Business intelligence: A complete overview

It's increasingly important for businesses to have a clear view of all their data to stay competitive, which is where business intelligence (BI) tools come in. After all, nearly 50% of all businesses already use BI tools, and projections show continued growth in coming years.

But for those who haven't adopted a tool yet, or are simply looking to learn more, it can be difficult to understand exactly what BI is. We created this complete guide to educate people on what BI is, how it works, and more.

In this article, we cover:

What is business intelligence?

Business intelligence combines business analytics, data mining, data visualization, data tools and infrastructure, and best practices to help organisations make more data-driven decisions. In practice, you know you've got modern business intelligence when you have a comprehensive view of your organisation's data and use that data to drive change, eliminate inefficiencies, and quickly adapt

to market or supply changes. Modern BI solutions prioritise flexible self-service analysis, governed data on trusted platforms, empowered business users, and speed to insight.

It's important to note that this is a very modern definition of BI —and BI has had a strangled history as a buzzword. Traditional Business Intelligence, capital letters and all, originally emerged in the 1960s as a system of sharing information across organisations. The term Business Intelligence was coined in 1989, alongside computer models for decision making. These programs developed further, turning data into insights before becoming a specific offering from BI teams with IT-reliant service solutions. This article will serve as an introduction to BI and is the tip of the iceberg.

How business intelligence works

THE MODERN ANALYTICS WORKFLOW

Businesses and organisations have questions and goals. To answer these questions and track performance against these goals, they gather the necessary data, analyse it, and determine which actions to take to reach their goals.

On the technical side, raw data is collected from business systems. Data is processed and then stored in data warehouses, the cloud, applications, and files. Once it's stored, users can access the data, starting the analysis process to answer business questions.

BI platforms also offer data visualisation tools, which convert data into charts or graphs, as well as presenting to any key stakeholders or decision-makers.

BI methods

Much more than a specific "thing," business intelligence is an umbrella term that covers the processes and methods of collecting, storing, and analysing data from business operations or activities to optimise performance. All of these things come together to create a comprehensive view of a business to help people make better, actionable decisions. Over the past few years, business intelligence has evolved to include more processes and activities to help improve performance. These processes include:

- **Data mining:** Using databases, statistics, and machine learning (ML) to uncover trends in large datasets
- **Reporting:** Sharing data analysis to stakeholders so they can draw conclusions and make decisions
- **Performance metrics and benchmarking:** Comparing current performance data to historical data to track performance against goals, typically using customised dashboards
- **Descriptive analytics:** Using preliminary data analysis to find out what happened
- **Querying:** Asking the data-specific questions, BI pulling the answers from the data sets
- **Statistical analysis:** Taking the results from descriptive analytics and further exploring the data using statistics such as how this trend happened and why
- **Data visualization:** Turning data analysis into visual representations such as charts, graphs, and histograms to more easily consume data
- **Visual analysis:** Exploring data through visual storytelling to communicate insights on the fly and stay in the flow of analysis

- **Data preparation:** Compiling multiple data sources, identifying the dimensions and measurements, and preparing it for data analysis

How BI, data analytics, and business analytics work together

Business intelligence includes data analytics and business analytics but uses them only as parts of the whole process. BI helps users draw conclusions from data analysis. Data scientists dig into the specifics of data, using advanced statistics and predictive analytics to discover patterns and forecast future patterns.

Data analytics asks, "Why did this happen and what can happen next?" Business intelligence takes those models and algorithms and breaks the results down into actionable language. According to Gartner's IT glossary, "business analytics includes data mining, predictive analytics, applied analytics, and statistics." In short, organisations conduct business analytics as part of their larger business intelligence strategy.

BI is designed to answer specific queries and provide at-a-glance analysis for decisions or planning. However, companies can use the processes of analytics to continually improve follow-up questions and iteration. Business analytics shouldn't be a linear process because answering one question will likely lead to follow-up questions and iteration. Rather, think of the process as a cycle of data access, discovery, exploration, and information sharing. This is called the cycle of analytics, a modern term explaining how businesses use analytics to react to changing questions and expectations.

The difference between traditional BI and modern BI
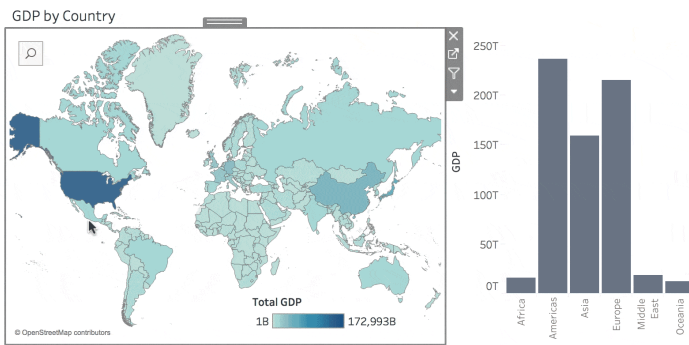
Modern BI priorities self-service analytics and speed to insight.

Historically, business intelligence tools were based on a traditional business intelligence model. This was a top-down approach where business intelligence was driven by the IT organisation and most, if not all, analytics questions were answered through static reports. This meant that if someone had a follow-up question about the report they received, their request would go to the bottom of the reporting queue and they would have to start the process over again. This led to slow, frustrating reporting cycles, and people weren't able to leverage current data to make decisions.

Traditional business intelligence is still a common approach for regular reporting and answering static queries. However, modern business intelligence is interactive and approachable. While IT departments are still an important part of managing access to data, multiple levels of users can customise dashboards and create reports on little notice. With the proper software, users are empowered to visualise data and answer their own questions.

Benefits of business intelligence

Great BI helps businesses and organisations ask and answer questions of their data.

So now you know what BI is, and how it works. But how does BI actually help businesses?

BI is more than just software—it's a way to keep a holistic and real-time view of all your relevant business data. Implementing BI offers a myriad of benefits, from better analysis to an increase in competitive advantage. Some of the top business intelligence benefits include:

- Data clarity
- Increased efficiency
- Better customer experience
- Improved employee satisfaction

[Learn more about the benefits of BI.](#)

Try Tableau for free to create beautiful visualisations with your data.

TRY TABLEAU FOR FREE

Examples of BI

Tableau's [Explain Data feature](#) helps to quickly identify possible explanations of outliers and trends in data.

Many disparate industries have adopted [enterprise BI](#) ahead of the curve, including [healthcare](#), [information technology](#), and [education](#). All organisations can use data to transform operations. With as much information as is in this article and available online, it can be difficult to understand the exact capabilities of BI. Real-world examples can help, which is why we build case studies out of our clients' success stories.

For example, financial services firm [Charles Schwab used business intelligence](#) to see a comprehensive view of all its branches across the United States to understand performance metrics and identify areas of opportunity. Access to a central business intelligence platform allowed Schwab to bring its branch data into one view. Now branch managers can identify clients that may have a change in investment needs. And leadership can track if a region's performance is above or below average and click in to see the branches that are driving that region's performance. This leads to more opportunities for optimisation along with better customer service for clients.

Another example is the meal-kit service [HelloFresh which automated its reporting processes](#) because its digital marketing team spent far too much time on it each month. With the help of Tableau, HelloFresh saved 10 to 20 working hours per day for the team, and made it possible for them to create much more segmented and targeted marketing campaigns.

[Read more real-world applications of BI software.](#)

How to develop a business intelligence strategy

A BI strategy is your blueprint for success. You'll need to decide how data is used, gather key roles, and define responsibilities in the initial phases. It may sound simple at a high level; however, starting with business goals is your key to success. Here's how to create a BI strategy from the ground up:

1. Know your business strategy and goals.
2. Identify key stakeholders.
3. Choose a sponsor from your key stakeholders.
4. Choose your BI platform and tools.
5. Create a BI team.
6. Define your scope.
7. Prepare your data infrastructure.
8. Define your goals and roadmap.

[Read more about our complete roadmap to developing a successful BI strategy.](#)

Categories of BI analysis

There are three major types of BI analysis, which cover many different needs and uses. These are predictive analytics, descriptive analytics, and prescriptive analytics.

Predictive analytics takes historical and real-time data and models future outcomes for planning purposes. **Descriptive analytics** is the process of identifying trends and relationships in data using historical and current data. And **prescriptive analytics**

takes all the relevant data to answer the question, "what should my business do?"

Advantages and disadvantages of BI

We've covered a lot of the pros of BI. But as with any major business decision, implementing BI comes with some difficulties and disadvantages, particularly in the implementation stage.

Some of the **advantages of BI** include:

- Data visibility
- Accurate reports
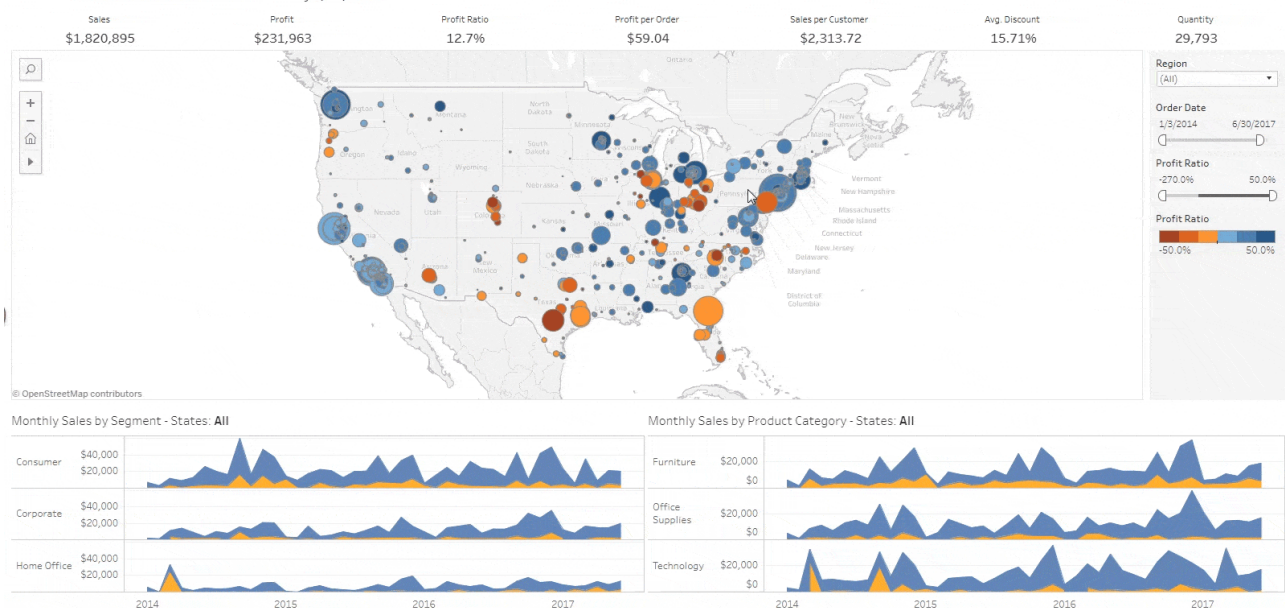- Streamlined processes

And **disadvantages of BI** include:

- Initial cost
- User resistance
- Data skills gap

Learn more about the advantages and disadvantages of BI.

Business intelligence platforms

Visual analytics keeps you in the flow of data analysis.

Many self-service business intelligence tools and platforms streamline the analysis process. This makes it easier for people to see and understand their data without the technical know-how to

dig into the data themselves. There are many BI platforms available for ad hoc reporting, data visualisation, and creating customised dashboards for multiple levels of users. We have outlined our recommendations for [evaluating modern BI platforms](#) so you can choose the right one for your organisation. One of the more common ways to present business intelligence is [through data visualization.](#)

How to choose a BI platform

The key to successfully implementing BI is to choose the right platform for the job. In choosing your tool, it's best to keep in mind what key features will be most helpful for your business. Some key features of BI tools include:

- Intuitive to use
- Variety of dashboard and visualisation options
- Smart insights
- Alerts for good and bad metrics
- Built-in artificial intelligence (AI)
- Deployment flexibility
- Integration with other platforms and applications
- Data connectivity
- Embedding in business applications

[Learn more about how to choose a BI platform for your business.](#)

BI dashboards

Arguably one of the most useful tools in BI are dashboards, which allow complex data to be aggregated and viewed all in one place. These dashboards can have different purposes, such as for complex analysis or stakeholder buy-in. The challenge is building the best dashboard for your needs.

The key features of a BI dashboard are:

- Interactivity
- Real-time data

- Customisable interface
- Standard templates
- Sharing ability

[Learn more about BI dashboards, including best practices, benefits, and more.](#)

BI and big data

As the data atmosphere grows and the gathering, storage, and analysis of data becomes more complex, it's important to consider the relationship between BI and [big data](#). Big data has become a bit of a buzzword in the industry lately, so what exactly is it? Well, data experts define it by "the four Vs": Volume, velocity, value, and variety. These four define big data and set it apart. In particular, volume is what people normally point to as the main defining factor, as the amount of data is ever-increasing and relatively easy to store for long periods of time.

As you can imagine, this is important for BI as businesses create more and more data by the year, and BI platforms have to keep up with the increasing demands made on them. A good platform will grow with increasing demands. But if not maintained, dashboards and data sources may fall behind as big data evolves.

The future role of business intelligence

[Business intelligence is continually evolving](#) to keep pace with business needs and technology, so each year, we identify current trends to keep users up-to-date on innovations. Realise that [artificial intelligence and machine learning](#) will continue to grow, and businesses can integrate the insights from [AI](#) into a broader BI strategy. As companies strive to be more data-driven, efforts to share data and collaborate will increase. Data visualisation will be

even more essential to work together across teams and departments. This article is just an introduction to the world of business intelligence. BI offers capabilities for near real-time sales tracking, allowing users to discover insights into customer behaviour, forecast profits, and more. Diverse industries like retail, insurance, and oil have adopted BI, and more are joining each year. BI platforms adapt to new technology and the innovation of its users.

Using self-service business intelligence (SSBI) for your company

Today, more organisations are moving to a modern business intelligence model, characterised by a [self-service approach to data](#). Self-service business intelligence (SSBI) is characterised by IT managing the data (security, accuracy, and access), allowing users to interact with their data directly. Modern analytics platforms like Tableau help organisations address every step in the cycle of analytics—data preparation in [Tableau Prep](#), analysis and discovery in [Tableau Desktop](#), and sharing and governance in [Tableau Server](#) or [Tableau Cloud](#). This means that IT can govern data access while empowering more people to visually explore their data and share their insights.

Learn more about BI

Though this article covered a lot of ground about business intelligence and its various applications, there is much more to learn. Our experts are always expanding their knowledge and keeping up with current trends.

To encourage data learning, we've compiled lists of further learning resources. If you want to dive deeper into the theory and history of BI, check out our list of the [best BI books](#) out there. To keep up with the latest news and insights, take a look at our list of the [best BI blogs to follow](#).

Additional resources:

- [6 Myths of Moving from Traditional to Modern BI](#)
- [This year's top 10 current business intelligence trends](#)
- [Books about business intelligence](#)
- [A list of real-world examples of business intelligence in action](#)
- [Why you need a BI platform and how to choose one](#)
- [What you need to know about BI dashboards](#)