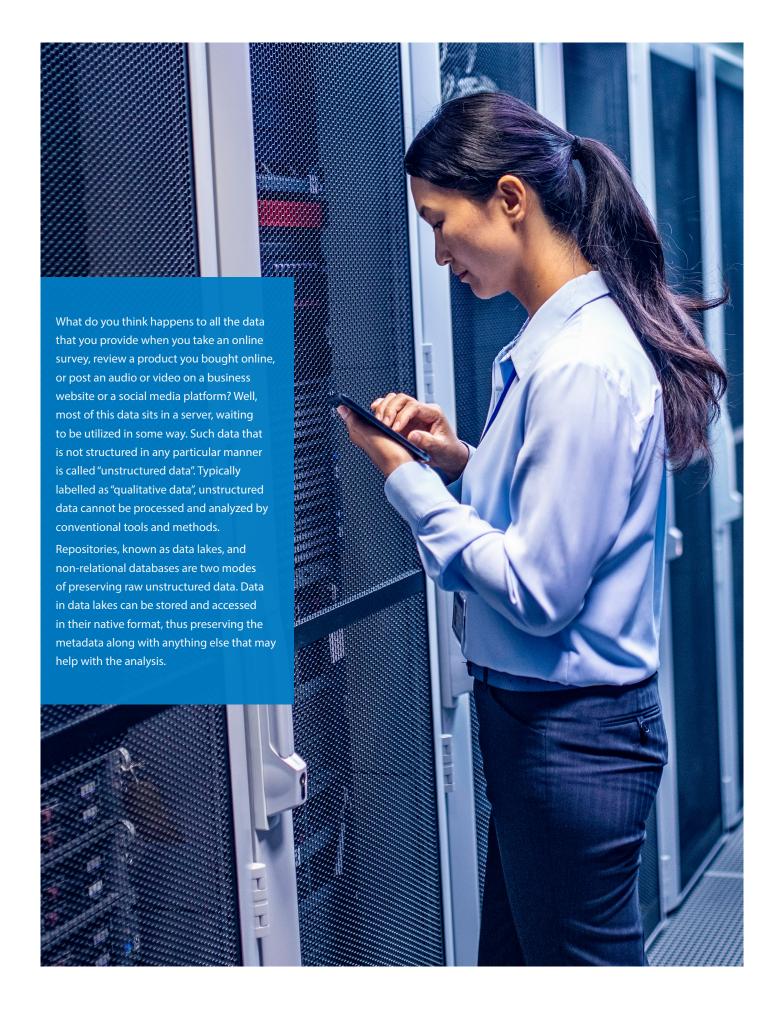# IDENTIFY UNMET CONSUMER NEEDS BY UNLOCKING THE VALUE OF YOUR UNSTRUCTURED DATA
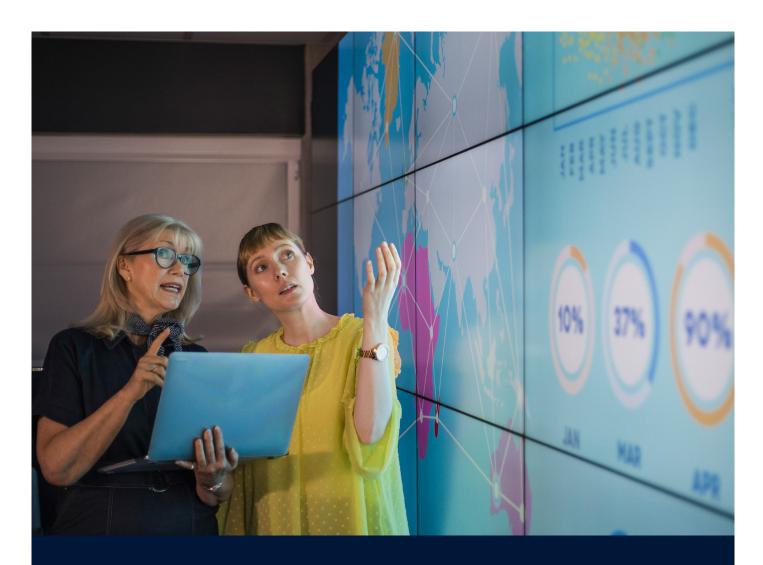
Abstract

Unstructured data is far more complicated to analyze than structured data, due to its variable nature. Moreover, there are fewer analytics tools that can sift through unstructured data successfully. However, it's essential for businesses to analyze both structured and unstructured data, as well as semi-structured data, so that their power can be harnessed. Useful business insights can be gleaned from a combined analysis of all available data. The results can help businesses identify customer preferences, improve marketing campaigns, and adjust product prices to ensure the best returns.

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What do you think happens to all the data that you provide when you take an online survey, review a product you bought online, or post an audio or video on a business website or a social media platform? Well, most of this data sits in a server, waiting to be utilized in some way. Such data that is not structured in any particular manner is called "unstructured data". Typically labelled as "qualitative data", unstructured data cannot be processed and analyzed by conventional tools and methods.

Repositories, known as data lakes, and non-relational databases are two modes of preserving raw unstructured data. Data in data lakes can be stored and accessed in their native format, thus preserving the metadata along with anything else that may help with the analysis.
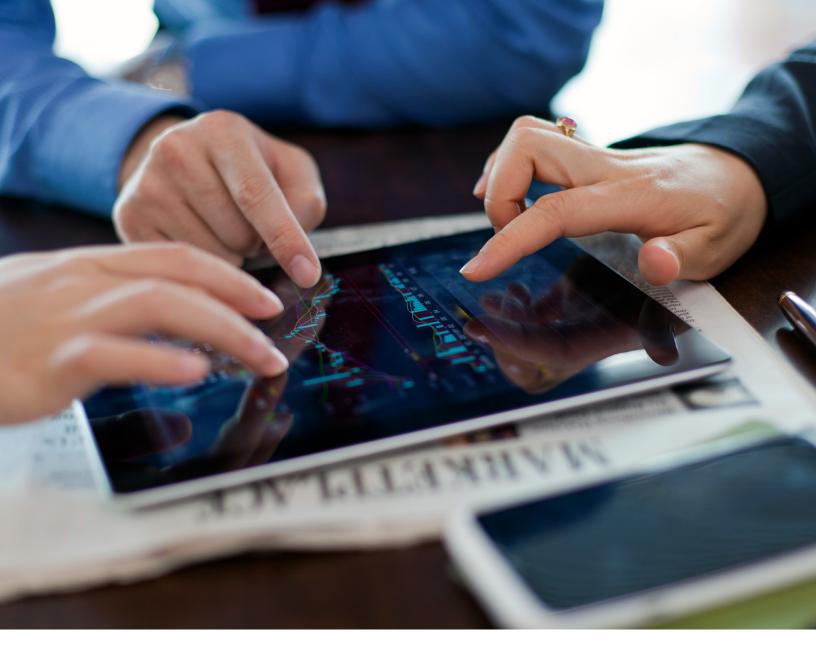
Unstructured data — a mine of untapped information

With the increased use of digital services and applications, the quantity of unstructured data is growing phenomenally. It is estimated that 80–90% of business data is unstructured. This data is a valuable source of untapped information. When analyzed correctly, unstructured data can provide businesses with customer insights that no statistical tool can match. The data can guide businesses in developing products, managing cost, and providing better customer experience.

Undoubtedly, this data is neither easy to analyze nor connect across channels, but some companies are developing innovative ways to connect customer activities and interests with existing systems. Going forward, enabling businesses to sense, learn, respond, and evolve like a Live Enterprise will become imperative for business excellence.*
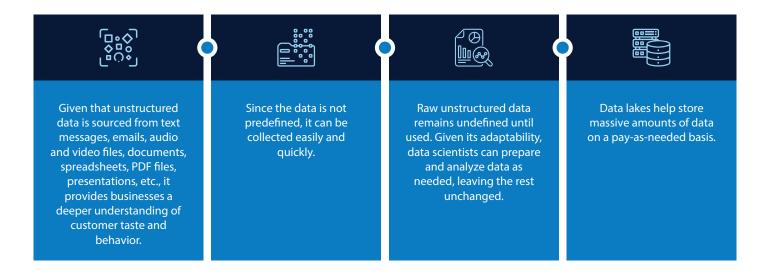
For example, consider popular OTT platforms. They receive a steady stream of unstructured data from millions of customers. This data includes information on the devices being used, the most watched shows, shows that are hardly watched, and points at which viewers leave a show or fast forward. This data is used to develop and recommend future shows. And this data-to-content pipeline is working well for both businesses.

*For organizations on the digital transformation journey, agility is key in responding to a rapidly changing technology and business landscape. Now more than ever, it is crucial to deliver and exceed on organizational expectations with a robust digital mindset backed by innovation. Enabling businesses to sense, learn, respond, and evolve like a living organism, will be imperative for business excellence going forward. A comprehensive, yet modular suite of services is doing exactly that. Equipping organizations with intuitive decision-making automatically at scale, actionable insights based on real-time solutions, anytime/anywhere experience, and in-depth data visibility across functions leading to hyper-productivity, Live Enterprise is building connected organizations that are innovating collaboratively for the future.

Advantages of unstructured data

Unstructured data provides several important advantages, some of which are enumerated below.

Given that unstructured data is sourced from text messages, emails, audio and video files, documents, spreadsheets, PDF files, presentations, etc., it provides businesses a deeper understanding of customer taste and behavior.	Since the data is not predefined, it can be collected easily and quickly.	Raw unstructured data remains undefined until used. Given its adaptability, data scientists can prepare and analyze data as needed, leaving the rest unchanged.	Data lakes help store massive amounts of data on a pay-as-needed basis.

Where to use unstructured data

Unstructured data can be used in several business scenarios, such as the following.

DATA MINING
enables businesses to identify purchasing patterns, product sentiments, and consumer behavior, all of which can help in exceeding customer needs, creating better products, and developing more targeted marketing campaigns. Overall trends can be understood, and product recommendations can be made in accordance with customer needs.

ANALYZING DIGITAL COMMUNICATION
such as email threads and chat data can help identify potential threats or noncompliance. A high volume of social media conversations can be tracked and analyzed to understand any marketing campaign results or even identify online threats.

PREDICTIVE DATA ANALYTICS
can alert businesses about any possible shifts in the market, thereby facilitating planning and adjustments in time.

CHATBOTS
can help route customer questions to the appropriate department, thus enhancing customer satisfaction.

IMPROVE CUSTOMER SUPPORT
by carrying out surveys, or filtering and analyzing social media conversations to understand the reasons for low customer support metrics.

Why is unstructured data difficult to leverage?

The unavailability of adequately skilled data scientists is often why businesses are not able to utilize this stack of data.

Machine learning (ML) and artificial intelligence (AI) tools require data scientists to build models. As per estimates, almost

80–90% of ML models fail before they even reach production. The reasons for this are:

Obsolete technology is being used.	Storage is a challenge. Advanced analytics tools require a lot of data which means a lot of storage space.	Poor data quality is a challenge. AI and ML results are only as good as the source data, and if the companies do not have processes to ensure the quality of the source data, even the most advanced analytical systems can fail.	Unstructured data, by the very nature of its name, is not organized well and cannot be easily searched. For ML and AI tools to work, they must be able to find data easily. So, unstructured data must be processed before being analyzed.

Further, businesses must be aware of their technical maturity and abilities. Jumping into advanced analytics without proper readiness will only lead to frustration and

failure. Failure to function within data compliance and privacy mandates can lead to large regulatory fines, loss of intellectual property, and other unnecessary costs, all

of which will negatively affect the market value of the business.

How to overcome challenges of analyzing unstructured data

Since unstructured data is extremely useful for strategic business outcomes, companies need to overcome the challenges associated with it.

RIGHT INFRASTRUCTURE:

The key to unlocking the opportunities in unstructured data is the right infrastructure. A hybrid cloud strategy will use data storage facilities on-site as well as in the cloud. Such a strategy will allow teams to continue using the existing infrastructure and scale the cloud storage as needed.

APPROPRIATE GOALS:

A business must be clear about what it is looking for, such as a number, a trend, or something else. For example, to understand if a particular marketing campaign has been received well or not, it is best to consider words and hashtags related to the campaign instead of sifting through all the data.

SMART DATA MANAGEMENT:

The hybrid cloud will allow setting up of governance and data protocols to manage data lakes so that specific data can be made available for specific uses. Relevant data sources must be identified before analysis, for best results.

REAL-TIME ACCESS:

Tracking activities in real-time and using predictive analytics allow companies to make accurate, real-time predictions. For example, e-commerce companies provide quotes in real-time, and to do that, they must ensure that no data is lost.

RIGHT TECHNOLOGY:

Data storage and retrieval architecture must be decided based on scalability, philosophy, variety, and volume. There are big data tools designed to analyze unstructured data. The business must choose one that fits its needs.

Data-driven decisions are easier to make when companies have the right information after analyzing all the available data. For instance, ML text analysis is truly empowering. It can pull data from almost any source and help arrive at clear insights. Customer opinions can be effectively changed, if needed, with the right business decisions and campaigns.

For more information, contact infosysbpm@infosys.com

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