Data, Insight, Action: Machine Learning & AI for Marketing Analytics.

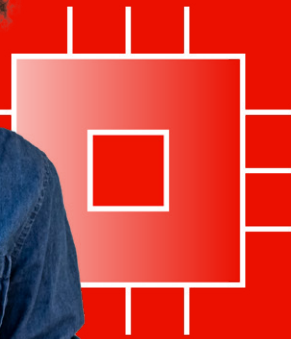**Adobe**

Table of contents.

It's easy to see the potential in artificial intelligence (AI) and machine learning (ML) for data analysis. Your team can use these tools to surface deeper insights, process more data in less time, and automate the repetitive manual work of data cleansing and preparation.

Despite the possibilities, organisations are still struggling to successfully adopt AI and ML. A 2018 Gartner report predicted that 85% of AI projects would eventually fail. Five years later, the prediction has proven accurate.[1]

In order to succeed with a data project, it's important to start with your business goals in mind, and use technology as a means to these ends. It's easy to get caught up in pure technology and pure data—but the business value has to be the primary driver.

We worked with leading data and analytics experts to create this guide to implementing AI and ML in marketing analytics. With the right program in place, you can:

- Increase efficiency for analytics teams
- Successfully complete the data initiatives you're accountable for
- Automate lower-value tasks
- Reach the right people, in the right channel at the right time
- Increase customer retention
- Drive more revenue

Read on to begin (or continue) your journey.

Achieving data maturity.

Before you can begin an AI and data initiative, it's important to establish your organisation's current level of data maturity. Your maturity level will determine which business goals should be your AI initiative's focus.

> **"** When data projects are treated as purely technology projects, rather than focusing on delivering value to the business, they fail.

Simon Asplen-Taylor,
Author, CEO DataTick

in

Asplen-Taylor describes data maturity as developing in five consecutive waves, which may overlap slightly but are distinct from one another.[2] They are:

Wave	Theme	Goal
1	Aspire	Demonstrate quick wins
2	Mature	Data governance, data quality, single customer view
3	Industrialise	Automate, scale, optimise
4	Realise	Clearer voice of the customer, maximising data science
5	Differentiate	From data-driven to AI-driven

This section will explore how the goals in each wave contribute to data maturity and, ultimately, positive business outcomes.

Aspire: demonstrate quick wins.

It's important to show the value of data transformation early in your transformation process. Quick wins with provable benefits can help employees and leaders alike get on board with your initiative.

In a hybrid world where customers interact and transact in both physical and digital environments, web analytics alone are no longer enough for marketing teams to have a full picture of customer behaviours. One quick win project to undertake is making the move from web analytics to omnichannel analytics.

> " Success in an omnichannel world requires a unified and customer-centric approach, balancing personalised experiences with privacy. As a result, organisations must adopt privacy-by-design principles, earn customer trust and respect through transparent data use, and create real value for their customers and business. But to make this happen, leaders must replace silos with collaboration.

Neil C. Hughes,
Tech Columnist and host of Tech Talks Daily

Omnichannel analytics include offline and online data sources, enabling analysis of the entire customer journey, not just the parts that happen on your website.

In the Adobe suite, this distinction is the difference between Adobe Analytics (web-based) and Customer Journey Analytics (omnichannel).

Omnichannel analytics in action.

TSB Bank wanted to get to know its customers better, but a siloed approach to data made it challenging to get a complete view. They needed to consolidate online and offline data, as well as data across online channels, to truly understand the customer journey and provide consistent personalisation.

With Adobe Real-Time CDP, Adobe Customer Journey Analytics, and Adobe Journey Optimizer, TSB Bank has the platform to provide real-time personalisation for their customers.

THE RESULTS:

200%
sales increase in just nine weeks, and a 400% increase in loan applications in the first year of implementation. And thanks to increased efficiency and automation, the bank estimated a £1,000,000 savings in marketing costs in 2020 alone.

Mature: build a single customer view (SCV).

Data consolidation, governance and quality assurance are essential for creating a consistent single customer view. Even with the most sophisticated technology available, we simply can't make good use of customer data if it's not all in one place.

The single customer view is required to enable predictive machine learning and AI-assisted decision making. It's also crucial for permission management, legal compliance and other issues of data governance and quality.

While there are other solutions for storing and accessing data like data warehouses, a real-time CDP is the only purpose-built solution for creating individual SCV profiles that can be activated in real time—which is where the value of the data is realised.

> "
> Extending existing data lake systems to provide the same services as a CDP requires substantial new development. Acquiring a CDP with these functions already available will usually be much easier, faster, and less expensive than developing custom versions or buying and integrating separate components for each.

David Raab,
Founder CDP Institute

in

What is a CDP?

The CDP Institute only offers its RealCDP™ real-time certification for platforms with three capabilities:

1. Packaged software: A CDP is a single solution with all the required functionality
2. Persistent, unified customer database: A CDP creates a single source of truth for customer data
3. Accessible to other systems: A true CDP should have ample connectors and/or an open API to work with other solutions

What Makes a CDP Unique?

Unlike a data lake or warehouse, a CDP is purpose-built to process and provide access to customer data. In general, CDPs have greater flexibility, more marketing capabilities, more privacy controls, and a more user-friendly interface than other data consolidation platforms.

Data governance can best be defined as "a system of decision rights and accountabilities for information-related processes, executed according to agreed-upon models which describe who can take what actions with what information, and when, under what circumstances, using what methods (Data Governance Institute)."

Mature: implement data governance.

Data governance is crucial for compliance with regulations, of course. But more to the point, the marketing team relies on governance to build trust with customers. Marketing to a customer without their consent, or using data in a manner they haven't explicitly agreed to, can erode trust and potentially end the relationship.
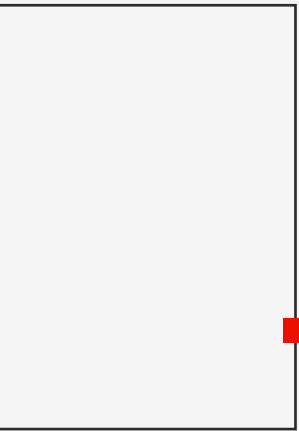
Data Governance in Action

Here is a hypothetical example of how a retailer can implement data governance across channels:

Imagine a fitness apparel retailer, "Luma," that operates both online and in-person. They need a way to manage customer data, comply with regulations and restrictions, and respect customer consent.

With Adobe Experience Platform, Luma can set boundaries for where consumer data will be stored. They can define roles and grant permissions to access,

read, and edit the data. The data custodian can then create an automatically-enforced data usage policy within Adobe Experience Platform.

With these safeguards in place, the marketing team can make the best use of customer data without risking a breach of trust. There's no need to choose between a lengthy data governance review or the risk of violating a policy—automated data governance increases efficiency while ensuring compliance.

A solution like Adobe Experience Platform (AEP) helps automate and streamline data governance, making it easier to manage permissions and stay compliant. AEP brings governance issues together into a single framework that can help track data provenance, ensure accuracy, and keep it consistent across the organisation.

It's important to note that data governance is a people and process problem as well as a technology problem. Part of achieving data governance maturity is setting expectations and developing a culture of smart data usage.

> With the ever expanding multitude of data sources, online and offline, and strengthened privacy regulations in a cookieless future, data analysts will be challenged to provide insights and a 360-degree customer view.
>
> Analysts can meet the challenge by keeping close track of the sources of their data, how the data flows, and who owns it. Carefully, transparently and easily making this data available to users can regain trust and bring real added value.

Yves Mulkers,
Data and Analytics Strategist

Mature: ensure data quality.

The most sophisticated analytics algorithms can't make up for low quality data. If your marketing team's email list is populated with emailaddress@emailaddress.com, or donald. duck@disneyland.org, they're not likely to get good results.

Part of data quality is having the data available to the people who need it. If your marketing team's database has 100,000 profiles, but sales can only see 25,000 of them, sales is likely missing out on opportunities.

AI and machine learning can help ensure the accuracy, availability and timeliness of your data. Algorithms can reconcile data and eliminate false entries. A real-time CDP can make data available across the organisation without compromising security.

Where AI really shines is in timeliness, however. AI-enabled data platforms can keep data current in real time, continuously updating customer profiles as new data is generated.

Industrialise: automate and scale.

According to a recent survey, data scientists spend 45% of their time on data preparation.[3] That leaves precious little time for the actual analysis that delivers the insights used to drive business results..

It's easy to see why automation is an essential step in reaching data maturity. AI and machine learning can take on tasks like data cleansing, eliminating duplicates, and creating profiles.

The other major opportunity for automation is in self-service reporting. Sharing insights with the stakeholders in your organisation doesn't have to require hours (or days) of building dashboards.

Imagine if your organisation's marketing team could log into their own dashboard, see the insights you've gleaned, and even submit their own queries, all without sending your team a single email. You can make the data safely available to more stakeholders, with no coding required, and free up your team to take on higher-value challenges.

## Scaling Personalisation in Action

Personalising experiences for two billion customers might seem like an impossible challenge. But The Coca-Cola Company is taking it on with Adobe Experience Platform.

"We needed to have a platform that would deliver personalization that is on a very small individual scale where we've got these mom-and-pop sort of storefronts [in smaller markets]," says Keith Bartig, Director of Precision Marketing Technologies at Coca-Cola. "And we have the huge restaurant chains and grocery stores in the United States, and everything in between."

In order to support this scale, Coca-Cola's technology team focused on standardisation, with a central technology team managing the requests and requirements from markets around the world.

"Everything we did, we did with global scale in mind," Bartig says. "So, if one region had something they wanted us to build, we would add it to our repository of components and capabilities, so other markets could use it in the future."

Whether you have 200 customers or 2,000,000,000, automation and standardisation are essential for scaling.
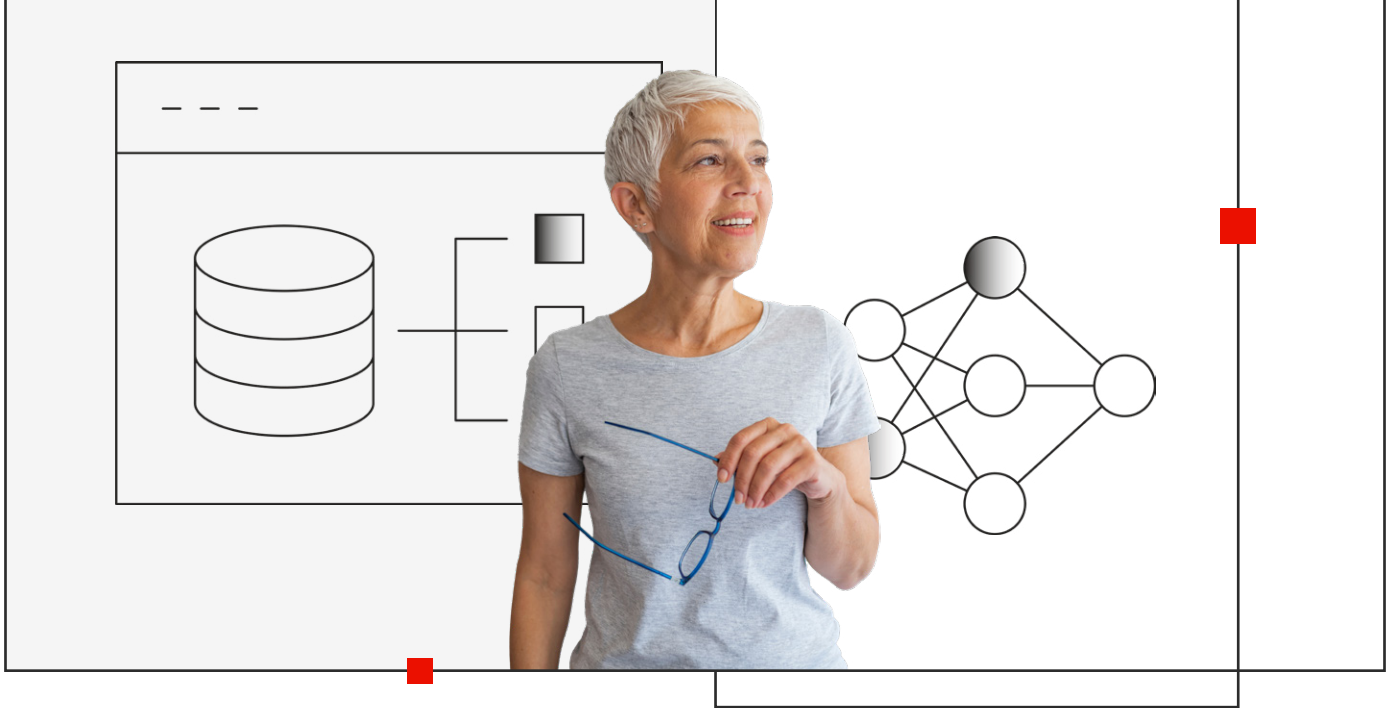
Realise: maximising data science.

For data analysts, this is where the fun (and business value) truly takes flight. You have a single customer view, with data governance managed, and low-value tasks automated. Time to experiment, optimise, implement and repeat.

Adobe Experience Platform (AEP) and Adobe Real-time Customer Data Platform gives analysts the freedom to experiment without risking compliance or data integrity. Low/no-code solutions also make it faster and easier to start experimenting—no need to search code depositories for that perfect query.

A platform like AEP is also more scalable than having individual analysts finding and implementing their own code. AEP provides a standardised environment that's easier to onboard into and easier to operate.

> "If you choose to use heavy code solutions, you will need developers to generate your data. However, developers can often be a limited resource, so you risk being too slow in your decision-making and in your organisation. To stay ahead in today's fast-paced business environment, it's essential to eliminate as many dependencies as possible in order to make faster, data-driven decisions.

Lars Skjoldby,
Founder of the Danish digital marketing agency Skjoldby & Co

Machine learning and AI in action.

The previous sections went through the steps your team can take to create a trustworthy data repository, automate low-value tasks, and implement self-service reporting.

Now your team is free to explore some flagship use cases for machine learning and AI that can help lead you to better business outcomes.
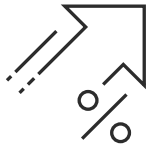
Use case: increasing share of wallet and lifetime value.

Use the full knowledge of your customers' engagement history to cross-reference with similar customer profiles. This will create cross-selling and upselling opportunities for complementary product suggestions, and will enrich the customer relationship from one-time, to lifetime.

Those who go the extra mile can truly differentiate. If your analytics team can geolocate the customer and track weather conditions, they can promote location specific products. Tools like Adobe Realtime CDP and Adobe Journey Optimizer allow your marketing team to push the right offers to customers in the right channel.

Most importantly, they can do all of the above automatically and at scale.

"

Marketing teams can combine detailed audience segmentation, behavioral and demographic analytics, and large language model tools to personalize customer conversations and provide more intelligent, human-like customer support. For example, large language models can understand the context of customer inquiries and conversation to provide relevant recommendations and answers and 24/7 support. This reduces customer wait times and enables human agents to address complex inquiries or issues, for an all-around better, more engaging customer experience.

Ronald Van Loon,
Principal Analyst and CEO, The Intelligent World

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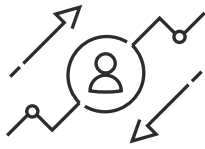
Use case: reducing customer churn.

AI analysis can help spot customers who are at risk of churn earlier in the cycle and re-engage them with personalised offers. AI can also identify trends and anomalies over time. This makes it easier to see where customers are encountering a problem that makes churn more likely.

For example, AI analysis might show that customers who visit a specific page of your website are more likely to never buy again. This narrows down one problem to either the contents of that page, or the underlying issue that drives customers to visit it.

Use case: improved individual customer messaging.

While customers demand personalised content, they are increasingly opting out of sharing personal information. Fortunately, AI makes it possible to personalise even to anonymous users, by creating micro-segments based on behaviour rather than personal information.

For recognized users, AI can enable in-the-moment personalisation, delivered in real-time within a single micro-moment, from insight to action.
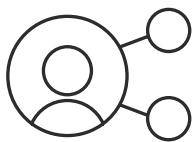
Use case: re-engaging lapsed customers.

When customers' engagement level drops, it's important for marketing to rekindle the relationship before the customer falls away completely. AI analysis can detect customers who are currently at risk, and over time will be able to identify them even earlier in the cycle.

Your marketing team can use these insights to create personalised experiences for at-risk customers, sparking new engagement and higher lifetime value.

Use case: customer conversion optimization.

Marketers currently make decisions about conversion by looking at an aggregated conversion rate. AI-assisted analytics can add intelligence and specificity to the process, enabling marketers to consider each customer's individual needs.

With your analysis on board, marketers can create automated campaigns to reach customers with much more targeted and relevant content, thereby increasing the rate of conversion and keeping customers moving to a purchase decision.
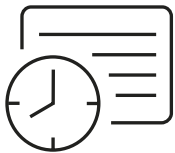
Use case: contextual recognition.

Timing and context are essential parts of successful marketing. Real-time personalisation is only possible through AI and machine learning—it means operating in microseconds, far faster than a human could spot a trend and respond.

With omnichannel data and SVC profiles, marketing teams can deliver real-time personalised experiences and content in any channel, regardless of the authentication state of the customer.

> " Machine learning and AI can make humans more impactful to businesses by increasing efficiency and productivity, improving decision-making, enhancing customer experiences, and enabling better risk management. By automating routine tasks, analyzing large amounts of data, personalizing customer experiences, and identifying potential risks and opportunities, these technologies can help humans work more efficiently and effectively. However, it's important to remember that these technologies are tools, and humans still need to be involved in using them effectively and making decisions based on their insights.

Bernard Marr,
Futurist and best-selling author

in

How Adobe powers the switch from data-driven to AI-driven.

Data initiatives fail when they are focused solely on technology, rather than on achieving business goals. In other words, it's essential to look at the bigger picture of how data becomes revenue.

This process of extracting value from your data involves three interconnected systems for consolidation, analysis, insight and activation:

- **System of Data:** A platform to unite customer data across channels in real time to create actionable customer profiles.

- **System of Insights:** AI-powered data unification and predictive analytics can interpret behaviour across channels. These insights feed back into the System of Customer Data to further enrich the customer profile and audience segmentation.

- **System of Engagement:** This system empowers marketing to act on your insights by orchestrating personalized journeys to deliver the right content to the right customer, on the right channel, at the right time.

"

Marketing analytics is a very rich application area for business data analysts. From trend analysis, to customer behaviour analytics, to demand forecasting, to attribution analysis, to conversion and retention modelling, there are many appealing opportunities for the analyst to gain insights from the flood of incoming business data and to make a significant contribution to the organisation.

One sure-fire way to ignite these initiatives is to employ a data profiling tool that includes automatic data quality assessments, outlier detection, cluster & segment analysis, trend & correlation detection, link & association discovery, and more. Such tools can uncover and guide the analyst to the most interesting, unexpected, novel, and engaging data insights. The added benefit of such tools is that they readily promote data democratisation across the business, even among those less data fluent, while fueling more efficient and effective data analytics tasks among the more data-fluent analysts.

Kirk Borne,
Founder and owner of Data Leadership Group LLC

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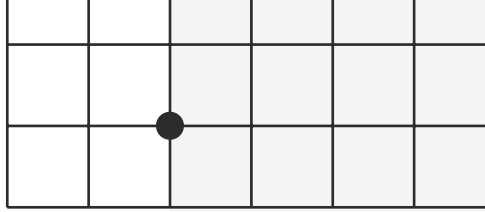
Adobe has developed a suite of solutions on the Adobe Experience Platform (AEP) to help you achieve these goals. Here's how these solutions work together:

- **System of Data:** Adobe Real-Time Customer Data Platform (RTCDP) gives you privacy-ready Single Customer View (SCV) with consumer and account profiles that update automatically based on behavioural, transactional, and operational data. The data collected from across channels and systems is normalised into a standard taxonomy with person and account-level identity resolution, governance, segmentation, and activation in milliseconds.

- **System of Insights:** Adobe Customer Journey Analytics (CJA) analyses data across channels to surface deeper customer behaviour insights both on and offline. It can collect and normalise omnichannel data including behavioural, transactional, and operational data.

- **System of Engagement:** Adobe Journey Optimizer (AJO) puts insights gathered from the CDP into action. Orchestrate and automate customer journeys in response to real-time behaviour, contextual changes, or business signals.

These intelligent solutions are trained on your organisation's specific data before they're put to work, and get smarter over time as new data comes in.

It's often said that data is a business' most valuable asset. But data without expert analysis is just taking up space.

Data analysts can use AI and ML to uncover insights that drive higher retention rates, higher lifetime customer value, and much more.

If you're ready to move from data-driven to AI-driven, request a personalised demo today.

Adobe Experience Platform

Adobe Experience Platform makes real-time customer experiences possible. As the foundation for Adobe Experience Cloud products and services, Experience Platform is an open system that stitches together customer data from every interaction through every channel in real time. The result is true, comprehensive customer profiles that drive relevant experiences for every customer. And it gives you the ability to analyze the data that really matters for customer experience, to train artificial intelligence and machine learning models that put your customers first, and to connect all your customer experience technology to a single source of truth.

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