhibit 2: Covid-19 & Health word cloud during 2021 to date

FQ = Fiscal Results Reporting Quarter (e.g. FQ2 2021 = calls conducted during period 1 July to 15 August 2021 covering financial results for fiscal quarter 2Q 2021)

Recovery in sentiment in FQ2 2021 to +31.8 and above average 2019 levels

Furthermore, as Covid fears steadily subsided, overall sentiment of language expressed during earnings calls markedly improved, with the Iridium Sentiment Index reaching +31.8 points in FQ2 2021 from the trough of +1.5 points in FQ1 2021 and above the average sentiment during 2019 of 31.2 points.

Exhibit 3: GCC Sentiment Trend



Sentiment is correlated to overall market movements and profitability

As shown in Exhibits 4 and 5, this rebound in corporate sentiment also reflects improving corporate profitability (i.e., total net profit for all Gulf-listed companies for each earnings cycle) as well as recovery in equity markets ((i.e., the average MSCI GCC Index during each calendar quarter).

Exhibit 4: Iridium Sentiment Index vs. MSCI GCC Index

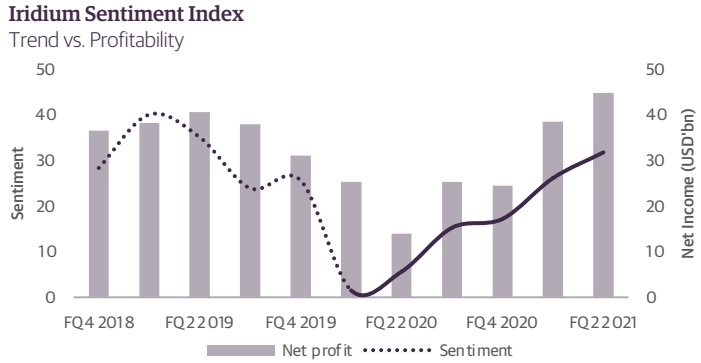
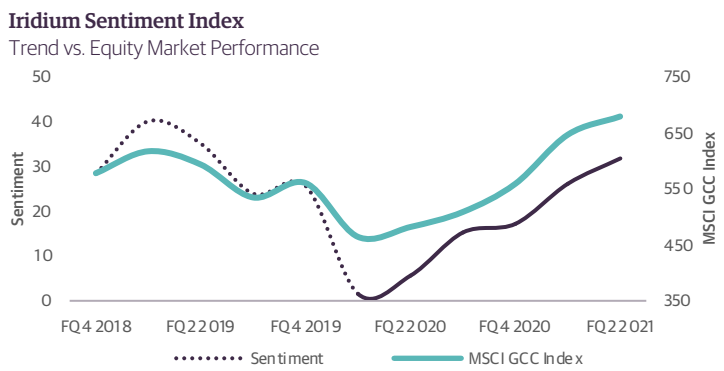


Exhibit 5: Iridium Sentiment Index vs. GCC Companies Net Profit

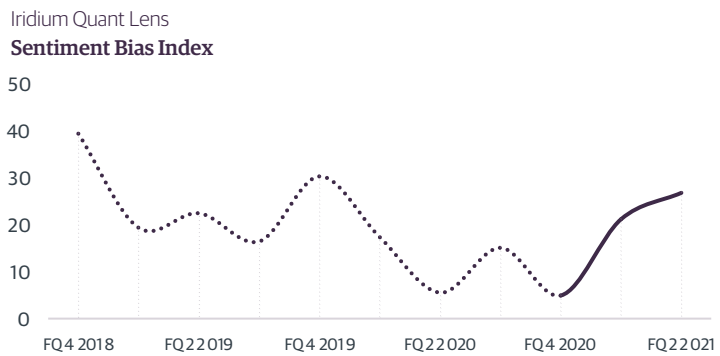


Sentiment bias has however increased rapidly in recent quarters

While this surge in confidence is to be welcomed, there is a risk that companies can become over-bullish, a factor that is revealed in the "Sentiment Bias" measure. This measure tracks the difference in sentiment between the language used in management presentations and the question-and-answer sessions with analysts and investors.

As illustrated in Exhibit 6 below, this Sentiment Bias declined during the onset of Covid in FQ1 2020 as management teams generally took a sobering and realistic view of the disruption caused by the pandemic. However, bias has increased rapidly since the fourth quarter of 2020, indicating that management positivity has raced ahead of the analyst and investor community.

Exhibit 6: GCC Sentiment Bias Trend



While sentiment bias is still within previous peaks seen in FQ4 2019 and FQ4 2018, this should be a warning sign for management: Left unchecked, an imbalance between what management says, and how investors interpret that sentiment, could result in damage to management credibility and reputation, and a fall in the market's trust in the company.

Country Trends

Sentiment recovery was widespread across the GCC

Sentiment improvement since 1H 2020 was widespread across GCC countries

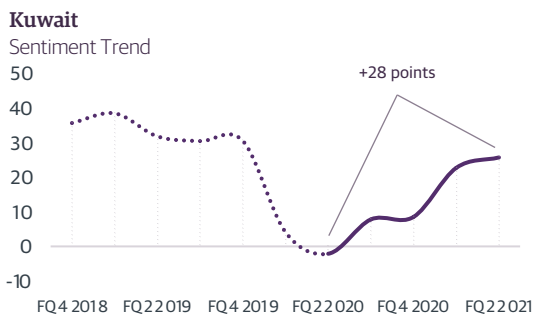
At the height of Covid disruption during the first half of 2020, the associated decline in earnings call sentiment was widespread and felt almost equally across all GCC countries. In similar vein, the rebound in sentiment thereafter was also widespread.

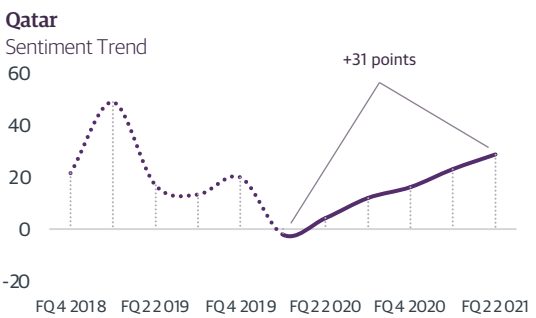
Saudi Arabia improved the most, followed by UAE

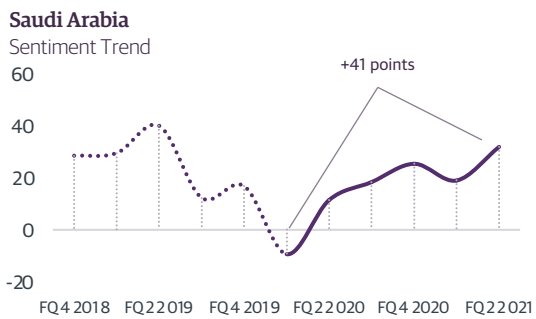
Compared to their respective troughs in the first half of 2020, sentiment in Saudi Arabia recovered the most, by 41 points, followed by a 38-point improvement in the United Arab Emirates, a 31-point rise in Qatar and an improvement in Kuwait of 28 points. Notably, sentiment in all countries except Kuwait are now above sentiment levels prevailing during 2019 on average.

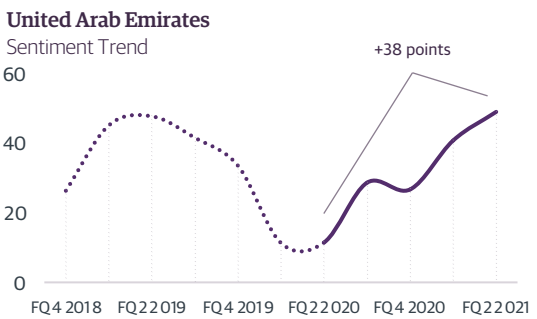
Exhibit 7: Sentiment Trends for selected countries

Country	FQ1 2020	FQ2 2020	FQ1 2021	Δ	FQ2 2021	Δ vs. trough in 1H 2021
Kuwait	4	-2	23	+3	26	+28
Qatar	-2	4	23	+6	29	+31
Saudi Arabia	-9	11	19	+13	32	+41
United Arab Emirates	11	11	41	+8	49	+38
Grand Total	2	6	26	+6	32	+30









Industry Trends

Widespread recovery across industry sectors, albeit with greater variability

Sentiment improvement also widespread, albeit with greater variability

The improvement in sentiment following the pandemic was also widespread across different industry sectors, albeit with some variability quarter-to-quarter and in the overall rate of recovery.

Financials, Real Estate and Materials had the most notable recoveries

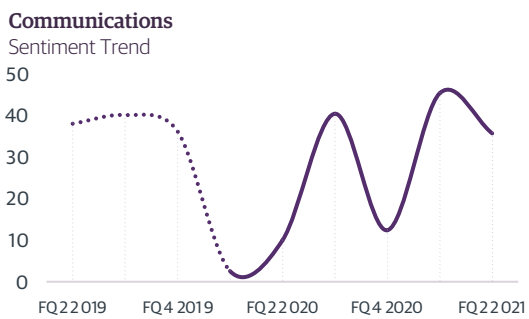
The sectors with the most notable recoveries were the Financials, Real Estate and Materials sectors. These sectors were heavily impacted during the pandemic and have now recovered to their pre-covid levels or above.

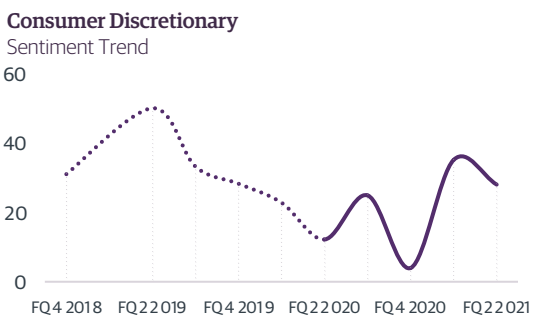
Industrials, Consumer Discretionary and Energy with least improved sentiment

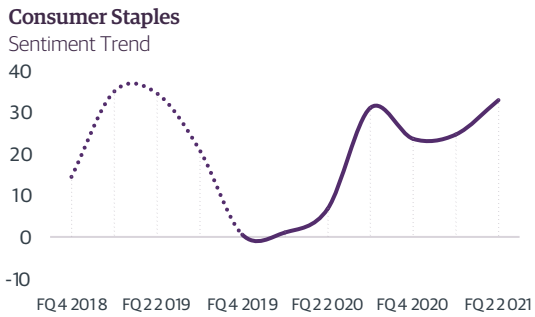
Sentiment for the Industrials, Consumer Discretionary and Energy sectors were more muted in their recovery, potentially an indication of the ongoing impact of Covid on these sectors.

Exhibit 8: Sentiment Trends for selected sectors

Sector	FQ1 2020	FQ2 2020	FQ1 2021	Δ	FQ2 2021	Δ vs. trough in 1H 2021
Communication Services	3	10	45	+14	36	+33
Consumer Discretionary	23	12	35	-7	28	+16
Consumer Staples	1	7	25	+8	33	+32
Energy	4	12	28	-1	27	+22
Financials	2	7	31	+9	40	+38
Industrials	10	13	10	+8	18	+8
Materials	-18	-8	9	+7	16	+35
Real Estate	-2	-12	23	+2	25	+37
Grand Total	2	6	26	+6	32	+30







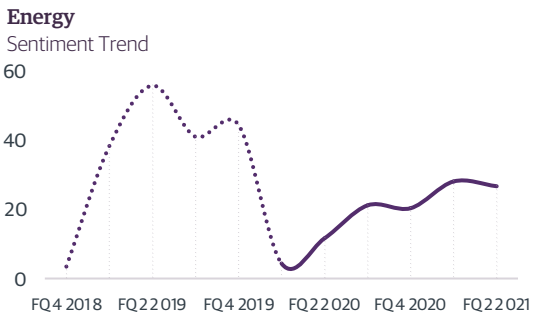
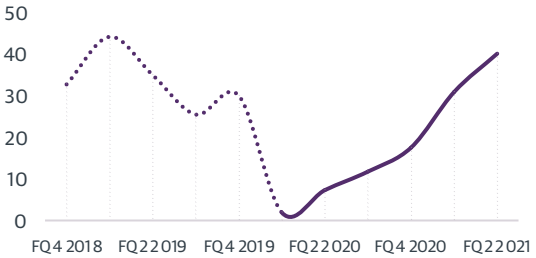


Exhibit 8 (continued): Sentiment Trends for selected sectors

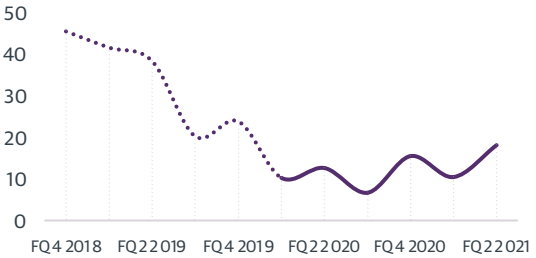
Financials

Sentiment Trend



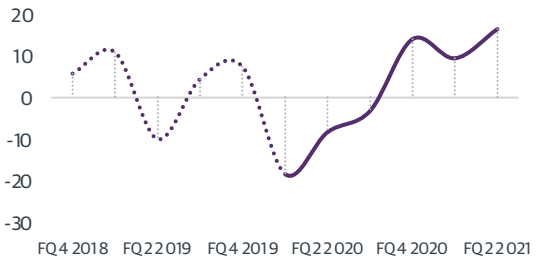
Industrials

Sentiment Trend



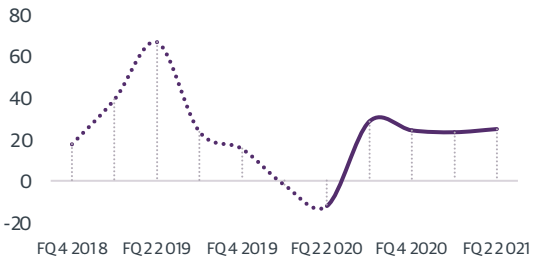
Materials

Sentiment Trend



Real Estate

Sentiment Trend



Quick Overview

What is Iridium Quant Lens NLP and how do we use it?

Iridium Quant Lens NLP algorithms automate earnings call analysis by quantifying language at a scale and speed that is impossible to replicate by the human brain (see Exhibit 9 below; further explained in the methodology on page 13).

To date, we have processed over 4.6 million words from 871 earnings call transcripts of listed companies across eight stock exchanges in the GCC region (Exhibit 10) since 2015. The NLP algorithms generate unbiased insights from the sentiment expressed by management, analysts and investors, the language complexity used, as well as the number of financial metrics conferred during earnings calls, and cross-correlate the results to earnings surprises.

Throughout this report, we refer to "FQ" as the Fiscal Results Reporting Period after the close of the quarter, e.g. FQ2 2021 refers to the earnings cycle that discusses second quarter results between 1 July and 30 August 2021.

Exhibit 9: Illustrative approach to converting qualitative text into quantitative data

Exhibit 10: Iridium Quant Lens NLP analyzed 4.6 million words from 871 earnings call transcripts since 2015

	Section			Earnings Surprise			
	Management Presentation	Q&A Session	All Sections	Beat	Inline	Miss	Unknown*
Number of Transcripts	871	871	871	219	65	236	351
Total Number of Words	1,861,746	2,764,876	4,626,622	1,316,343	402,203	1,451,941	1,456,135
Total Number of Sentences	92,653	164,921	257,574	28,759	8,548	29,651	31,236
Average Number of Words	2,224	3,401	5,625	6,011	6,188	6,152	4,149
Average Number of Numbers	72	47	119	131	132	126	89
Average Number of Sentences	110	200	311	334	338	332	240
Word Sentiment	35	13	24	27	31	18	19
Word Confidence	52	23	34	31	34	33	37
Word Certainty	68	40	52	51	52	50	55
Language complexity	7.9	6.3	7.1	7.1	7.3	7.3	6.8

*Unknown due to no consensus being available

Sentiment Quantified

Definitions of NLP and sentiment analysis

Natural Language Processing

Natural language processing (NLP) is a subfield of artificial intelligence concerned with the interactions between computers and human (natural) languages, in particular how to program computers to process and analyze large amounts of natural language data. The ultimate objective of NLP is to read, decipher, comprehend, and make sense of human languages in a manner that generates valuable insights. Most NLP techniques rely on statistical machine learning algorithms to derive meaning from unstructured text data.

Sentiment Analysis

Sentiment analysis refers to the use of natural language processing, text analysis, computational linguistics, and statistical machine learning to systematically identify, extract, quantify, and study behavioral patterns and subjective information. In the context of management earnings calls, sentiment analysis aims to identify hidden truths, emotions and idiosyncrasies behind the commentaries of CEOs and CFOs, and the answers they provide to questions asked by analysts and investors.

Use Cases

These techniques are already in use at many financial institutions today, including Blackrock, Fidelity, Goldman Sachs, JP Morgan (to name a few), and an ever-increasing amount of academic papers, quantitative research, as well as AI platforms, products and services have emerged in recent years.

Specifically, research analysts and institutional investors use NLP algorithms to uncover subliminal indicators to help confirm or discredit their opinion and view of management credibility, or their investment thesis, or to predict a company's future share price performance.

The analysis of 'hidden' sentiment in earnings calls is of course not a new concept as these have long been judged by analysts and investors the old-fashioned way, by listening to, and forming an opinion of, senior management.

The rise of artificial intelligence and computational power, combined with the exponential availability of unstructured data, enables quantification of sentiment indicators at a scale and speed impossible to replicate by the human brain.

Methodology

Iridium Quant Lens NLP algorithm

Approach

Iridium used natural language processing techniques to analyze earnings call transcripts of listed companies in the six countries of the Arabian Gulf region (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates). The methodology we employed is illustrated in Exhibit 11 and explained below in further detail.

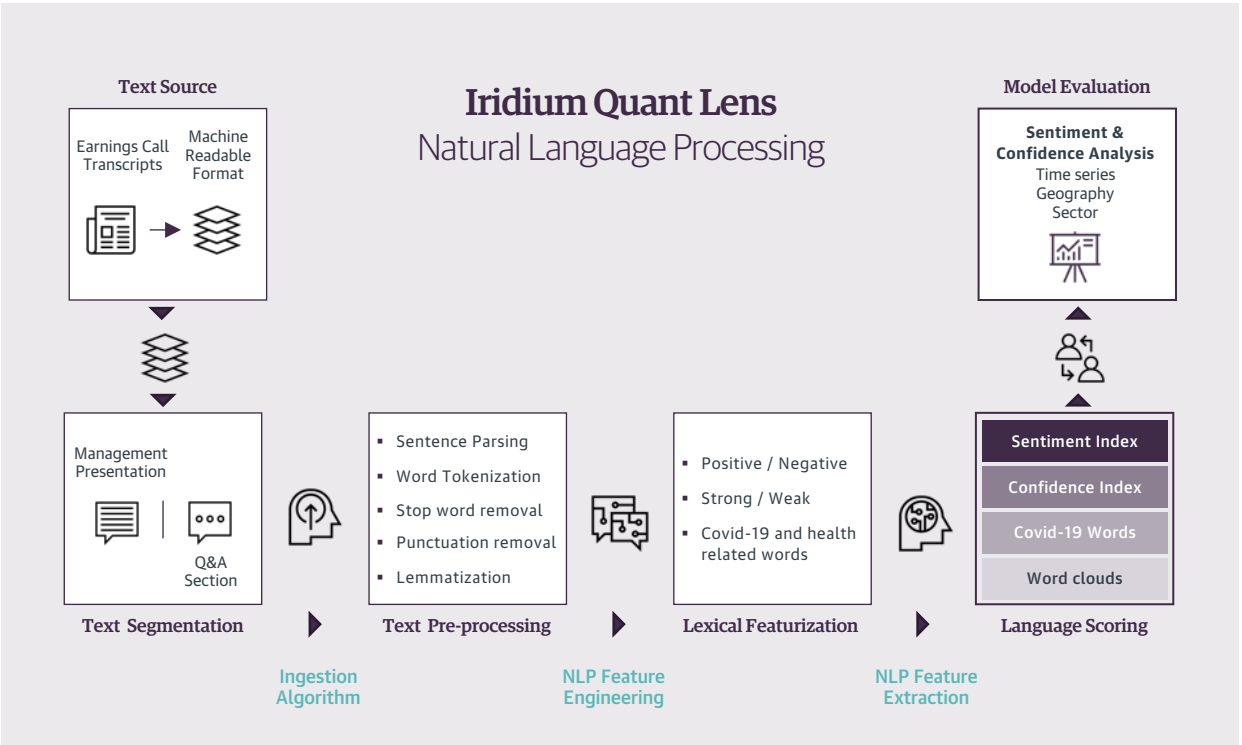
Text Source

We commenced the process by compiling all publicly available transcripts and then converted these to a machine-readable format.

Text Segmentation

Next, we segmented the transcripts in order to differentiate between the management presentation and the Q&A section of the earnings calls. Typically, management presentations entail prepared remarks in a structured format, and the Q&A sessions are unstructured.

Exhibit 11: Methodology Outline



Ingestion Algorithm

The NLP algorithm ingested and processed the management presentation and Q&A session with a custom engineered text processing code, which was based on a natural language processing library.

This algorithm performed two key functions in turn:

Text Pre-Processing

1. Text pre-processing, which involves cleaning the text by removing punctuation, stop words (e.g. words such as "the"), parsing sentences and tokenising and normalising words (i.e. the process of converting a sentence into usable, standardised words).

Lexical Featurisation

2. Lexical Featurisation, which is the process of converting text into quantifiable measures or characteristics. In this initial analysis, we employed basic statistical features such as sentence and word counts, with the latter being classified into different sentiment categories through comparison to a comprehensive financial dictionary created by Loughran and McDonald (2018). Examples of these sentiment buckets, as well as a sample text are shown in Exhibit 12 below. Additionally, a custom dictionary of Covid-19 and health related words was compiled by Iridium and word counts in this bucket were created.

Exhibit 12: Illustration of Word Sentiment Categorization in Transcripts

...We made excellent progress with our digital transformation program, investing heavily in our network and clearly driving efficiencies across the business. Financially, the industry-wide shift from manual to digital, along with macroeconomic instability and currency weaknesses in two of our markets, could place unforeseen pressure on our Group performance. Revenues were down 4% in 1H 2019, compared to the same period last year. Meanwhile, EBITDA grew 2% during the first half of 2019. This increase was offset by a negative impact from the settlement we reached with the regulator. We believe the favorable FX environment for two of our markets will drive an increase in profitability going forward...

Positive	Negative	Strong	Weak	Unclear	Litigious
Better	Concerns	Always	Could	Appears	Adjudged
Confident	Decline	Best	Depend	Approximately	Contract
Growth	Disadvantage	Clearly	May	Assume	Contravention
Opportunity	Disappointing	Definitely	Maybe	Believe	Injunction
Pleased	Losses	Strongly	Might	Depend	Regulatory
Positive	Missed	Undisputed	Perhaps	Presume	Ruling
Proactive	Shrinkage	Undoubtedly	Possibly	Seems	Settlement
Strong	Slower	Will	Suggest	Unidentified	Statutory

Language Scoring

Next, the word counts for each transcript portion were processed by the algorithm and converted to standardised language and sentiment metrics, with those used in this report being explained in Exhibit 13.

Exhibit 13: Language Metrics

Sentiment Index is a measure of language positivity or negativity calculated using the relative number of positive vs. negative words in the text, converted to a scale from -100% (entirely negative) to +100% (entirely positive).

Sentiment Bias measures the difference between the Sentiment Index in the management presentation of the call relative to that of the question-and-answer session.

Covid-19 Wordcount measures the number of words related to Covid-19 or health occurring in the earnings call or portion thereof, expressed either as the absolute number of words or a percentage of total words.

Model Evaluation

Finally, the language metrics were analysed using visualization and statistical tools to determine trends over time, by sector and geography.

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