

# EY text analytics

Harness value from unstructured data

Your digital world. Realized.



Text data is all set to be one of the largest sources of information in the future. An estimated 175zb of data is expected to be captured, created or replicated by 2025,<sup>1</sup> but organizations are challenged in two areas to exploit the richness that exists: data insight and accessibility.<sup>2</sup>

At the moment, up to

73%

of the enterprise data is never analyzed due to lack of skills, capability and knowledge to process unstructured information, meaningfully.

<sup>1</sup>Source: <https://www.seagate.com/au/en/our-story/data-age-2025/>  
<sup>2</sup>Source: Igneous Report, 2018.

In the future,

80%

Of worldwide data will be unstructured by 2025.<sup>1</sup>

## Data insight

Text data doesn't conform to well-defined and explicit patterns, making it difficult to manage and exploit. Language has context and structure. Understanding the intricacies that lie within written and verbal communication is crucial to deriving actionable insights.

## Accessibility

Unstructured data is stored, managed and analyzed differently. This means the rules and workflows used to interpret structured data don't apply. A unique set of skills and technology is required to access the information and unlock its value.

## Understanding intricacies in language is critical

Text analytics uses advanced analytics capabilities to understand linguistics and structure in natural language and then applies machine learning models to extract value from the communication. It opens the door to huge amounts of untapped data and arms organizations with the ability to process message sentiment, summarize documents, investigate relationships and transactions, and classify records.



### Understanding language

- ▶ Semantics and grammar
- ▶ Multiple languages and dialects
- ▶ Colloquialisms and slang
- ▶ Sarcasm
- ▶ Emotion
- ▶ Structure



### Existing data

- ▶ Email
- ▶ Transcripts
- ▶ Social media
- ▶ Reports
- ▶ PDFs



### Value

- ▶ Sentiment to help improve customer satisfaction
- ▶ Productivity and process efficiency
- ▶ Understanding individual characteristics and preferences for smarter decision-making
- ▶ Identify and reduce risk, threat or harm

## EY text analytics, powered by Microsoft Azure helps deliver a range of capabilities

- 1 Named entity recognition (NER)**
  - ▶ Group entities or phrases of interest into predefined types, such as name, location, time, quantity and monetary value
  - ▶ Gain greater clarity about the context of a situation or event, such as who, what, when, where and how something occurred
- 2 Sentiment, emotion and locality**
  - ▶ Determine the opinion expressed toward one or more entities in varying communication styles through dialect, abbreviations and slang, to help gauge sentiment
  - ▶ Use automated location detection feature to recognize and isolate a potential security threat and implement mitigation activities
- 3 Text classification**
  - ▶ Automate categorization and labeling of documents to facilitate a variety of use cases covering productivity, market intelligence, cybersecurity, risk mitigation across multiple verticals
- 4 Topic modeling**
  - ▶ Discover abstract "topics" or "themes" that occur in documents, this can be used to influence policy setting, agenda setting or process improvements throughout an organization
- 5 Text summarization**
  - ▶ Generate a concise summary from voluminous texts within documents, PDFs and transcripts
  - ▶ Save time and improve process efficiencies within your organization

# How EY text analytics platform can deliver outcomes?

The EY text analytics platform can understand regional language nuances. It ingests, integrates, processes, monitors and analyzes text data from multiple sources, then formats it within a single unified platform, enabling the following use cases:

## Citizen experience



**Concern:** I want faster insight into citizen sentiments.

**Solution:** Understanding the context, composition and construct communicated across social media, market surveys and community forums helps organizations gain insight into trends, topics and thoughts of their customers.

**Case study:** EY used automated analysis of millions of emails, letters, Customer relationship management (CRM) data to identify hotspots of customer complaints and patterns over time, which helped prioritize rollout of intervention initiatives.

## Market intelligence



**Concern:** I want to stay one step ahead of the competition.

**Solution:** Automate the analysis of news, trending topics and industry intelligence to help deliver faster and accurate assessments of market trends, brand sentiment and competitor landscape.

**Case study:** EY helped a government agency gauge policy effectiveness and public sentiment on current events by analyzing dialects, abbreviations and short forms to understand sentiment and emotion.

## Risk and compliance



**Concern:** I need greater protection of sensitive information.

**Solution:** Use text analytics to reshape how you detect and prevent accidental leakage of sensitive information. By identifying high risk text themes in emails and searches, you can increase screening diligence.

**Case study:** EY helped one client automate the identification of entities in its formal and/or colloquial text and used categorization models to identify the sensitivity of the information, prior to raising an alert.

## Productivity



**Concern:** I need to improve process efficiencies.

**Solution:** Leverage automated analysis of text within documents across various repositories to increase process efficiencies, reduce duplication and improve decision-making.

**Case study:** The client wanted to increase the productivity of case officers and boost team efficiency. We developed a solution that helped understand query and could recommend the most suitable reply, thereby reducing response time.

## Cybersecurity



**Concern:** I need to reduce our cyber threat exposure

**Solution:** Strengthen your cyber threat intelligence by using text analytics to dissect and analyze the ontology of the threat, send warnings and prioritize the most concerning ones.

EY is developing a text analytics platform that ingests threat intelligence reports from multiple sources, interprets, aggregates and produces searchable insights to support cyber threat analysts' queries (based on the Diamond Model and MITRE ATT&CK framework).

Named entity recognition (yellow) Sentiment, emotion and locality (grey) Text classification (grey) Topic modeling (black) Text summarization (white)

## EY text analytics in action: Analyzing social and mainstream data

With users increasingly turning to popular social networks and forums to obtain and share information, the client was facing issues dissecting the contextual nature of the information. They needed a solution to help them:

- ▶ Understand the frequency of topics and issues being discussed
- ▶ Correlate topics with influencers and followers
- ▶ Measure the effectiveness of their communication by relevance and timeliness

### EY approach

To give the client greater insight into their customers, we applied a range of techniques, including:

- ▶ Applying social network analysis techniques to:
  - ▶ Analyze person-person and entity-entity communication
  - ▶ Identify communication and transaction patterns, baselines and anomalies
  - ▶ Map intelligence geographically and identify key mentions and influential activities
- ▶ Using natural language processing (NLP) and text mining to:
  - ▶ Classify key concepts, emerging topics and who, when, where and how often this is happening
  - ▶ Understand emotional drivers, motivations and context behind the words

Additionally, we developed this on a platform that would be scalable to meet the future requirements across data ingestion, storage, model training, model inference and user interface.

### Service provided

EY text analytics platform has helped the client:

- ▶ Analyze text more effectively through the incorporation of local dialects, terms, jargon, which has helped generate richer insights
- ▶ Build stronger brand authority and reputation with offers aligned to customer expectations
- ▶ Improve customer journey mapping to create deeper engagement and experiences
- ▶ Gain richer understanding of current and shifting of socio-cultural trends and ability to proactively track competitor movements
- ▶ Improve deployment, integration and security of cloud services to build a scalable platform

## EY contacts:



**Ritin Mathur**

Partner  
Data & Analytics, Consulting  
Ernst & Young Advisory Pte. Ltd.  
[ritin.mathur@sg.ey.com](mailto:ritin.mathur@sg.ey.com)



**Nirmalya Ghosh**

Associate Director  
Data & Analytics, Consulting  
Ernst & Young Advisory Pte. Ltd.  
[nirmalya.ghosh@sg.ey.com](mailto:nirmalya.ghosh@sg.ey.com)

## Microsoft contacts:



**Zeena Saleem**

Microsoft Alliance Lead  
APAC  
Microsoft Corporation  
[zesalee@microsoft.com](mailto:zesalee@microsoft.com)

## EY | Building a better working world

EY exists to build a better working world, helping to create long-term value for clients, people and society and build trust in the capital markets.

Enabled by data and technology, diverse EY teams in over 150 countries provide trust through assurance and help clients grow, transform and operate.

Working across assurance, consulting, law, strategy, tax and transactions, EY teams ask better questions to find new answers for the complex issues facing our world today.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. Information about how EY collects and uses personal data and a description of the rights individuals have under data protection legislation are available via [ey.com/privacy](http://ey.com/privacy). EY member firms do not practice law where prohibited by local laws. For more information about our organization, please visit [ey.com](http://ey.com).

© 2021 EYGM Limited.  
All Rights Reserved.

EYG no. 007382-21Gbl  
ED None

This material has been prepared for general informational purposes only and is not intended to be relied upon as legal, accounting, tax, legal or other professional advice. Please refer to your advisors for specific advice.

[ey.com](http://ey.com)