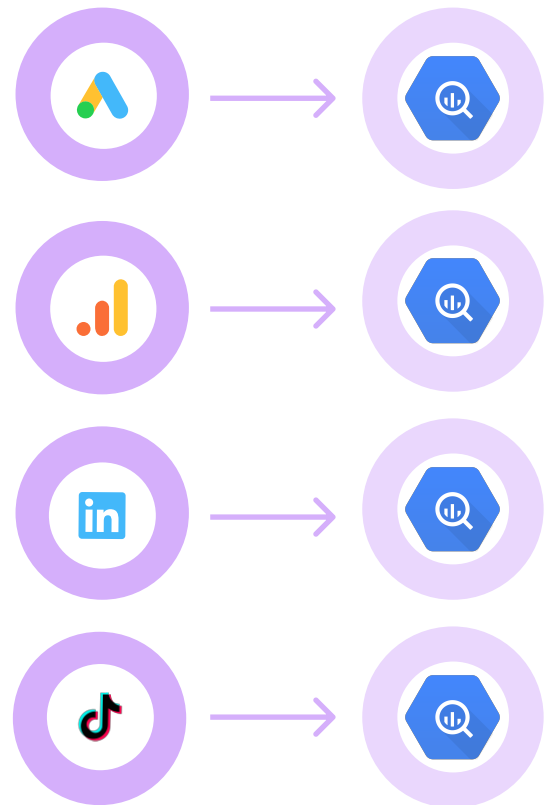


# 13 things to consider before building marketing data pipelines in-house

The allure of building custom, in-house marketing data pipelines can be compelling for many organizations. From a zoomed out perspective, it promises greater control, ability to customize to specific needs, centralization of data and maybe some cost savings.

However, while these benefits are theoretically attainable, they come at the price of navigating a myriad of challenges, especially when dealing with the intricate nature of marketing data. There are several aspects of marketing data which makes it more challenging to work with compared to other types of data you find in an organization. We'll also look at how Funnel can help data engineers overcome these challenges.

Let's delve into the main challenges a data engineer will encounter in the setup and maintenance of inhouse marketing data pipelines.



# 13 challenges with marketing data pipelines

## 1. Setting up API connections

The foundation of this project will be building the API connections. It's important to get exact specifications of requirements from the end users, in the case of marketing data it's typically the marketing team or senior leadership at the organization. The scope might range from just a few to tens of different platforms, and span one to many accounts per platform depending on your business size and marketing setup.

After the platforms and accounts have been mapped out, the level of granularity needed has to be considered. It is imperative that this happens early in the process because the complexity involved in both constructing and maintaining marketing data pipelines increases significantly with the depth of granularity needed. Very basic reports containing Campaign, Costs, Clicks and Impressions data are usually straightforward, but if there are additional requirements, like conversion data, geographical data, demographical data, and so on, it will often require piecing together results from multiple API-calls.

Facebook Ads is an example of an API that can be challenging to work with, even for experienced data engineers. Building the initial integration is a feasible task for most data engineers, but maintaining a steady pipeline is the challenge. Quota and rate limits need to be considered, and when data fetches fail, there needs to be a mechanism for retries. We will delve deeper into these and other challenges of maintaining data pipelines as we progress through the rest of the list.

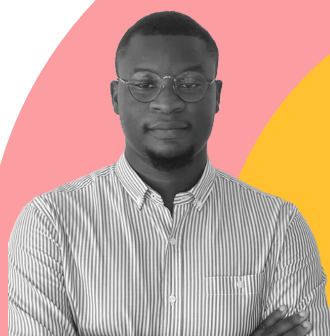
## 2. Navigating API documentation

The front-end UI and back-end of marketing platforms tend to look very different, because they are generally developed and maintained by different teams on the platform side. This means that it can be challenging to understand how to translate a request from the marketing team (which is based on the UI), into what type of API call(s) is needed to retrieve data from the backend

## 3. Scheduling and handling retroactive data updates

Marketing data is dynamic. This means that values are expected to change as time progresses, and this needs to be considered for each platform that is integrated. On top of scheduling regular data refreshes, these also need to include a mechanism to handle instances where data is updated retroactively, i.e re-downloading and updating existing data periodically. This ensures data consistency and accuracy over time.

*“With data consolidated in Funnel, we can output clean data tables with just the dimensions and metrics we need, instead of having to consolidate hundreds of tables in BigQuery. This alone saves us 75% on data storage costs.”*



**Hamis Badarou**  
Chief Analytics Officer

hanalytics

# 13 challenges with marketing data pipelines

## 4. Error and quota management

Errors are inevitable. A robust system should be in place to handle errors, perform retries, implement backoffs, and always respect rate limits and quotas set by platforms. This prevents overloading systems and safeguards against potential data loss. If these are not calibrated correctly, it can cause significant disruptions to data pipelines.

## 5. Budgeting time and resources for maintenance

APIs evolve. Whether it's due to platform upgrades or changing data needs, regular maintenance and updates are mandatory to ensure data flows are uninterrupted.

Larger API's tend to update to a new version on roughly a quarterly basis. With each new API update, a number of fields are added, deprecated, renamed or recategorized. Depending on how exposed you are to these changes, it will incur a few hours to many weeks of work for your data engineers to have everything working as expected. It can also lead to new field requests from end users, more on that under point 12 below.

## 6. Non-communicated API changes

Oftentimes, platforms communicate API changes at the same time as they are rolled out. Proactive monitoring and rapid response mechanisms are essential to avoid protracted data interruptions.

## 7. Currency conversion

For global businesses, dealing with multiple currencies is standard, but cumbersome. Implementing reliable and up-to-date currency conversion processes ensures that financial metrics are always accurate and comparable. This is another challenge which becomes exponentially more challenging the more currencies are involved

## 8. Building new API connections

As marketing efforts expand, new platforms and tools come into play. The ability to rapidly integrate new API connections ensures the pipeline remains relevant and comprehensive. As we saw in point 1 above, this can be more or less challenging depending on the platform.

*"The reality is that Funnel is much cheaper than in-house solutions. In-house solutions do not work out best for the customer because it ends up being more expensive. And not only that, they break and when they do break, you need specialists to come in and fix it, which takes time. Funnel never breaks."*



**Glenn Tamkin**

Consulting Manager

55 the data company

# 13 challenges with marketing data pipelines

## 9. Security - Access tokens and credential management

Security is paramount. Ensuring that access tokens, credentials, and other sensitive data are securely stored and managed is non-negotiable. Furthermore, API access is usually coupled with working credentials for the platform in question, which means that when credentials lose access (as in the case when a person leaves the company), credentials need to be rotated to new working ones so as to not lose data access.

## 10. Data mapping

Marketing data is largely heterogeneous, but there are commonalities across different platforms that oftentimes provide a lot of value when they are mapped together. Cost, Clicks and Impressions are basic examples of such metrics that exist in most types of marketing platforms where mapping them together produces a holistic overview of marketing efforts.

Depending on the number of platforms and ad accounts one has, harmonizing a metric like 'Clicks' across platforms is usually straightforward. However, more advanced challenges can involve splitting out campaign name structures to allow granular reporting across platforms. Apart from the most basic cases, data mapping typically requires a keen understanding of the datasets one works with, as to not map together data that is not homogenous, and thereby provide inaccurate results that lead to potentially harmful decisions as a consequence.

## 11. Managing data endpoints

Once data is fetched, cleaned and structured, it often needs to be sent to various tools for analysis, visualization, or storage. Efficiently managing these transfers while ensuring data integrity is essential.

## 12. Building support for new connectors, reports and fields

With evolving business needs, the type of insights required will change. Similarly, new marketing platforms pop-up regularly and existing platforms evolve and expand their offering. These new opportunities generate data which in turn is made available via the respective API's, which means either building support for new connectors or adding fields and reports to existing ones. For most marketing teams these are frequent occurrences and in order to allow the marketing team to keep a high pace the data integration needs to follow suit, but it's easy for requests to pile up as a ticket backlog.

## 13. Stakeholder management

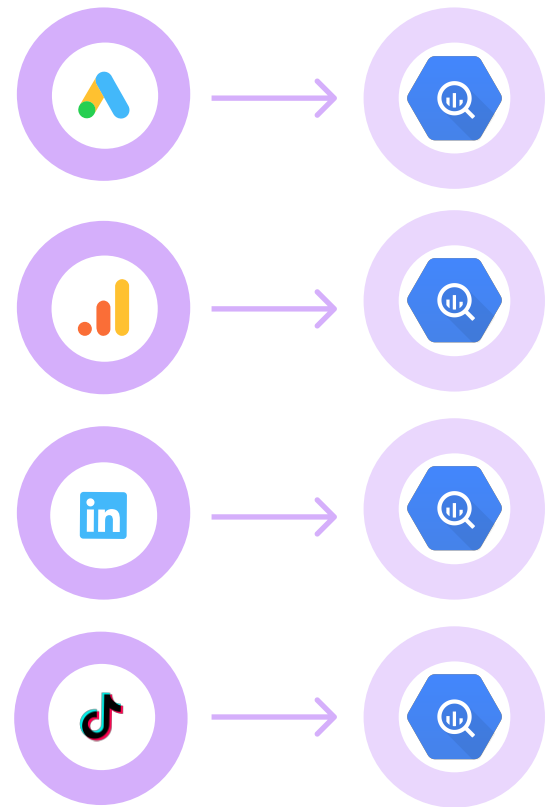
Stakeholder management involves identifying, understanding, and effectively engaging with your marketing team and executives who rely on the output of what is being built. Depending on the size and geographical distribution of your team, the time it takes to align might range from just a few hours every month to regular check-ins every week.

# 13 challenges with marketing data pipelines

## Cost benefit analysis: Is building in-house marketing data pipelines worth it?

As we've explored, the intricacies of marketing data present both unique challenges and ongoing commitments. Yes, with a talented data engineering team and sufficient time, an in-house solution can be crafted. ETL tools like Airbyte, Supermetrics and Fivetran make the initial setup feasible. But it's important to understand that getting data into the data warehouse is a relatively small feat, the real value lies in what you are able to do, and spend time on, after the data is there.

Considering the recurring tasks and potential for unexpected issues, it's crucial to ask oneself: is the ongoing investment of your data engineering time the best way to achieve efficient, error-free, and comprehensive marketing data management? Remember, data engineers are a premium asset. This asset, alongside potential data scientists and analysts, should be used for activities that generate business value. Balancing their workload and expertise against the recurring demands of maintaining marketing data pipelines can be a challenge in itself.



*“By offering a cost-efficient zero maintenance out-of-the-box solution to integrate a wide range of media, ad tech, and data platforms, Funnel has helped us to create a 360 view of our marketing effectiveness.”*

**Thomas van Mastbergen**

Digital Marketing Director

**BASIC-FIT**



# Why Funnel is the game-changer for data engineers

Enter Funnel – the platform designed with the specific aim of streamlining the complexities of marketing data management. Here's how it stands out:

**Funnel is your marketing copilot:** Reading through the list, it's easy to think that these challenges are not insurmountable. And they are not, with careful planning and a dedicated team it's possible to set up marketing data pipelines that work just fine.

However, the key consideration that needs to be made is if it's the best use of your data engineers time and if it's a cost effective way to go about things.

**Massive connector library:** Funnel has, at the time of writing, more than 200 connections to API's within marketing, analytics, CRM and ecommerce. On top of this, Funnel has a team dedicated to building custom connectors when needed. This means that Funnel can meet your entire data import requirements, not just covering the largest platforms.

**Dedicated development:** Funnel has a dedicated team of developers, ensuring APIs remain updated, error-free, and optimized for platform specific limitations. This lifts the maintenance burden off your in-house team.

**Adaptive data model:** Addressing the unique challenges of marketing data, Funnel's data model is adaptive and robust, allowing for efficient data management. Funnel's data model understands marketing data, which means that much of the data transformation you would have to do yourself, like currency conversions, proper date attribution, and basic harmonization of dimensions and metrics are taken care of automatically.

**Democratizing access to data:** Funnel's transformation layer is a no-code interface. It gives data engineers the opportunity to work in tandem with marketing and business teams, ensuring a seamless blend of technicality and domain expertise. This democratizes data management, allowing even those without deep technical skills to connect data sources, map data together, and validate data in order alleviate these tasks from the data engineer.

**Speed and stability:** Funnel ensures that organizations can swiftly set up their data pipelines and maintain them with stability. This guarantees that the foundation of your marketing reporting remains solid and reliable.

In essence, Funnel is more than just a tool – it's a comprehensive solution designed to ensure that data engineers and marketing teams can harmoniously co-create, manage, and optimize data pipelines with minimal friction.

*"There's never been a project or request that Funnel couldn't do. There's always a way with Funnel."*



**Mattan Romano**

Associate Director of  
Business Analytics

 **Power Digital**