Yellowfin

The Future of Data Storytelling:

How narrative and automation will redefine the next decade of analytics

The influence of the modern data story

Today, how analytics users share and understand their data is shifting from static dashboards to data-led narratives, with data storytelling providing new ways for extracting context, or insight, not present in the data itself.

For over 20 years, dashboards and data visualization have been considered the best ways to communicate, explore and act on business data. However, while they continue to provide value, our expectations on what they're capable of has not adjusted as our data needs evolve in scope.

Dashboards first originated as graphical user interfaces intended to show what was happening at a glance on one page, and answer key business questions:

Where are opportunities? How is performance looking? What can I do?

Data visualization followed to present data in attractive visual forms, typically charts and graphs. Both were intended to benefit non-technical analytics users the most, but historically, analysts often still have to interpret what's on screen for them.

Today, data is more complex and growing faster than ever before, yet many business users are still expected to manually extract data and find answers from high-level charts and dashboards. The problem is these formats can't always convey the full story behind the numbers, and don't guarantee everyone will be able to find actionable insights. What if a user does not know how to read a line graph, or can't perform a data drill-down, or isn't inclined with numbers altogether?

The fact is data presented on its own rarely communicates meaning for itself. It's the context, or story behind the numbers, that helps us understand. Helpful stories can be found in dashboards, but they're open to bias and interpretations that may not lead to the right answers, and we need more diverse ways to find and share meaningful stories than relying just on static snapshots of data. This is why data storytelling has become an influential new driver of analytics adoption.

Instead of presenting information in a static format, data storytelling is about employing narrative techniques, combined with trusted qualitative and quantitative data, to make a point about a discovery, bring depth of understanding to the numbers, and inspire action in an engaging way. By sharing a data-led story based on experience and interpretation, users can more effectively:

· Articulate a level of emotion and context into the presentation of important data

· Explain why it's important in detail, rather than expect people to understand it at a glance

· Tailor the information to the audience's needs, helping get people on the same page

A data story helps less data literate people interpret what is in a dataset, but it's also a helpful vehicle for subject matter experts to add further context that is not present in the data, making the consumption of important happenings in the business easier for everyone. And with the rise of other innovations, such as automation, data stories are set to be embraced by the masses.
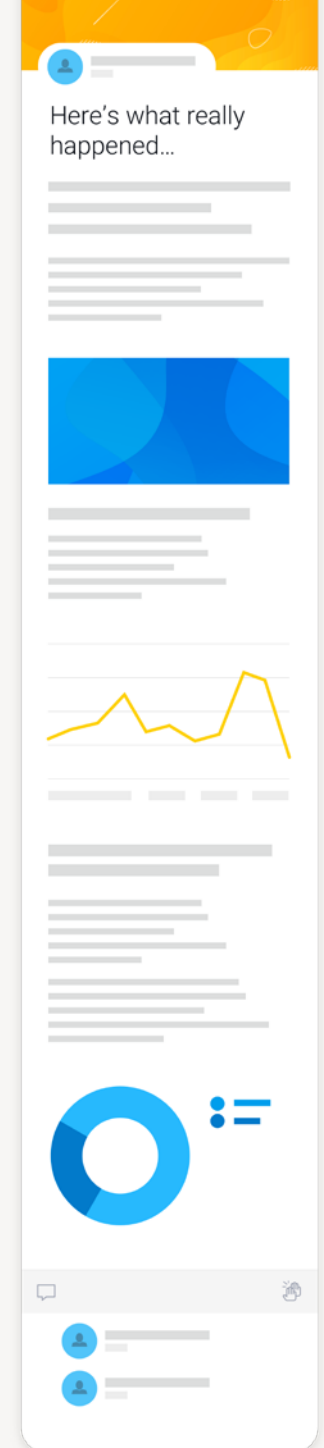
Automation and narrative-based stories

Previously, we've explored what constitutes data storytelling in our whitepaper, [Data Storytelling: The Power of Using Narrative to Influence and Engage the Business](#), and what tools such as Yellowfin's own Stories and Present bring to make it easier to create and distribute data-led stories built within the same BI platform for analysis, allowing for embedded, secure data.

But with more businesses investing in data storytelling skills and greater interest in features like Stories and Present, another question has arisen: What if a user can't tell a story with data?

While storytelling is more likely an inherent, universal skill than knowing how to read a data complex, numbers-heavy dashboard, there still is a possibility many people simply won't be able to convey the results of their data in a compelling narrative, or have the time to learn how to.

This is where augmented analytics, a similarly rising influence in modern business intelligence (BI) solutions, comes in. With the infusion of technologies such as AI, machine learning and natural language that automate all parts of data analysis, including data storytelling, augmented analytics will ensure more people can create and consume data stories, as easily as possible.
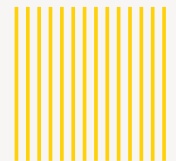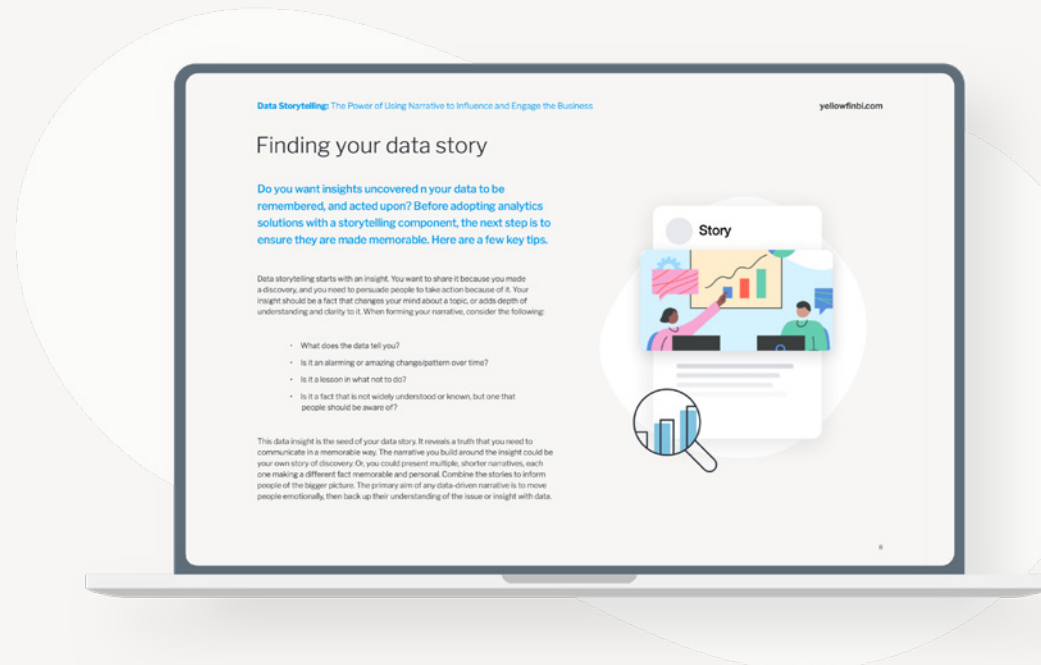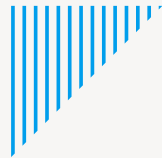
The business case for augmented, automated data storytelling

The 2021 Gartner Analytics & Business Intelligence Platforms Magic Quadrant Insights Webinars poll recently revealed 25% of business leaders view data storytelling as one of the most important, emerging capabilities they want to have when selecting a new analytics solution.

It's the second highest result, behind automated insights at 44%, and demonstrates businesses want to be able to communicate insight and context from data using narrative. It also shows stories are seen as just as important as the machine-led capabilities of augmented analytics.

In fact, Gartner predicts data stories, not dashboards, to be the most widespread way of consuming analytics by 2025. It's not hard to see why; they're aimed at the business user in mind, rather than just data experts, and present data in a format most people are already familiar with and can understand without requiring extensive analytical or organizational training.

The thing is, Gartner also predicts 75% of said data stories will be automatically generated rather than human-made. But as it exists today, data storytelling is largely a human-driven practice, and still in the midst of realizing mass adoption. So, what does this mean for the future of BI, really?
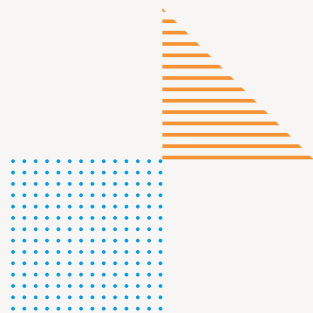
> "25% of business leaders view data storytelling as one of the most important, emerging capabilities they want to have when selecting a new analytics solution."

Put simply, because many augmented analytics features are now provided in modern day BI tools, there is more expectation from organizations that their analytic software can be taught to generate and share relevant data stories to its end-users, by automating and augmenting aspects of the narrative process (specifically, the data analysis part) to make analysis better and as efficient as possible for all.

But as it exists today, data storytelling is mostly led by the user, or people. It's a manual practice of combining narrative with data to deliver insights in a compelling form to assist decision-makers in further engaging with their data and analytics. A user-driven story backed by data is more easily consumed and understood than a dashboard, which can overwhelm people with numbers. Humans are great at bringing context with what's outside the data, which is something that will always play a role in the process of data exploration and insight discovery.

Where data storytelling and augmented analytics intersect is in the rise of the augmented consumer. It's a growing trend that describes a mindset shift away from BI solutions catering to the analyst toward the regular professional, who needs easier and faster data-led insights.

Technologies such as artificial intelligence and natural language query (NLQ) are now beginning to become streamlined options in analytics solutions that act as an additional method to help guide people in understanding what their data means and how to act on it, instead of expecting them to perform self-service analysis through dashboards and charts, and know what to do next.

The main benefits of augmented analytics is to help non-technical people use enhanced analysis techniques without needing advanced knowledge of data analysis techniques, which reduces their reliance on experts and the time spent exploring data. This line of thinking is now being extended to data storytelling: If a user can't or doesn't have time to make a data-led story, then why can't A.I do it for them?
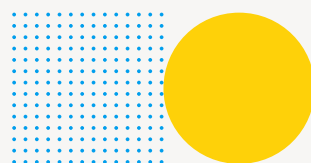
The purpose of automating and augmenting data-led stories

While still looked to as a near-future capability, automated data storytelling is gaining attention due to its ability to solve three emerging challenges of data storytelling, in the largely human-driven, manual process that exists today:

Problem #1 - Telling stories on more than just the insights noticed by people:

Creating a data story generally starts with finding a problem or opportunity in a dashboard or visualization, and then exploring, narrating and sharing it with others in the form of a story. It can also start from some kind of regular reporting process, such as a weekly or monthly update about a particular business topic (sales performance, customer churn, etc). However, what one business person finds an interesting anomaly or relevant insight, another might ignore or miss entirely. Avoiding the pitfalls of human bias, such as attentional or confirmation bias, when sharing insight requires experience and awareness not everyone has, and it may make quality data storytelling a slow or sporadic practice.

Problem # 2 - Data literacy and the limitations of manual self-service:

In the current paradigm of self-service BI, telling a good data story is reliant on the users' ability to serve themselves. But why doesn't that always work? Because everyone has different data literacy (or data fluency) levels, so not everyone can make it work. For example, Jane or John from Human Resources might have trouble manipulating data and doing visual analysis just to find out what the trends in HR data are, limiting their ability to create a data story altogether.

Problem # 3 - Scaling data storytelling across the business:

Because storytelling with data is largely a manual, human-led technique, realistically scaling it across a business is an open question, especially because it's still an analytical skill set many organizations are only now recognizing and prioritizing. In the mean-time, analysts can't be expected to always find and extract meaningful stories in big datasets in a timely fashion, and regular professionals may be busy dealing with normal business operations to spend much time consuming and then communicating insights in narrative form for everyone's benefit.
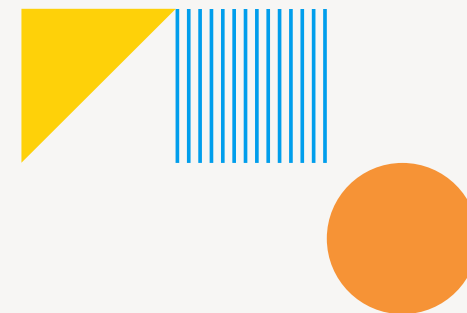
As explored by industry advisory leaders such as Gartner, there are many ways combining data storytelling with augmented analytics could help reduce or eliminate these challenges.

Challenge #1
Augmented analytics, through AI, machine learning, analyzes business data in a way that avoids human bias when exploring a data set, so extending this with a data storytelling module could help generate helpful data-led narratives that may be missed, overlooked or undervalued when created by people.

Challenge #2
Automated business monitoring and automated analytics, meanwhile, could extend past its monitoring and alerting capabilities and use automation to generate stories at scale, giving analysts and professionals more time for their workflow and less on exploring data.

Challenge #3
Augmented analytics can take much of the pressure off end-users' shoulders by automating common and complex self-service BI processes, such as mashing datasets together, and side-step the requirement for high data literacy altogether by generating stories based on detected problems and opportunities in the widest possible dataset.

The purpose of exploring the use of augmented analytics to automate data storytelling is simple; automating the interpretation of data to make the analysis part of the process easier.
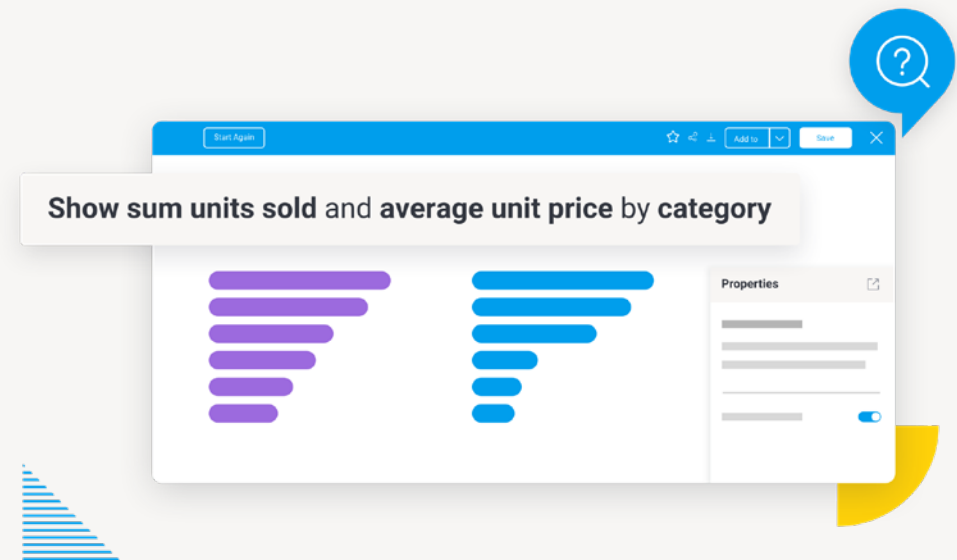
What can't be automated is the addition of context not in the data; this is where humans will always play a role. The aim is to automate the parts we can to make it as efficient and easy as possible for humans to tell a data story. This is also, in essence, what augmented analytics is all about; augmenting capabilities of analytics users to make them more effective overall.

Of course, actually having a working version of automated data storytelling, or augmented data stories generated from AI, is entirely dependent on BI software itself being able to apply these technologies and generate stories in a way that does not seem too algorithmic to the reader, while appealing to the average audience. The emotion we put into our stories, whether it's personal interpretation or celebration of an achievement or expert opinion, is a big part of telling data-led stories that inspire and help people make decisions, and it's not something that technology can easily replicate. For now, at least, that leap in technology is still a while away.

However, there are some current-day examples that can provide a glimpse into what's possible.

How Yellowfin combines data storytelling, augmented analytics, and automation

Today, Yellowfin employs augmented analytics techniques to enhance the analytics experience.

One area is in its statistical algorithms and natural language generation (NLG), which aims to help generate text-based explanations or comparisons of data that help people understand what's on a chart or dashboard, lessening the level of interpretation needed on the part of a user. An example includes our Assisted Insights (NLG) feature, which can automate part of the interpretation of data for the user to create a story from.

Yellowfin is also capable of continually monitoring and detecting patterns or outliers in data without the need for constant manual process, and generating headline-based alerts to help users become aware of important discoveries, which is seen in our ABM product, Signals.

Assisted Insights and Signals allow for large amounts of complex data to be found and analyzed faster than what is manually possible, and insights from data can be communicated in a way not influenced by human bias. These automatically generated explanations of data, and alerts of new trends or interesting changes, can effectively act as an impetus for the data storytelling process. Together with Stories and Present, Yellowfin's dedicated data storytelling modules, a user can find problems and opportunities in data faster, and create stories from those automated results using the power of data, words and rich media.

What Yellowfin does is unify all of these powerful, automated techniques into a single pane of analysis, with AI- generated interpretation of insights, automated alerts, and data storytelling all feeding into a dashboard that can become part of every user's standard BI workflow.

However, at the end of the day, these tools exist to help data storytellers get started. Because as it stands today, data storytelling is still very much shouldered by the individual, not the machine.

Read more: Yellowfin Stories: 5 features that change how data flows through your organization


7
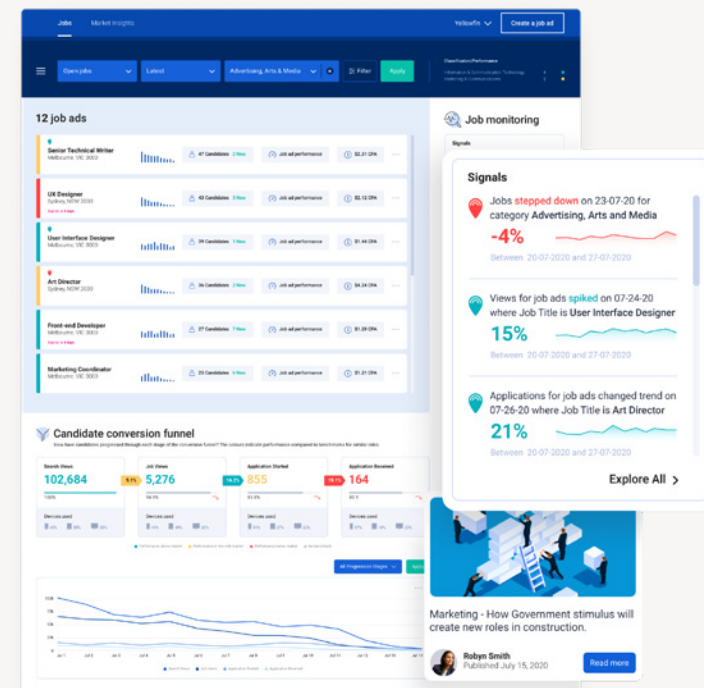
Data storytelling and the future of analytics: Key takeaways

Ultimately, narrative is a more natural way for people to absorb information than straightforward delivery of information. Used together with modern analytics tools, it helps business users better understand their dashboards, reports and charts without requiring a background in data analysis.

Humans will always be involved in telling the story - it's really only the data analysis part that can be automated. But while results generated by algorithms are not comparable to the types of narratives humans create, they can help guide you on your journey toward discovering and understanding an insight in data, and in potentially creating a story from it. In this way, it's easy to see why industry experts predict the combination of data storytelling with augmented analytics; automation has proven more than able to generate and automate parts of a data story's creation.

Being able to understand how to translate emotion, personal interpretation and experience, and how to tell what's most relevant to each user, is a human quality augmented and automated analytics solutions won't ever quite solve. Until it can, data storytelling is still much a human-led practice. However, it's clear automated and augmented data storytelling is not that far away, and recognizing these capabilities early could mean you're better prepared for when they're available.

To see what's already possible with data storytelling in analytics today, there's no better time to explore and begin building data-led narratives with Yellowfin Stories and Present.
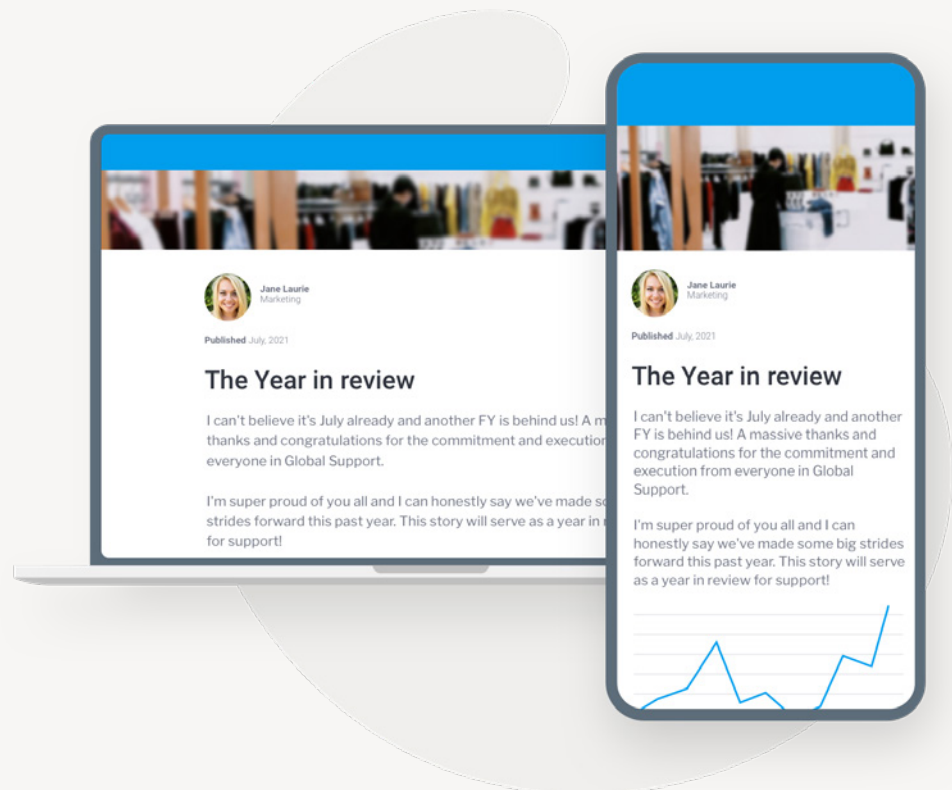
Yellowfin

Yellowfin is a global Business Intelligence and analytics software vendor with a suite of world-class products powered by automation. Yellowfin is recognized as an innovator by the world's leading analyst firms. More than 27,000 organisations and more than three million end-users across 75 countries use Yellowfin every day. For more information, visit www.yellowfinbi.com

Melbourne (HQ)
Level 11,
473 Bourke St,
Melbourne, VIC, 3000,
Australia

Brazil
R. Ferreira 209/302,
Porto Alegre,
RS,
Brasil

Ketchum
110 Lindsay Circle,
Suite A,
Ketchum, ID 83340,
United States of America

Boise
6205 Franklin Rd,
Suite B,
Boise, ID 83709,
United States of America

EMEA
Unit 10, Whittle Court,
Davy Avenue, Knowlhill,
Milton Keynes,
MK5 8FT,
United Kingdom

South Africa
AIGS - 1st Floor,
Wentworth Building,
Fourways Golf Park,
Roos Street , Fourways 2055,
South Africa

Tokyo
The Park Rex Koamicho
Bldg 6F,
11-8 Nihonbashikoamicho,
Chuo-ku, 103-0016,
Japan

Osaka
WeWork Midosuji
Frontier 1-13-22,
Sonezakishinchi, Kita-Ku,
Osaka 530-0002,
Japan