



**Accelerate digital
progress for your
business with the
Modern Data Stack**

Introduction

As businesses look for ways to improve efficiency, leveraging data and analytics have become a popular topic for discussion. But before you can do this, some questions need to be answered:

- ✓ What data will truly benefit your business?
- ✓ Which tools do you need to access the right kind of data?
- ✓ How can you achieve an end-to-end view of the customer journey?
- ✓ How can you turn this data into actionable insights?

In this guide, you will explore how implementing the Modern Data Stack can help to answer all of these questions, and transform your disparate business data into your most valuable asset.



1. What is the Modern Data Stack?

A Modern Data Stack (MDS) is a collection of tools and cloud data technologies used to collect, process, store, and analyse data.

Prioritising flexible self-service analytics, governed data on trusted platforms, and speed to insight, the MDS enables businesses to integrate cloud-based data sources with legacy and on-premises solutions, empowering end users with data, with minimal configuration.

The goals of the MDS are to:

- ✓ Improve efficiency by eliminating data silos and removing barriers to data sharing.
- ✓ Analyse business data to uncover new opportunities.
- ✓ Empower stakeholders to use and administer the tools without in-depth technical knowledge.

Structure of the Modern Data Stack

While the tools and data sources within the stack will vary from business to business to ensure a tailored solution, the overall structure remains the same.

- ✓ A fully managed ELT (Extract-Load-Transform) pipeline,
- ✓ A cloud-based data warehouse or data lake as a destination,
- ✓ A data transformation tool, and
- ✓ A business intelligence or data visualisation platform.

Traditionally, data integration is done with an ETL (Extract-Transform-Load) approach, which can be quite rigid and isn't very user-friendly. In an ETL approach, the data structure must first be defined before being loaded into a data warehouse. Making changes to the data structure is tedious and requires additional time and unnecessary effort.

However, as processing power and data storage has become cheaper, modern applications are transitioning towards an ELT (Extract Load Transform) approach. Within the ELT approach, raw data is loaded directly from source systems into the data warehouse, ensuring a copy of historical source data is maintained. Once all the required data is available, a simplified data layer can then be created. Dashboards are then built on top of this.



This approach offers much more flexibility. Having access to a copy of source data at all times makes it simple to create new data models or make changes to existing models, whenever needed.

Explore each element of the MDS structure, and the implementation process below.



Input Data Sources

As organisations grow, the number of data sources inevitably grows with it. It is also usually the case that the quality, accessibility and value of data varies between these sources, resulting in gaps in reporting and labour-intensive sorting.

However, tools within the Modern Data Stack work together to integrate all required data sources, including:

- ✓ Unstructured data
- ✓ Legacy data
- ✓ Web apps data
- ✓ Reclaimed data
- ✓ Traditional data

Evaluating all data sources at this stage allows for the streamlining of systems, and places focus on the most valuable and most effective sources to help achieve business and departmental goals.

Extract and Load

Once your key data sources have been identified, a tool is needed to connect these sources so they can all feed effectively into your data pipeline. However, a key requirement here is to make this process as efficient and cost-effective as possible to reduce the amount of significant engineering work.

Fivetran is a great tool for this.

Fivetran is a program which allows you to connect and extract a huge number of data sources on an ongoing basis without spending significant time, effort, or money on engineering. Fivetran currently has over 160 pre-built connectors with more growth already planned.

Once your sources have been connected, Fivetran extracts data and loads it to a cloud-based data warehouse, such as Snowflake.

Request a free demo to see Fivetran in action.



Store and Transform

Once your data has been loaded into your data warehouse, you need to combine data from different sources, start building the data layers needed to achieve your goals and define part of your business logic.

While on-premise data warehouses have been the traditional choice, cloud-based options such as Snowflake offer a significant upgrade in terms of functionality, scalability and value.

Learn more about Snowflake with a free interactive demo

Snowflake is our preferred data warehouse solution for many reasons:

- ✓ A fully functional enterprise-grade data warehouse is achievable within minutes.
- ✓ No hardware installation is required.
- ✓ Can cost as little as a few euros per month
- ✓ No hefty upfront investment is needed.
- ✓ It's easy to scale without having to worry about your IT infrastructure.

When it comes to transforming your data, in some cases, you can leverage native features in your destination or data visualisation tools to run transformations, such as repeatable SQL scripts. However, for the sake of scale and greater transparency, you should consider getting a dedicated transformation tool.

Your transformation tool should be compatible with your destination and have features that make it easy to trace back data lineage, such as version control and/or documentation that helps outline transformation impact on your tables.

While Snowflake offers the opportunity to write SQL in order to perform the data transformations, we recommend using dbt, an open-source transformation tool which allows you to structure and write your SQL code in a programmatic way.

dbt has capabilities that deal with deployment, scheduling, testing, documentation, and versioning control. In addition, you can even add a dbt repository to your Fivetran account so Fivetran can kick off your transformation scripts after finishing loading the data in Snowflake resulting in seamless integration.

[Request a free interactive demo of dbt to learn more](#)

Data Visualisation Output

With the data layers in place, you can start utilising insights gained from data sources. With all important data sorted and streamlined, you will immediately notice improvements in internal efficiencies, like a significant reduction in the time needed to complete analyses and improved quality and consistency of analyses.

More and more questions are asked of successful data teams every single day, and business intelligence tools rapidly become the gateway to answers. Consider how stakeholders consume data such as visualisations, dashboards and reports and what you will need to make access to data as self-service as possible.

We recommend **Tableau** for analyses.

Tableau is a data visualisation tool that allows you to interact and drill down into various KPIs and insights to easily get to the root of the problems you're trying to solve. It allows you to design curated dashboards giving users quick answers to complex problems.

[Explore Tableau with a free interactive demo](#)



2. Value of the Modern Data Stack for your business

Whether you're a small or medium-sized business (SMB) or an enterprise organisation, the relative value the Modern Data Stack offers remains the same.

The Modern Data Stack for small and medium-sized businesses

As an SMB, while you're able to be more agile in your approach to driving the business forward, often acting quicker than larger organisations, the decisions you make can often carry more risk, especially where significant investment is involved.

With the Modern Data Stack, you can:

- ✓ Achieve data clarity and a single source of truth to inform your decision-making.
- ✓ Increase efficiency and remove manual efforts through automation.
- ✓ Leverage data insights to pivot and grow your business most efficiently.
- ✓ Identify valuable new revenue streams.
- ✓ Reduce costs tied to your systems and data pipeline.

The Modern Data Stack for enterprise businesses

As an enterprise business, while you have more resources than an SMB, there are invariably more markets, revenue streams, and opportunities to explore and more projects and teams which need funding. However, when budgets become tighter and buy-in from stakeholders and investors is harder to secure, your decisions carry more weight and data is your strongest ally.

With the Modern Data Stack, you can:

- ✓ Achieve data clarity and a single source of truth to inform your decision-making.
- ✓ Democratise your data and empower your teams to drive revenue.
- ✓ Get a single clear view of the entire customer journey.
- ✓ Identify growth opportunities with the most potential.
- ✓ Recognise operational inefficiencies and reduce costs.

Future-proof your business

With the Modern Data Stack, you can achieve a streamlined stack that meets your specific requirements and can scale with you, regardless of your current business size.

With the right data processing and analysis in place, you can add context to your business data and gain a thorough understanding of your customers, allowing you to identify business opportunities and potential threats early.

Built with end users in mind, it allows all teams to easily access and leverage these insights, while also providing wider business insights to leadership teams, resulting in a more data-driven approach overall.

3. How to successfully implement the Modern Data Stack for your business

While many of the tools we recommend are directly accessible to businesses, successfully delivering a project like this is not something that can easily be done internally.

A lack of internal capacity or technical expertise can quickly derail digital transformation projects and can often result in higher costs, extended timelines and limited to no return on investment.

One of the primary goals of all digital transformation projects is to have the right technology in the hands of the right people. And, to ensure your business can make significant progress with its data and digital efforts as soon as possible; this also needs to be the case before the project begins.

Finding a trusted partner for your business with the right technical expertise and the structure in place to guide, support and deliver your digital transformation project will ultimately be the key to its success.

A phased approach is best

Implementing a Modern Data Stack will be a significant change for your business and your teams. But, deploying these technologies in stages offers the best possible opportunity to course correct and adapt as new information is learned throughout the process.

With extensive experience implementing Modern Data Stack technology, for businesses of all sizes across a wide range of industries, we have developed a 4 phase process to ensure a successful outcome for your business.

Phase 1: ENGAGE Lab (The most important phase!)

During this phase we:

- ✓ Assess and understand your current situation through in-depth workshopping to fully scope the implementation project.
- ✓ Fully map your custom end solution and provide a plan for implementation
- ✓ Ensure you have free trial access to the necessary tools and complete an initial set up for your business
- ✓ Begin integrating major data sources

This phase allows us to provide immediate value to your business, remove any assumptions and address any concerns for the project going forward. It will also build your confidence in the proposed tech stack, so you leave knowing your new and improved technologies will do everything you need them to, and can be easily managed by your team.

Phase 2: Data Load and Transformation

During this phase we:

- ✔ Build out your tech stack further, fully integrating your technologies
- ✔ Ensure your data sources are all connected to Snowflake via Fivetran
- ✔ Transform your data to enable analysis and visualisation
- ✔ Ensure data quality and GDPR compliance during data processing
- ✔ Build out dashboards in Tableau where necessary

Throughout this phase, we work with you to understand your internal capacity to execute on our best practice recommendations, and tailor our level of support to suit your needs, ensuring you get the fastest return on investment.

Phase 3: Analytics Integration

Once your data is clean, stored, secured and ready for analysis, we'll:

- ✔ Identify how data should be accessible to different end user groups, tailored to their familiarity with data and data manipulation.
- ✔ Carry out interviews, surveys and hands-on workshops to define their requirements of data elements created.

This stage is all about motivating and engaging your teams with the process, and highlighting the value offered by taking a data driven approach.

This in turn nurtures an overall culture of data for your business.

Phase 4: Go Live!

Now that you have live data visualisations and can see your data stack working for you, this stage is all about successful adoption. During this phase we offer:

- ✓ Ongoing consultancy to provide your team with the peace of mind that support is always readily available.
- ✓ Data coaching to offer quick answers to ad-hoc issues or queries, and drive end user development.
- ✓ Certified training to grow your teams' knowledge and data literacy, drive tool adoption and help ensure the ongoing success of this digital transformation project.

4. How Biztory partners with businesses

As experts in data consultancy and multiple awarded top partners of **Tableau**, **Fivetran**, **Snowflake**, and **dbt**, we help you implement hassle-free data analytics at scale.

By using the Modern Data Stack model, we're not bound to a specific approach meaning you receive a bespoke service to suit your needs.

And, should your needs change over time, we can help you adapt and evolve your processes without disrupting your current analytical capabilities.

If you're looking to transform your business with the Modern Data Stack and want to learn more about the process, or if you're trying to identify the specific value it can offer your organisation, book a consultation with a Biztory data expert and get the answers you need.

[Book a consultation with one of our data experts](#)

Trusted by    

