It’s time to start your AI-led Data Driven Transformation

How can companies take advantage of Cookies Sunset to build forward-looking strategies?

Defining the right foundational approach and highlighting must-have enablers

May 2023

BCG

Boston Consulting Group partners with leaders in business and society to tackle their most important challenges and capture their greatest opportunities. BCG was the pioneer in business strategy when it was founded in 1963. Today, we work closely with clients to embrace a transformational approach aimed at benefiting all stakeholders—empowering organizations to grow, build sustainable competitive advantage, and drive positive societal impact.

Our diverse, global teams bring deep industry and functional expertise and a range of perspectives that question the status quo and spark change. BCG delivers solutions through leading-edge management consulting, technology and design, and corporate and digital ventures. We work in a uniquely collaborative model across the firm and throughout all levels of the client organization, fueled by the goal of helping our clients thrive and enabling them to make the world a better place.

Table of Contents

1. Abstract: barriers to data activation, impacts and the way forward

Growing attention on privacy protection and data economies is reshaping every industry from its foundations.
Everyone is concerned, from customers – subjects of data protection – to companies and governments – enforcing procedures and regulations.

In Q2 2024, Google will be ending support for 3P cookies and join Apple, Mozilla and Microsoft in their commitment to protecting user privacy online. The limitation of 3P cookies goes in parallel to a simultaneous limitation of mobile tracking and will result in a generalized loss of third-party signals. **Overall, companies are expected to have an impact on more than 20% of their data assets which will no longer be activated or accessible**, according to a 2022 survey by BCG[1],

In the short term, companies will become increasingly inefficient in customer targeting and they will experience top-line impacts ranging from -1 to -5% of turnover being unable to efficiently activate customer journeys[2].

The early adoption of data strategies at foundational levels will restore efficiency, resulting in up to 10-30% increase in returns on investment (ROI) and an estimated potential recovery of +4 to +7% EBIT uplift driven by better allocation of investments and/or more efficient investment optimization as observed in solutions that we have already implemented.

Data will become fundamental ('the currency of the future') and the fast pace of evolution in the field of privacy protection will require companies to rethink their strategies from the ground up. The primary goal will be to not only rebuild efficiency in the shorter term, but also create resilient data assets by establishing the protection of customer privacy as a default requirement, as opposed to complying with privacy regulations ex-post.

A holistic perspective on data collection will build a foundation that can be used across business divisions (demolishing historical silos) **to drive efficiency, customer insight, and personalization** by means of:

- the **POWER OF DATA**, that is internalized in terms of management and activation,
- the **POWER OF AI**, which supercharges and scales up data-driven use cases in its experimentation and automated delivery,
- the **POWER OF PEOPLE**, the single most crucial enabler of any transformation (estimated at 70% of the overall effort), which enables all use cases by way of skills, governance and inspired vision,
- and a **TEST and LEARN** approach to navigating complexity and seamlessly adapting to new competitive and customer contexts.

1 - Marketing in a Cookieless Future for B2B Companies (2022), BCG
2 - Ibid

2. Personalization and visibility on customers are a must-have for companies

Over the last 15-20 years, consumer market has evolved from a mass knowledge and addressability of customers to the definition of customer personas, with distinct and separate characteristics that facilitate product tailoring, marketing, and R&D personalization.

The vast abundance of information about customers and their behaviors, along with the ease of use of Direct-to-Consumer channels through widespread digitalization, has facilitated targeted personalization (i.e., a piece of content being sent to a unique customer via his specific channel).

In this context, digitalization itself has offered significant advantages to companies and customers alike.

Companies, for example, have been able to disintermediate industrial value chains, in particular traditional 'business-to-business-to-consumer' flows. Greater disintermediation facilitated gaining direct visibility of final customers whilst taking full control of marketing and sales investments. Increased control opened the possibility of streamlining the money invested into touchpoints and channels transparency, ultimately generating positive returns.

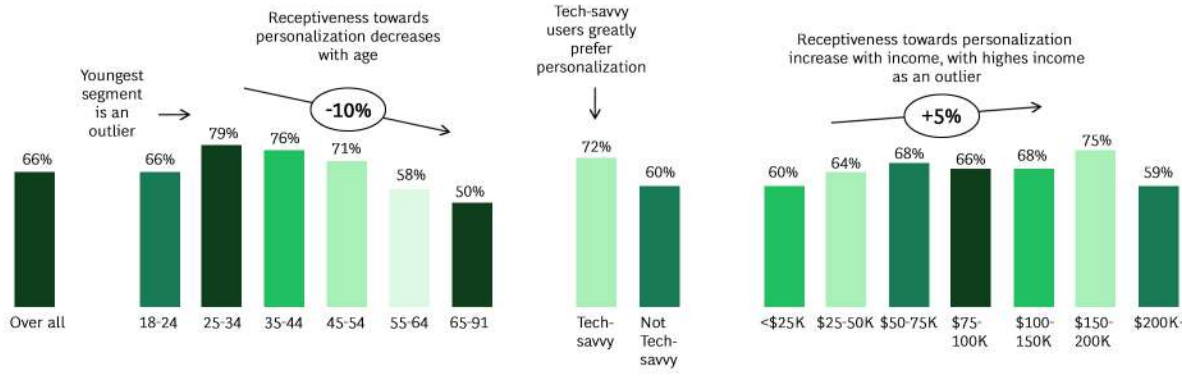
Indeed, by supporting the digital transformation process, we have already observed that up to ~80% of online customers in Banking and Airlines sectors are more likely to purchase when the experience is personalized.

Meanwhile customers have grown increasingly educated on digital, with a 10% compounded yearly growth rate of time spent online over the part ten years, now sitting at over 3 hours a day. **Today, users spend more than 80% of their online time on mobile, dedicating 14% of it to browsing and 29% to social media apps[3].**

As such, personalized experiences and precision targeting have become expected and demanded by customers. It comes as no surprise that 62% of customers state that they would abandon their loyalty to a brand if such brands delivered a non-personalized experience.

This insight confirms the outcomes of a previous 2021 BCG study, which revealed 66% of customers believed that personalization contributed to a positive experience when interacting with brands, with different levels of receptiveness according to age, tech education and income (see Figure 1)[4].

FIGURE 1 - PERCENTAGE OF CONSUMERS WHO BELIEVE THAT PERSONALIZATIONCONTRIBUTES TO A POSITIVE ADVERTISING EXPERIENCE



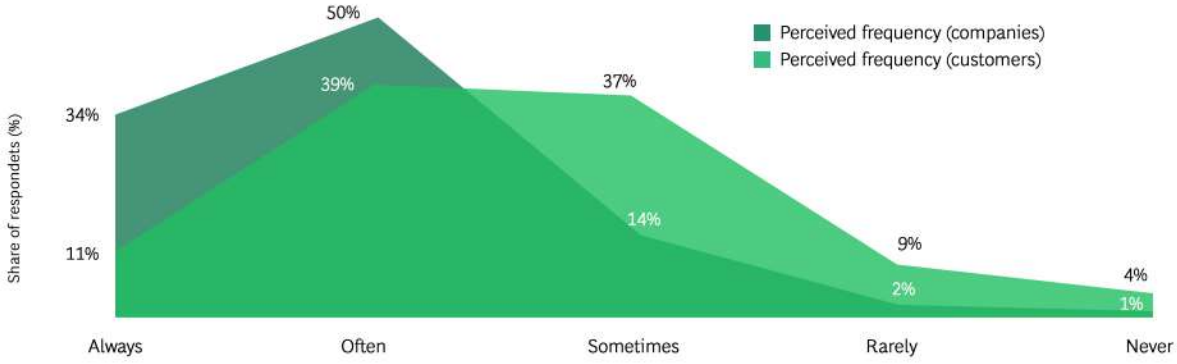
Note: any single score higher than 3 is interpreted as that factor contributing to the advertising experience
Source: Consumer Privacy and Preferences Survey, n=1; Questions: D1: How likely is each of the following to contribute to your having a positive experience with an ad?

3 - Mobile internet usage worldwide (2023), Statista
4 - Consumers Want Data Privacy and Marketers Can Deliver (2022), BCG (Link)

However, meeting customers' expectations in terms of personalization is not easy. As research shows, there is a gap in terms of perceived delivery between the company's aspiration and the customer's perception of personalization.

Looking at studies on marketing executives and interviews to their respective customers, it is possible to notice that customers are aware of experience personalization less often than it is delivered[5], hinting at discrepancy in focus and room for further improvement (see Figure 2).

FIGURE 2 - FREQUENCY OF PERSONALIZING EXPERIENCES ACCORDING TO B2C MARKETERS AND CONSUMERS



Source: Marketing personalization trends worldwide (2022), Statista; BCG analysis

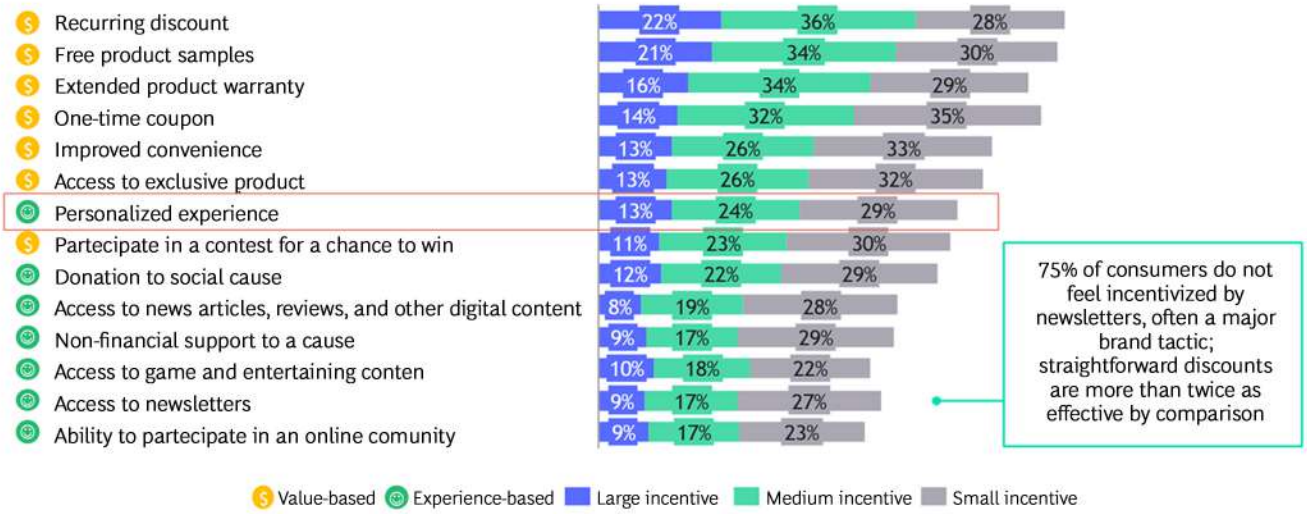
Approaches to successful personalization (i.e., programmatic vs. traditional offerings; product definition vs. marketing delivery; etc.) **are characterized by one essential enabler: Customer data.**

Customer data ranges from demographic information such as age, location, and digital attitude, to behavioral data. The latter encompassing a large variety of inputs, from responses to marketing and purchasing patterns, to preferences when browsing the web and social networks.

And whilst personalization is perceived positively by customers, it is also beneficial to companies, especially in the context of data strategies, as it actually offers the highest non-value-based incentive for customers to share data, triggering a virtuous self-financed data collection loop (see Figure 3).

5 - Marketing personalization trends worldwide (2022), Statista

FIGURE 3 - WEIGHTED CONSUMER VALUTATION OF INCENTIVES IN EXCHANGE FOR PERSONAL INFORMATION[1]



1 - Rank reflect weightings as follows: 1 for a small, 2 for a medium, 3 for a large

Source: Consumer Privacy and Preferences Survey, n=1,015; Questions: P2: How substantial are the following incentives in terms of motivating you to voluntarily share a piece of personal information with a company (assume same dollar value)?

> ***With time many companies have naturally delegated the collection and processing of high-volume data to big tech companies, publishers and media agencies, with limited ownership of the resulting data gathered.***

This may be a problem for many as behavioral insights, unlike demographic data, come from constantly monitoring customer activities across touchpoints.

The primary source of customer data comes from two digital tools, assolving to the same functionality: cookies originated on web browsers and SDKs (Software Development Kits) built on unique device identifiers from mobile application (MAID – Mobile Advertising Identifiers).

Direct control over digital channels puts external vendors in a pivotal position, reinforced by analytical capabilities applied to rapidly-changing, large-scale raw data sets, until now completely under their control.

3. Privacy protection is changing the value of data – and companies need to be ready

The increasing public scrutiny on how companies manage and activate customer data, coupled with the growing and widespread adoption of the principles of data economy[6] puts the spotlight on the need to protect customer privacy and raises ethical questions about where to stop in conquering customer attention, and what is allowed in such competition (what to track, how and when).

Today, key talking points have to do with the ownership of user data (i.e., collector versus customer) and how it relates to the concepts of purpose and ethics in activation as a mean of pursuing business objectives versus customer value.

With the implementation of GDPR, the EU already established some cornerstones for a healthy data development. Indeed, it established the principles of privacy protection and the consent in data activation[7]. Furthermore, with the implementation of a data strategy framework, the European Union is now defining the blueprint for a data economy in which the core principle is that data is owned by customers, not by collectors (e.g., brands or companies), thus empowering the owner to take direct advantage of their data[8].

In this context, big tech is gradually deprecating cookies from web browsers – starting with Safari (Apple) back in October 2018, which blocked 3P cookies on read[9], followed by Firefox (Mozilla) and Edge (Microsoft).

Chrome (Google) announced the end of support for 3P cookies for next Q2 2024[10]. Google's deprecation in particular is considered the 'sunset' of 3P cookies, and a radical change in how digital marketing and data economy will be structured. In fact, Chrome currently supports more than 61% of all web traffic in Europe (59% in North America, 68% in Italy)[11].

Tracking on mobile devices is also being reduced, specifically by the restrictions on MAIDs (Mobile Advertising IDs). Apple first introduced the App Tracking Transparency (ATT) feature in 2021, allowing users to manage their consent regarding the amount of information shared from Apple mobile devices. Expanding its Privacy Sandbox, Google extended an initial beta version of a similar framework (GAID – Google Advertising ID) to selected Android devices[12] in February 2023.

As a direct implication, privacy-first thinking is already limiting large-scale data collection without explicit consent and sharing of data beyond the scope set by customer. The consequence is already clear at least for some companies: a slowdown in digitalization that has characterized at least the last decade, due to reduced visibility into customers.

When outlining the shape of the future data landscape, it is important to note that privacy requirements will not only apply to 3P cookies and mobile tracking. They will also have significant impact on user-generated data. In the new context, for instance, 3P data – that is, data collected outside of a brand's own environments (including for example offline forms) – will no longer be transferable (and therefore purchasable by companies/marketers) without explicit user consent at the moment of collection. Meanwhile, 1P data – that is, data collected directly by a brand within its environments – will need to be associated with consent and a specific purpose, meaning that current data assets owned by brands will see waves of re-permission in order for data to be lawfully activated.

6 - The rising cost of consumer attention: why you should care, and what you can do about it (2014), Harvard Business School
7 - Regulation (EU) 2016/679 of the European Parliament
8 - European Commission (2018, 2022, 2023)
9 - Evolving Intelligent Tracking Prevention 1.0 already adopted in October 2017
10 - Internet advertising, evolution of addressability (2023), Politecnico di Milano
11 - Browser Market share across devices (Apr. 2023), StatCounter
12 - Internet advertising, evolution of addressability (2023), Politecnico di Milano

Across the various industries, many companies do not seem prepared for the upcoming change.

Indeed, based on BCG research regarding how US marketers plan to evolve their data use, 62% of companies believe that more than 20% of their data (i.e., anywhere between 20% and 100% of their data asset) is at risk due to shifts in privacy, collection, and activation trends.
This number rises to 78% among consumer-facing companies[13] (see Figure 4).

FIGURE 4 - PERCENTAGE OF DATA - INCLUDING FIRST-, SECOND- AND THIRD-PARTY DATA-IMPACTED (I.E. RENDERED UNTRACKABLE OR UNTARGETABLE IN PAID MEDIA) DUE TO SHIFT IN DATA PRIVACY, COLLECTION AND ACTIVATION TRENDS

Source: Marketing in a Cookieless Future for B2B Companies (2022) - Future of data USAGE, Primary survey (n=107),
Question 6b: What percent of your data, including 1st-party, 2nd-party, and 3rd-party data, do you anticipate will be impacted due to shifts in data privacy, collection, and activation trends?

Marketers' top concern is that data limitations will prevent them from using 1P, 2P and 3P data to monitor users or target paid media. Similarly, 69% of companies expect to see a negative impact on their website activities in the near future, while 48% already expected a negative effect as early as 2021[14].

From a technical perspective as well, companies appear to be less than ready for the change. If we take Italy in the European market as an example, research conducted by the Politecnico di Milano in 2023 shows that 22% of companies interviewed are not currently investing in measurement tools. In the same report, only 21% and 7% of marketers are currently investing in marketing mix models and attribution models respectively[15].

When compared to more advanced markets, namely the United States, the insight into the Italian market becomes more worriesome.
In US the adoption rate of MMMs is 78% according to a 2019 IAB[16] study) and 81% (based on a 2019 BCG survey of senior marketers in the US[17]).

Additionally, contributing to global low tech maturity, 1 in 3 companies does not have marketing data management technology, and those already investing in advanced technologies (such as customer data platforms – CDPs) still have more than one source of truth informing their data[18].

The lack of tech maturity and risks in data management hints at a generally low level of maturity in terms of the ability to work with data[19].
BCG monitors seven dimensions that are critical to extracting value from data, each of which informs the cornerstones for solid and compelling data strategies across all relevant dimensions (not just data per se):

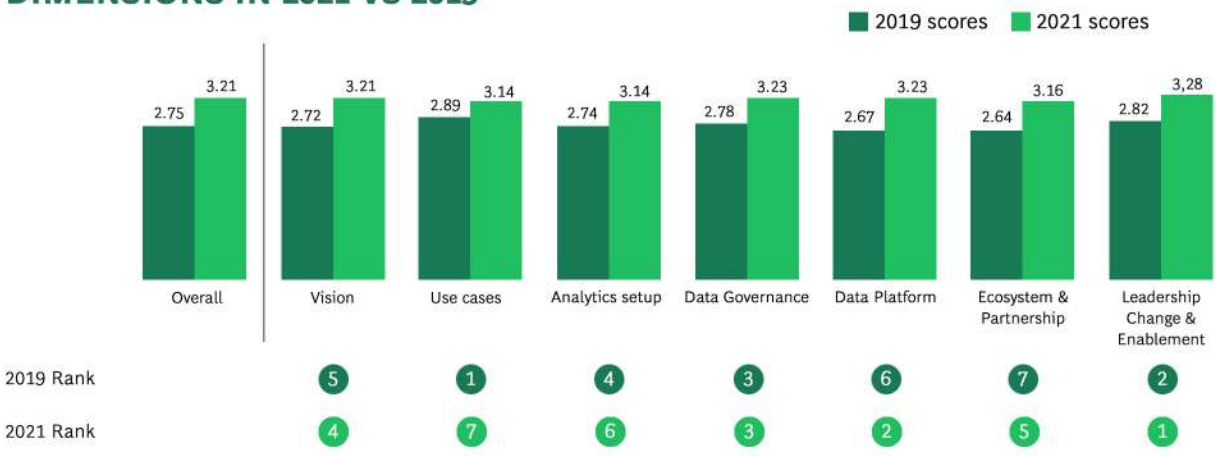
13 - Marketing in a Cookieless Future for B2B Companies (2022), BCG
14 - Ibid
15 - Internet advertising, evolution of addressability (2023), Politecnico di Milano
16 - IAB Research, The Essential Guide to Marketing Mix Modelling and Multi-Touch Attribution (2019)
17 - Marketing Measurement Done Right (2019), BCG x Facebook
18 - The Fast Track to Digital Marketing Maturity (2021), BCG x Google
19 - According to BCG's DACAMA benchmark (Data Capability Maturity), running on a triennial basis since 2015 (with a new update due Q3 2023).

1 Vision	Ability to define a clear ambition tied to strategic goals and align the organization towards an approach to reach it
2 Use Cases	Presence of a structured way of working to ideate and prioritize initiatives tied to their impact and value for the company (linked with ambition)
3 Analytics Setup	Presence of the right talents and operating model to extract value via a thorough analytics process applied to data assets
4 Data Governance	Presence of a single source of truth for key information needs and sets of basic hygiene initiatives, with an understanding of the costs of data maintenance
5 Data Platform	Presence of the right infrastructure to enable the basic capabilities needed in data activation, and digitalization of key business processes (with relevant cost implications)
6 Ecosystem and Partnerships	Ability to leverage data ecosystems to drive new value, and collaborative vendor network to help drive innovation
7 Change and Enablement	Engaged and aligned leaderships with key support roles and ambassadors

The maturity level of each dimension is measured in a cross-industry benchmark on a scale ranging from 1, which indicates a company lacking basic data analytics capabilities, to 5, which indicates a company that is advanced in most or all dimensions.

The average score is slightly above 3, indicating that companies around the world are aware of their needs and have begun to work toward them (see Figure 5). It is interesting to compare the levels of data maturity over time, with the graph showing a clear across-the-board advance in data capabilities from 2019 to 2021[20] (see Figure 6).

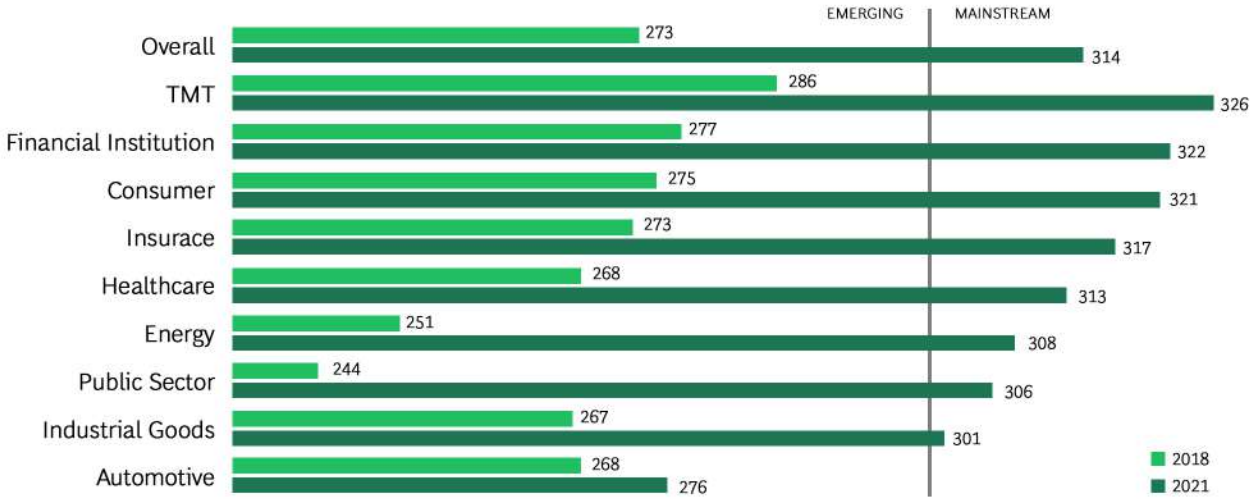
FIGURE 5 – AVERAGE DATA CAPABILITY MATURITY ACROSS DIMENSIONS IN 2021 VS 2019



Source: BCG Data Capability Maturity Assessment (DACAMA), 2021

20 - Data Capability Maturity assessment (2021, 2019), BCG

FIGURE 6 - AVERAGE DATA CAPABILITY MATURITY ACROSS SECTORS IN 2021 VS. 2019



Source: BCG Data Capability Maturity Assessment (DACAMA), 2021

Knowledge of the gap between current capabilities and ambitions is a powerful tool allowing companies to prioritize and develop a transformation roadmap.

> **"Despite the fact companies will soon see significant changes, not all companies will be affected by a negative impact."**

Looking at the same benchmark statistics at a more granular level, some sectors indeed have already advanced through the years of our benchmark observation in terms of data management maturity, and now need to focus on strengthening their vision and use cases.

The deprecation of 3P cookies will place direct customer interaction at the center of most data strategies, resulting in companies with a natural abundance of 1P data. Retailers that can collect and manage 1P transactional data at scale – along with companies that are able to monetize their insights via logged users – will have undisputed advantage in activation and can self-fund innovation through insight monetization (internally or externally).

For forward looking companies and executives, data abundance paired with the right strategies will constitute a considerable competitive advantage.

4. Data losses will result in a significant financial impact on companies in most industries

Companies will face negative consequences in case they will be unable to activate specific customer-facing use cases due to the available data being lower in quality.
The result in turn will have a direct financial impact on the profit & loss, and on the profitability of their customer facing investments.

To start with, **marketing and media investment will be less efficient, due to both a) reduced availability of high-quality data to define audiences and personas and b) less effective targeting of those audiences.** As a result, customer interactions will become less transparent in terms of the visibility of user characteristics, needs and the results of past interactions for learning.

Greater difficulty in generating actions (conversions, clicks or leads) and, on average, lower quality attributes will increase inefficiencies in execution. In digital performance campaigns, for example, this will increase the cost of conversion (CPA) by approximately 20-50% compared to 2019 figures[21].

Inefficient campaigns at the source will still attract investments in the hope of achieving pre-privacy returns. However, ineffective and suboptimal execution will generate a lower return on investment (ROI) – approximately -20% lower than before – across both digital and traditional channels[22].

Two scenarios are likely to play out in the future, neither of which will be profitable for companies. Either companies will need to increase their media budgets by 20 – 30%[23] of current levels to maintain their top line, or conversely, they will see a potential reduction in revenue of approximately 1 – 5%[24] due to the expected 20% drop in ROI.

It must be kept in mind that marketing investments are not elastic. BCG's research done with Google shows that cuts to branding budgets between 2017 and 2021 resulted in a -0.5% reduction in market share, and a 13 percentage point lower[25] compound annual growth rate in revenue.

Furthermore, we observe that for every €1 cut in marketing budgets, it will cost more than €1.80 to regain the lost market in the future[26].

21 - Google, Meta, Amazon benchmark report (2022), Tinuiti. Aggregate result on portfolios of clients managed by Tinuiti. BCG analysis

22 - MMA Identity Marketer Survey (2021), BCG. Question: Please estimate how this impact on your ability to carry out each use case might affect your media effectiveness and your overall return on marketing investment, N=150

23 - Assuming a 50-50 split of media investments between digital and traditional media, and a 30-70 split between media investments vs. Promos and other

24 - Top-line impact estimated based on BCG observations on share of media investments as percentage of revenue and estimated impact on ROI of data deprecation, benchmarked with panel of industry reports: Nielsen, Kantar, MarketShare

25 - The Fast Track to Digital Marketing Maturity (2021), BCG x Google

26 - Branding research study (2022), BCG

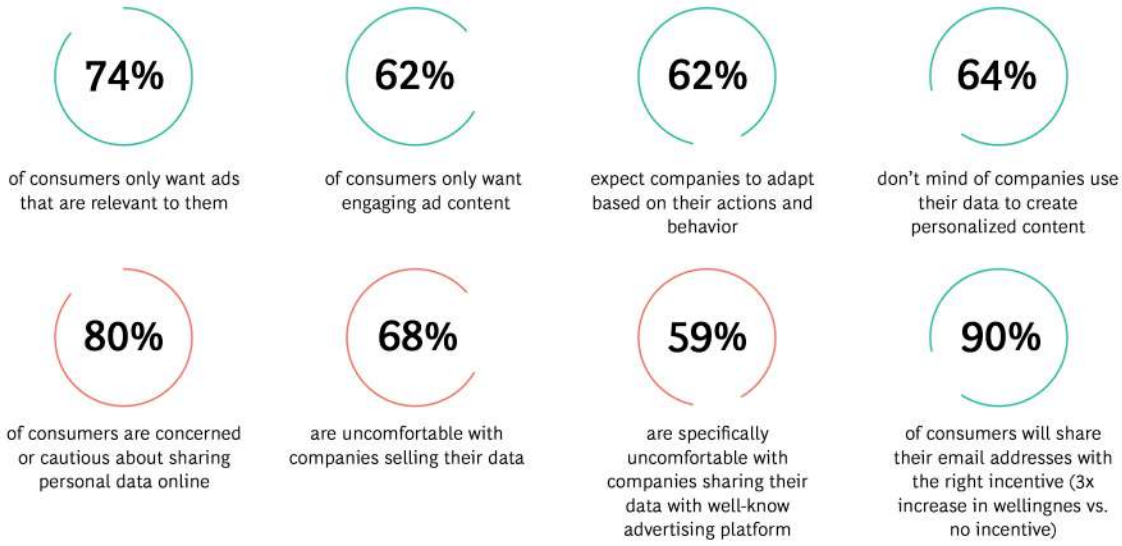
5. Making privacy the default will help data-driven companies to rebuild trust and profits

Today's customers face a dilemma between the benefits resulting from companies implementing data analytics, on the one hand, and the needs for protection of their own privacy and safety, on the other.

Looking at the market, our research shows that 64% of customers are comfortable with companies using their data to create personalized content, and 74% of customers want ads that are relevant to their expectations[27].

However, within the same pool of respondents, 80% of customers are concerned or cautious about sharing their data online, and 68% are uncomfortable with companies selling their data[28]– specifically, 59% are uncomfortable with companies sharing their data with well-known advertising platforms[29].

FIGURE 7 - CONSUMER PERCEPTION OF PRIVACY AND DATA USAGE



Source: Consumers Want Data Privacy and Marketers Can Deliver (2022), BCG; Consumer Privacy and Preferences Survey (2018), BCG; Leveraging GDPR to Become a Trusted Data Steward (2018), BCG

It is becoming increasingly important to properly manage expectations and build trust: indeed, 90% of customers become three times as likely to share their email addresses when provided with the right incentives and twice as likely to share their data with companies that have a good reputation in terms of managing customer's privacy[30].

Now is the time for companies to transform the way they engage with data and double down on enforcing privacy as the default approach.

Privacy by default is able to shelter companies from the reputational and financial risks associated with data breaches and the non-compliant use of data. Additionally choosing privacy by default can build resilience and trust in an ever-evolving regulatory framework, as well as scale proprietary data assets that are unique to the company.

27 - Consumers Want Data Privacy and Marketers Can Deliver (2022), BCG (Link)
28 - State of the Connected Customer (2019), Salesforce
29 - Consumers Want Data Privacy and Marketers Can Deliver (2022), BCG
30 - Ibid

> ***Putting privacy first by default requires organizations to embark on a data-driven transformation process that gradually internalizes the entire data value chain.***

A 'privacy by default' data strategy involves five steps along the data value chain:

1. **Consensual data collection**, managing the value exchange and maximizing the reward for effort, while understanding what the imperative data needs are so to enable use case activation and leverage (i.e., fully integrate) existing assets.

2. **Privacy-compliant management**, by establishing appropriate data and cybersecurity infrastructure.

3. **Ethical data integration**, expanding the amount of information carried by data, but setting limits beyond which customer privacy may be at risk (particularly relevant when considering AI).

4. **Purposeful activation**, using collected data to provide added value for the customer and collecting only the data that provides them with direct value.

5. **Clear communication**, transparently explain to customers how their data is collected, managed, and processed to deliver a better experience or value.

Companies should exploit three imperative factors to achieve a 'privacy by default' data-driven transformation:

- **The power of data** – defining real data needs, collection strategies that maximize value, and unlocking cross-functional activation, while building on data governance to ensure compliance with privacy, quality, and value extraction requirements.

- **The power of AI** – maximizing consensual data internalization and super-scaling analytics; experimenting with automation at the benefit of higher volumes and speed, and modeling blind spots with a high degree of accuracy despite limited data inputs on a given customer account (an abundance of data on average is, in any case, a must).

- **The power of people** – ensuring people can manage data and advanced tools to drive results through governance, training, and vision; investing in people to ensure the right level of control.

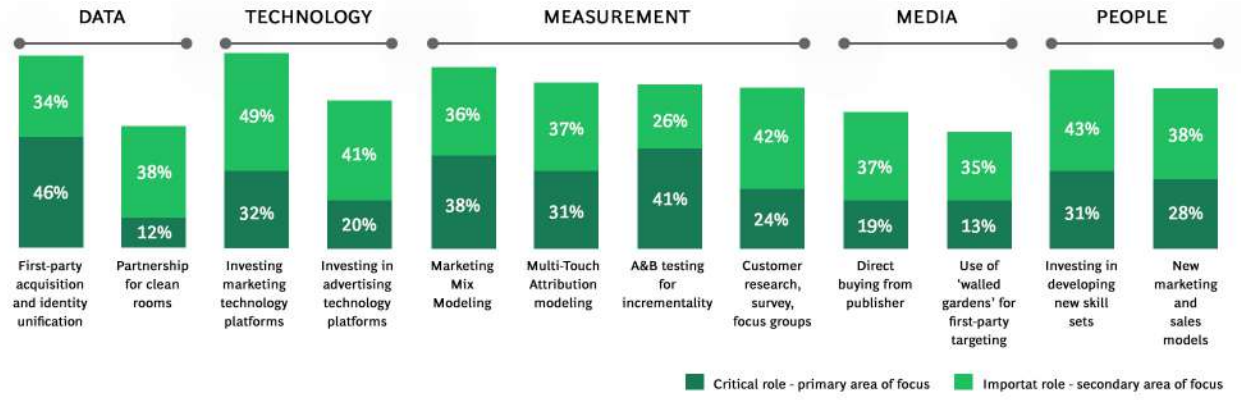
In addition, it would be critical to embrace a **test and learn** mindset as the foundation for these three key elements. In the future, every company will need to change, therefore it is key to make flexibility paramount. Companies need to start acting quickly, validating hypotheses and scaling solutions.

6. The power of data: building a holistic and resilient spotlight on customers

Companies and customers will begin to see each other in a blurred way. Companies will be unable to accurately assess their audiences and design interactions, while customers will struggle to appreciate a company's products, message, and storyline.

As 3P data fades, it will become important to develop a strong data strategy based on clear objectives and anchored in a technological stack that will enhance the value of data.
The key will be to zoom out from specific use cases and focus on the foundation that will drive long-term value for the entire company (see Figure 8).

FIGURE 8 - ROLE OF TACTICS IN RESPONSE TO DATA AND PRIVACY TRENDS



Source: Future of data use, 2021 – Primary survey (n=107). Question 13: What role do the following tactics play in your company's response to data and privacy trends? - Excludes "relevant, but not that important", "not relevant, unlikely to be a component of response", and "no opinion" responses

Data strategies and data collection initiatives are significant investments for companies in terms of effort, budget allocation and timespan.
Given the current context of constant evolution that will hold a steady pace in both the short and medium terms, companies need to prioritize initiatives which keep the trajectory and purpose of regulation in sight to ensure that their data strategy is long-lasting and resilient.

The main principle is that data must be collected for the customer, with the purpose to meet their needs. Consequently, the owner of the data is not the organization that produces and stores them, rather the physical person – or data subject – herself.

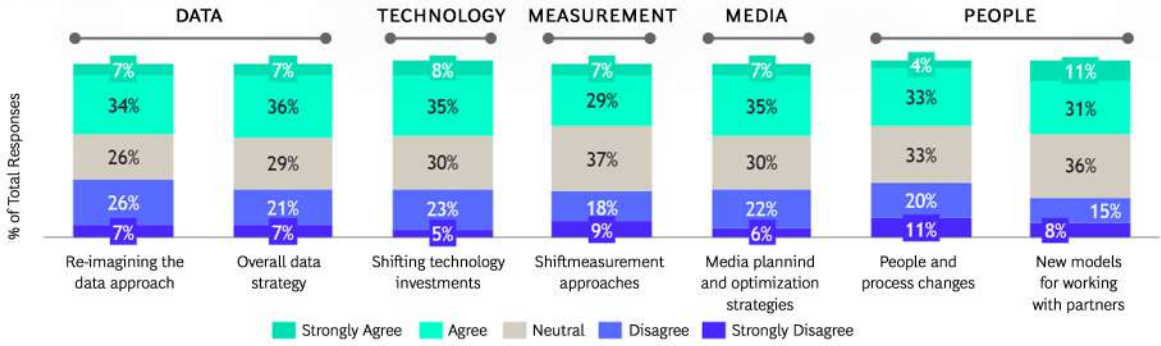
As regulations are still being drafted (in September 2023, the EU will enforce the Data Act[31]), a variety of scenarios could unfold, potentially fully empowering users to manage their data, and therefore decide who can access it – and when.

Right to share with third parties upon explicit request from the user, including with public bodies or institutions (art. 5, EU DA).
31 - The Data Act, proposed in February 2022, is a crucial pillar of the EU data strategy for which the European Parliament adopted its decision on 14 March 2023, now ready to enter negotiations with the Member States in a trialogue, with the general intention of reaching a final decision by the end of June 2023. In addition to the EU Data Act, there is also the Governance Act (effective September 2023), the Digital Markets Act (effective Q1 2024), and the AI Act (proposed April 2021). With the EU Data Act, the European Commission wants to make the existing data in online devices available to more stakeholders.
The Data Act's key areas include several principles for manufacturers of online services and products which are used on European networks, regardless of where they are based (art. 1, point 2 EU DA). The most relevant here are the following (European Parliament 2023, Data Act — Factsheet | Shaping Europe's digital future (europa.eu):
Defined data access: Data holders/providers must grant users access to any data generated about them (art. 2, point 1 EU DA), so that said data can be easily accessed (including audio and visual data—articles 3 and 4 EU DA).
Obligation to inform users about data generated: for example, about the nature and volume of the data, how the user can access it, and subsequently how it can be shared with a third party (art. 3, point 2 EU DA).

However, having a clear principle or guiding star is just the beginning of the transformation.

Nowadays companies are puzzled: regulation and its related consequences (i.e., the deprecation of cookies) is shifting companies' efforts in terms of identifying priorities and establishing what the next bet should be (as witnessed by the fact that less than 50% of companies admit that they have plans to address the impact of 3P data deprecation[32] – see Figure 9).

FIGURE 9 - COMPANIES' PLANS TO ADDRESS DATA PRIVACY, COLLECTION AND ACTIVATION TRENDS



Source: BCG – Future of data use, 2021 - Primary survey (n=107), Question 10 Which of the following statements represents your company's plan to address data privacy, collection and activation trends?

Of course, it is dangerous to start with data collection head-first, as this can expose companies to compliance risk and, perhaps more importantly, uncertain returns on data investments.

The reality is: there is no single discernible priority at hand.
Data privacy and the consequences of the deprecation of 3P data is not a use-case problem, rather a foundation concern.
Companies will be missing the very insights required to activate any data-driven use cases, as was once possible.
They will no longer have insights into customers in order to design audiences and deliver personalization, they will no longer have tracking to monitor attribution and build aggregate returns, they will no longer have cross-channel analytics to monitor scenarios, and they will no longer have the feedback required to develop personalization.

> ***What we suggest is a top-down approach to defining the data strategy, starting from activation objectives and following them backwardly along the data value chain.***

Companies should ask themselves what their activation objectives are, how they are performing on them, and how they would perform on those objectives in a scenario in which companies no longer have specific data points.
Objective-based data strategies (and collection) will allow executives to place an emphasis on resilience, collecting strictly necessary data only.
We have indeed seen multiple cases of companies launching large data collection initiatives and amassing vast databases of 1P data, focusing on how to activate them only as a subsequent strategic decision, leading to significant costs and difficulties in proving value both internally and to the customer.

> ***The major roadblock encountered by companies designing data strategies is remaining anchored in a use-case-by-use-case perspective rather than identifying the foundational priority use cases.***

Use-case-by-use-case approach will increase the risk of data duplication and limit any potential synergy[33].

The approach should be holistic, covering all foundational priorities and the roadmap for potential future evolution.

32 - Marketing in a Cookieless Future for B2B Companies (2022), BCG
33 - Note that data collection shall not be perceived as friction by the customer, as it happens with redundant forms or repetitive surveys

6.1 The power of data will be enabled by tech: the key role of identity resolution and Customer Data Platforms (CDPs)

Shifting the ownership of data management from big tech to internal data structures, companies will face significant challenges in terms of technically ensuring data quality and, beyond quality rules and policies, allowing multiple stakeholders to access the same data whilst complying with best practices for privacy.

Data strategies run the risk of remaining merely theoretical if not paired with solid technology stacks. In order to take advantage of collected assets, companies need specific sets of capabilities of which the efforts to internalize the value chain, will require an overhaul (if not integration entirely from scratch).

Every link in the data value chain will experience significant stress: data collection, in terms of volume and speed; data management, in terms of privacy and quality validation; analytics, in terms of insight (the true competitive advantage of the future); activation, in terms of signals and value creation; and communication, in terms of compliance and transparency regarding data management processes.

This change of pace will lead to the 'identity stack' and ensures a truthful and rounded view of the customer, considering the full spectrum of capabilities that need to be enabled across the business. The identity stack is indeed composed of a variety of different solutions that piece together and enable specific business processes.

A modern identity stack spans IT, marketing, and analytics, and incrementally builds value on data by layering different capabilities. Technological investments will be necessary to support digitalization – and the investments are often significant for companies in terms of the value, business disruption during implementation and change. That is why it is important to build an understanding of how companies have historically layered technical solutions, how these solutions overlap in terms of capabilities, and how the current capabilities are positioned to holistically cover the requirements of the foundational use cases.

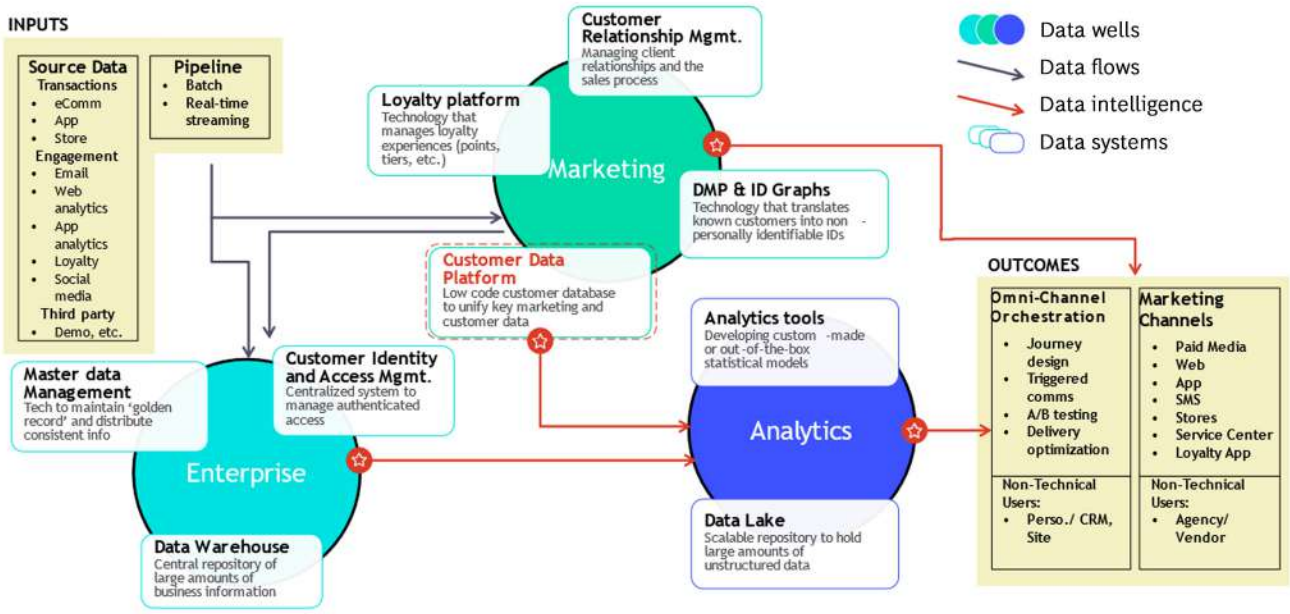
Looking at the evolution of the data environment and the felt need to distil insights from scarce and siloed legacy data, the often-heard discussion revolves around customer data platforms. Whilst good conversations should indeed include CDP, they must also take a holistic perspective and offer an understanding of which capabilities they can contribute to, and what the company-wide applications of those capabilities will be – with all actors sat around the table.

CDPs enable companies to build connections between different data sources and allow for what is referred to as 'identity resolution', however, investing in identity resolution becomes fruitful only when it is possible to stitch data across domains and company divisions and establish a platform on which all use cases can be built (not only a selected set).

The objective of a CDP is to help provide a comprehensive overview of the customer, which must be unique and shared company wide. Efforts to implement it must be cross-divisional, aligning all stakeholders (primary users and consumers of insights) whilst simultaneously decommissioning overlapping technology that creates duplicates.

There are several CDP providers and offers, and the discussion with them needs to be properly framed due to the explosion in market offering. Indeed, market solutions are not always sufficient to satisfy all business needs in terms of capabilities and will likely end up requiring constant upgrades and additions.

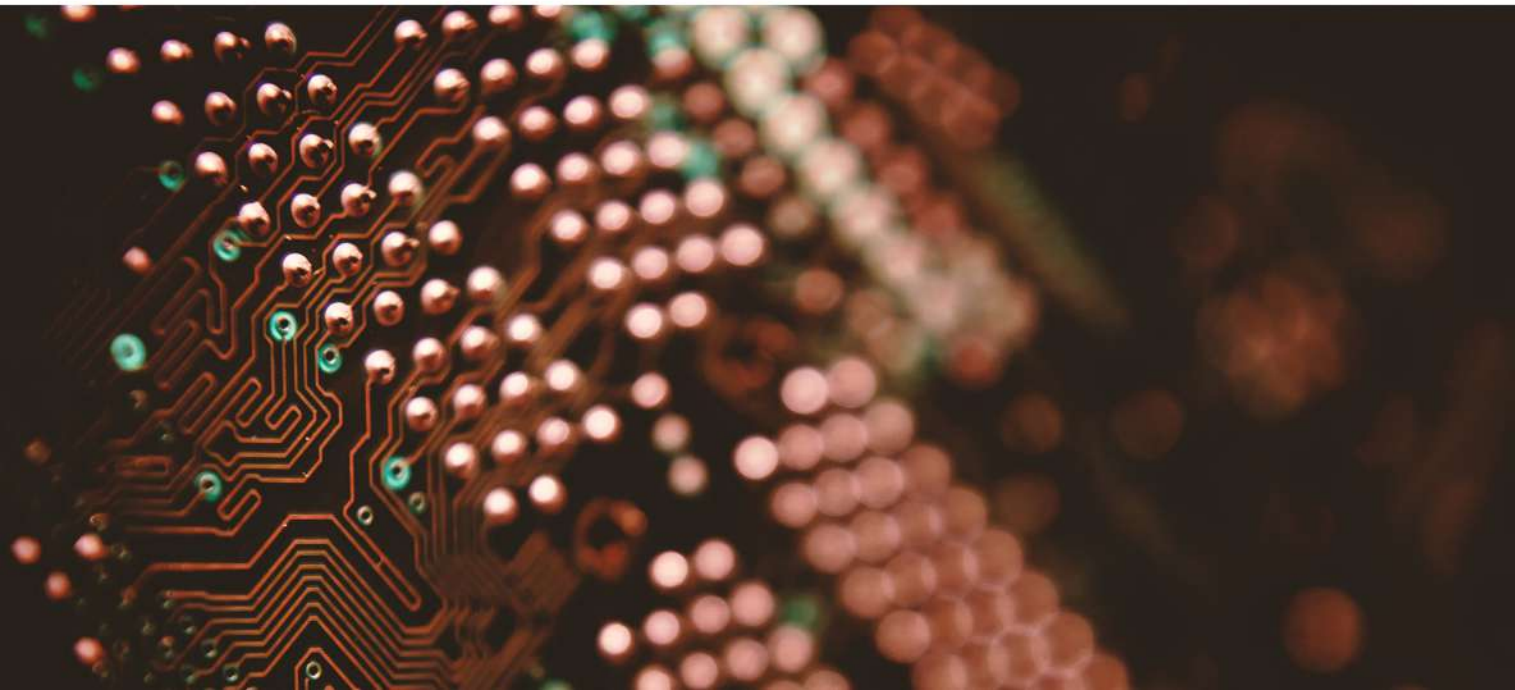
FIGURE 10 - THE MODERN IDENTITY STACK WILL BE COMPLEX AND REQUIRE DIFFERENT COMPONENTS



> ***Our fundamental belief is that the identity stack will need to be based on many different components, on top of the CDP.***

In other words, gaining the ability to master 1P data in order to remain competitive will require having a CDP that is effectively integrated into a complex ecosystem (see figure 10).
For example, companies will need to face critical decisions such as:

- Choosing the most compelling solution (build vs. buy), ranging from purchasing an off-the-shelf CDP to having one custom designed.
- Decommissioning siloed legacy systems to merge them into a single off-the-shelf CDP.
- Integrating identity match capabilities into a current DMP (customizing the tech stack).
- Shift towards data mesh (creating high-quality data products that are interpretable holistically throughout the organization).



7. The power of AI: training the bionic muscle

Engaging in conversations on artificial intelligence, it is common to hear from CEOs that they have "billions of small initiatives all over the place" and are "constrained by monolithic legacy systems".
They often have "cutting-edge [technology], but no scale" as they "do not have good enough data[34]".

A huge gap divides the exemplary results seen across industries and the difficulties encountered in scaling the value offered by AI beyond the initial investment. When correctly implemented, AI can offer companies significant growth, with up to 15%[35] boost to the total shareholder return (TSR). However, many companies are still struggling to seize upon this opportunity.

There is a clear misalignment between what AI is and what companies expect from it perhaps partially due to the recent growing interest in the topic. The concept of AI is not new and has its roots back in the 1950s and 1960s, when it referred to the first solutions that tried to replicate human decision-making and cognitive processes on a computer. At the time, however, there was a sizeable mismatch between the computational capacity and the extensiveness of the models.

Improvements in technology are now democratizing access to AI (even at the consumer level), which was previously only available to Big Tech and large corporations.

AI today has indeed become ubiquitous, seeing applications in countless examples, most of the time as a silent enabler (with examples including text recognition, suggestions, and precision media, to name but a few).

The first step, before starting to consider use cases and opportunities, is to clarify that artificial intelligence is not a business solution, rather a capability just like humans' contribution to companies.
Keeping this in mind, it becomes easier to understand why implementing AI for the sake of it will almost certainly burn through significant investment for a short-term fad.

AI excels at rebuilding customer identity and resolving multiple customer data sources, **but if implemented properly, it is even better at understanding hidden patterns in users' interactions across channels, forecasting the value of customers and how they interact with brands and content along touchpoints, and simulating virtually infinite action-result possibilities before committing to investing in a specific customer.**

Test and learn is at the heart of any data-driven process: starting with a hypothesis based on data, then tested in real-world pilots with controlled parameters that allow for small, monitored variations; at the end of the experiment, these pilot results are assessed against the initial hypothesis.
The variations in parameters used in experiments build new and significant data points to help interpret the main variable and will constitute new signal feeds into a company's 1P assets.

AI can run thousands of parallel experiments and test multiple scenarios live whilst also integrating the results of each experiment into optimization models as new rules with never-before-seen results in terms of speed and scale.

34 - Global Survey of 2600 business executives (Sloan Management Review)
35 - Source: S&P Capital IQ; BCG DAI database; BCG 2021 CPG IT Benchmarking Survey

However, considering the imminent scenarios of privacy regulation and the 3P data deprecation signal loss AI can only be implemented in data-rich contexts, especially when companies are able to fully leverage their digital channels to harness 1P interaction data.
In these cases, AI can help solve complex problems, lending clarity and order to unstructured, large-scale data assets:

- AI will assist with testing at scale on media platforms to define new rules in the 'Cookie sunset' new normal, as well as automating their execution, balancing cross-channel synergies, and optimizing ROI.

- AI can also be used to find patterns in customers' responses to marketing, helping to optimize the allocation of marketing budgets based on scenario analytics

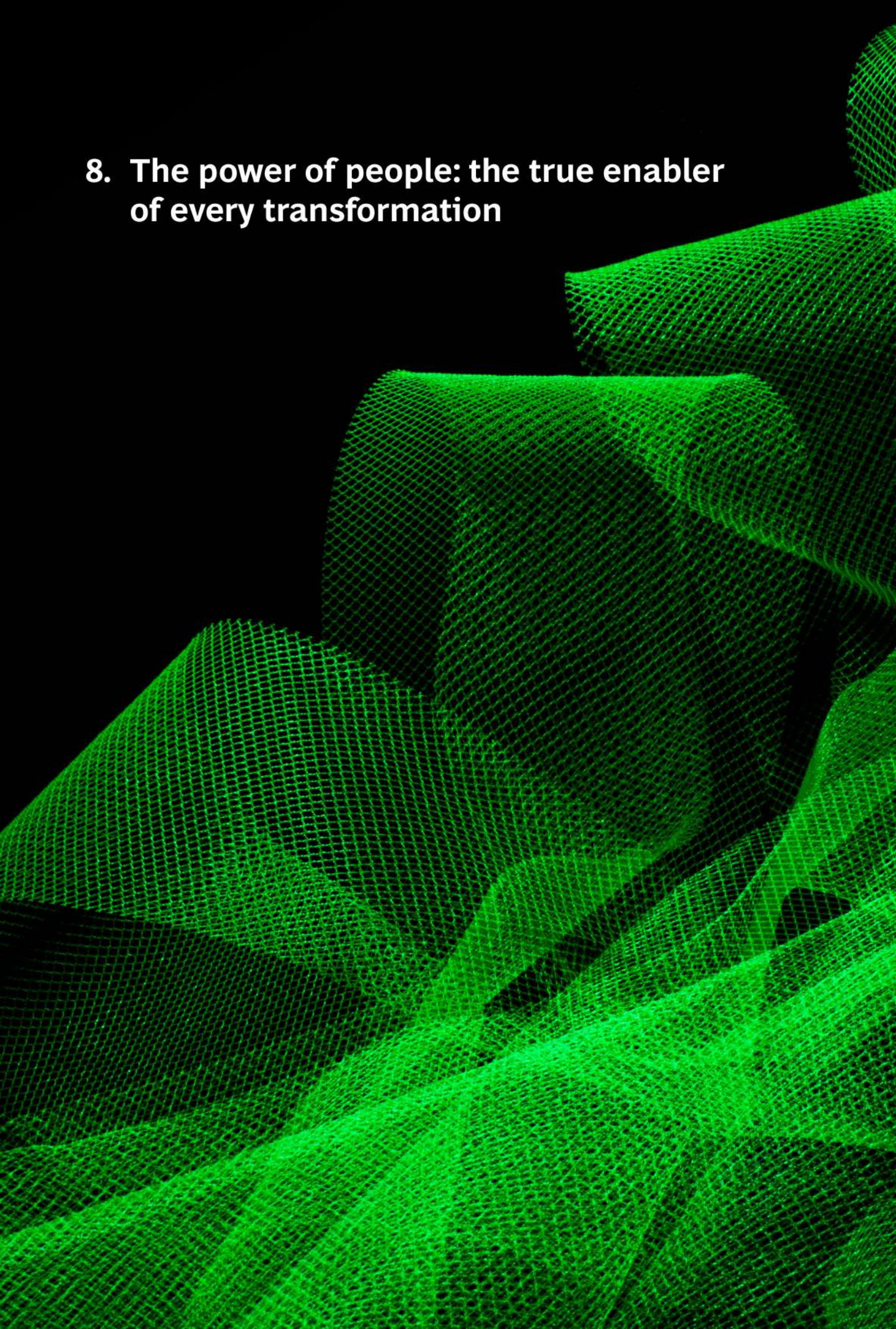
- Using consumers knowledge acquired via experiments on optimization, AI can create atomically generated content to target personalization based on proprietary 1P data.

Following the normalization of AI, the next evolutionary step will see companies understand how AI "thinks" to enable them design data strategies around AI, specifically, strategies that take enhanced computational capabilities as their starting point and internalize proprietary expertise and insight generation.

Generative AI will further accelerate the spread of AI solutions, enabling companies to scale innovation by not only democratizing access to complex solutions, but also overcoming the hurdle of data abundance in order to train models via commercially available foundation models.

> ***As AI is now becoming a standard, there is no question about whether it should be implemented: the real question is whether it is worth for companies to invest in proprietary solutions to differ from competitors and how to quickly to scale them.***

8. The power of people: the true enabler of every transformation



A data-driven transformation will require a heavy uplift in the baseline level of tech and analytics literacy found in companies across all divisions. We often hear concerns from executives such as "we have it, but no-one uses it" and "[we] can't scale the teams[36]".

A significant obstacle lies in the fact that companies seek to pursue an omnichannel presence and seamlessly manage customer journeys while internally they have complex structure and stiff governance.
To provide the customer with a unique and coherent experience, the same omnichannel mindset needs to be applied to these companies' divisions, with a need to become increasingly 'omni-division' in terms of aligned objectives and single sources of truth, for example blurring the lines between marketing, sales, media, and product.

Training and upskilling talents will be part of the solution, but this alone will still fall short of ensuring a successful transformation.
The difficulty lies in shifting from experiment phase to business as usual, structuring analytics as a process, especially when companies cannot constrain such processes to the limit of a single teams or divisions.
Furthermore, as AI is complex and needs the right experts to manage it, companies often lack confidence in results, together with the ability to move from data insights to business insights and build a virtuous information loop.

> **70% of a data-driven transformation will only be possible through the power of people[37].**
> **AI replicates human decision-making and scales it up, however a data-driven mindset and approach to decision-making must first be put in place for the AI to reproduce it.**

There are four pillars companies must build if they want to achieve a disruptive 'privacy by default' data-driven transformation:

1. **Define the vision**: define where the company is going in order to pull all efforts together and build a stimulus to overcome challenges.

2. **Change the culture**: clarify how to achieve the vision, and how each person in the company can contribute. Companies need to define clear roles for ambassadors and foster an inclusive culture that puts the customer in the spotlight, directing all efforts towards achieving the vision.

3. **Foster change with governance**: breach divisional silos in terms of user engagement as well as data ownership and management.
In a context of unprecedented change, proper governance will rebalance priorities and ensure the transformation will take place smoothly.

4. **Work with data**: extract insights from data and naturalize a test and learn mindset in any decision-making process, boosting effectiveness and statistical relevancy with multiple AI-assisted iterations.
Ensure that data is applied in optimization exercises, personalization is carried out with a focus on continuous tests, and data is collected at every stage to build solid proprietary assets.

Organizations will need to break silos and work collaboratively across business departments (marketing, media, sales, etc.) and support areas of competencies (IT, data, etc.).

Coming from the current baseline context in which marketing and sales are heavily reliant on external third parties, companies must remain aware of the risks of overinvesting in building proprietary data assets. There is a need to integrate first-party data, and an overall goal of extracting value from data, prioritizing key use cases that create data assets that can be then accessed and activated across multiple business units.

36 - Global Survey of 2600 business executives (Sloan Management Review)
37 - BCG experience on transformation programs

9. Companies need to optimize their execution via experimentation on foundational use cases: where to start

For companies adopting privacy as their default starting point, there are two key advantages to a data-driven approach. First, data-driven ways of working will help optimize operations and, additionally, they will take advantage of continuous testing and learning as an owned source of customer insights.

By continuously defining (and testing) multiple iterations of scenarios, companies will be able to optimize the 'business as usual' of their foundational use cases and extract more value from the same investment.
Through these iterations, it will become possible to create scale economies, achieving 'more for more' in the execution of marketing and sales.

The urgent need to rebuild signals to deliver on customer expectations stresses the importance of scaling up visibility. Whilst data management and new collection initiatives may significantly contribute to de-blurring personas, it nevertheless remains imperative for companies to internalize test and learn approaches as well as modelling in order to garner direct access to insight generation via experimentation.

By carrying out continuous experimentation rooted in scientifically identified hypotheses, companies will be able to test and validate insights, thus increasing the value of their assets through thoughtful activation.
As companies will only be able to test out on an aggregate audience the assumptions that are relevant to their activation use cases, they will ensure a privacy-centric mindset by default.
This approach will ensure limiting intrusiveness on customer experience and using analytical capabilities it will shed light only on what is strictly necessary.

Internalizing test and learn, along with execution levers, will allow companies to gain control over the three most relevant use cases which will form the foundation of resilience in the near future.

9.1 Optimizing digital media spend: live in-channel and cross-channel execution

The main short-term disadvantage of data deprecation (cookies and MAID) will be felt in terms of digital media execution. Marketers will be less effective in defining valuable audiences and contents.

By internalizing execution, companies will be able to exploit their 1P data effectively.

Executives need to redefine what success looks like and how it maps onto their overarching marketing and sales objectives through extensive test and learn. New insights will iteratively optimize digital execution by defining and consolidating a set of golden rules that will allow humans and AI to selectively switch budgets from under- to over-performing campaigns, both in-channel and cross-channel.

From our observations on clients that have already started to work with BCG on AI-driven digital media execution, we can expect companies to achieve a ROI uplift of anywhere between 10 and 30% of their current levels on digital channels, which will then be compounded by the potential efficiency gains from the channels themselves operated by Big Tech.

9.2 Optimizing marketing mix: budget allocation and MMMs

The objective of a data-driven transformation not only relies on building data assets and taking control of data activation, but also requires control and transparency on analytics and measurement. Relying exclusively on performance models (Marketing Mix Models or econometrics) that are externalized and delivered in black boxes will reduce forecasting ability and deliver questionable allocation estimates.
Companies need to be fully in charge to gain insights into the results of past decision making, always keeping in mind the continuous experimentation approach at the heart of a data-driven transformation, and apply the lessons learnt to the allocation of future budgets. As seen in several client cases, this will unlock 4-7% EBIT incremental benefits, either from a reduction in marketing investments or the reallocation of savings from inefficient investments, all through precise optimization.

The real challenge will be going beyond pure media measurement and develop holistic allocation models to enable bold decision-making.

Companies need to model and experiment with scenarios that include efficiency in the broader marketing budget (i.e., online and offline media, promotions, sponsorships, influencers, social commerce, etc.).

Also in this case, artificial intelligence can offer (today already) a broader perspective with complex neural models, providing companies with access to analytics and simulations that are key in sustaining efficiency-oriented budget allocation and decision-making.

Performance models – as Marketing Mix Models (MMMs) once were – will become impartial and comprehensive judges of performance that consider granular-level data fed from owned sources via automated ingestion, building a map of investments and returns with multiple parameters and levels of granularity to address factual dependencies.

The result is increased confidence in making bold bets on how money should be invested.

9.3 Customizing the experience by building 1:1 personalization for customers

Experience personalization, especially in terms of user acquisition and end-to-end customer journey, is the element that will face the most radical changes.

We see at least five elements of personalization that companies need to rebuild, leveraging proprietary assets:

- Determining customer DNA with matched demographic data, behavioral biases and nudges, and responses to interaction and stimuli. At the same time, keeping the definition of personas updated live through their DNA to keep track of the natural evolution of interactions.

- Rapid research into the best value proposition for each persona, using digital research capabilities and leveraging best practices on marketing propositions, including behavioral economics.

- Building content modularly for each precisely-defined audience, identifying the combination of message and content that more powerfully conveys the brand's value and storyline, exploiting 'consented by default' data through social listening and internal sources that replace insights provided by 3P cookies.

- Maximizing the profitability of product, defining targeted offers, enabling dynamic pricing and partnering effectively with salesforce, establishing data ecosystems that transcend pure data, building instead on co-creation and sharing (e.g., retail media and salesforce activation).

Companies need to address how different audiences interact with their content and what their decisional drivers are, to play with impulse and re-humanize interactions (e.g., social commerce), facilitating engagement in the most influential moments, converging online and offline.

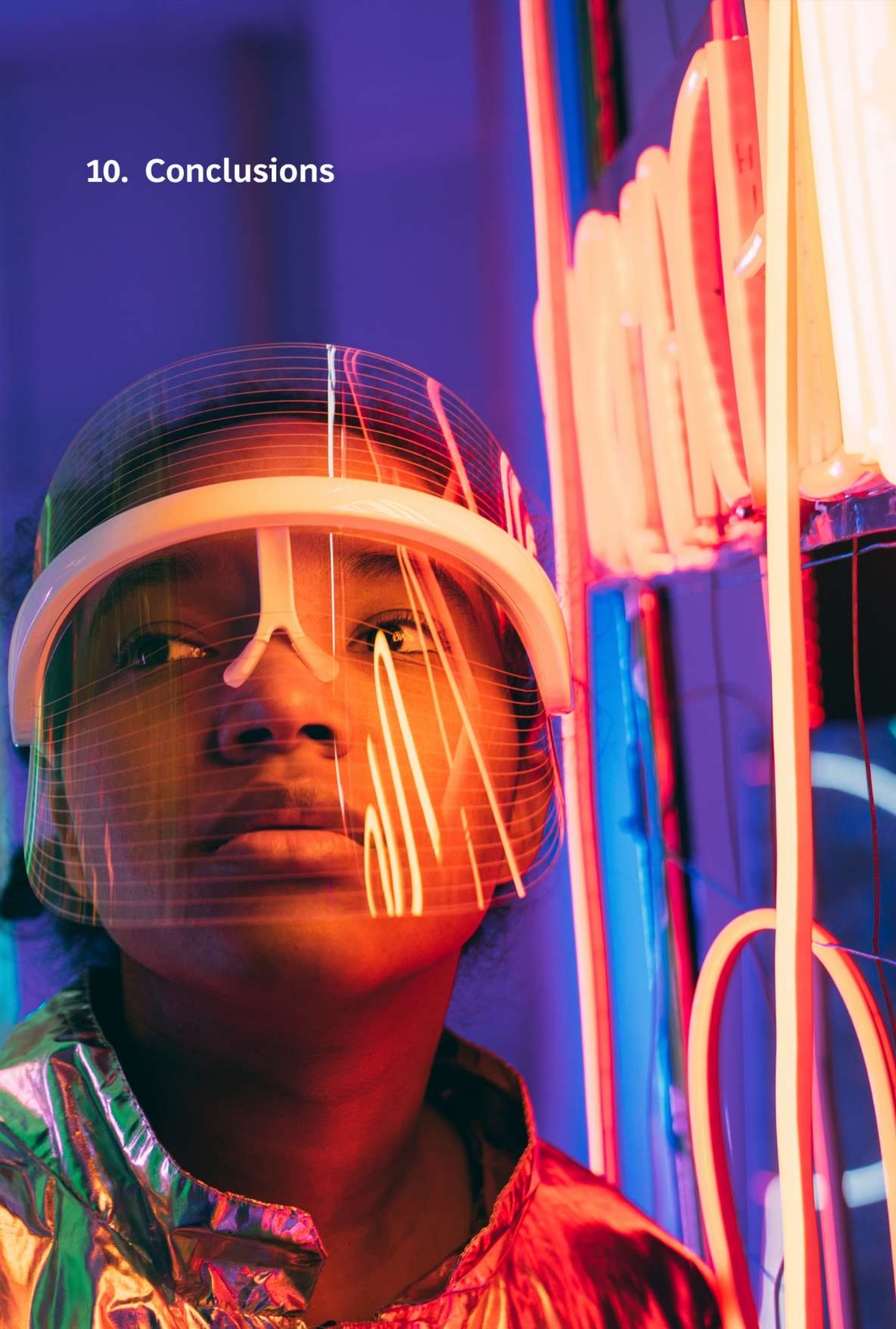
Based on our experience, personalizing customer journeys at scale will be the key differentiator of any data strategy, especially when paired with tech. We have witnessed companies creating state of the art loyalty programs with the most compelling value exchanges, able to harness relevant customer data that transformed their personalization from couple dozen offers and parameters, to over 400.000 offers based on 1:1 customer knowledge, with significant revenues uplift.

Personalization will be key in two aspects:

i) create close connection to the client, especially relevant for business-to-business-to-consumer,

ii) provide a value exchange for the customer that will tie data collection with a purpose amplifying results of any data effort.

10. Conclusions



The deprecation of cookies – and, more generally, the enforcement of privacy regulations, along with the foundation of data economies (especially within the EU) – will be a historic moment for all companies, regardless of the industry they operate in. Limitations on customer visibility may, at first glance, seem to be putting a full stop to the personalized activation of customer journeys and the efficient allocation of cross-channel digital spend,

> ***however, companies that set the right priorities will be able to not only regain efficiency, but also transform this threat into an opportunity to build a competitive advantage.***

Successful companies will be able to embark on a digital transformation that puts customer privacy protection first by default (as compared with privacy regulations compliance) and subsequently build data collection and data exploitation strategies around it.

A winning data strategy is one which internalizes data value chains and proves capable of enabling activation objectives, all whilst balancing the costs and trade-offs of large-scale collection efforts via holistic collection strategies. A key underlying enabler will be the technology stack that is built in tandem with collection strategies and the definition of use cases, delineating both the required capabilities and the guidelines for an evolutionary roadmap.

Holistic data strategies rooted in the activation of foundational use cases in terms of efficiency and personalization will create valuable assets for companies. Prioritizing use cases will be fundamental to avoiding siloed approaches and ensuring that the relevant data is in place.

An iterative test and learn approach must become the new mindset for navigating uncertain scenarios and testing the value of foundational use cases before scaling up. Test and learn will be the key to enabling effective personalization and generating insight into customers.

Transforming a company is not merely a matter of processes and analytics: the key is always its people. The winning companies will be those capable of pursuing a vision and guiding the whole organization towards it, changing the structure, the culture and the governance as well as building innovative ways of working that foster cross-divisional collaboration in terms of data management, activation, and customer insight.

With the right mindset and valuable data assets, AI will then be the differentiator in terms of competitiveness. Indeed, it will be fundamental in accelerating use cases and building a competitive edge by improving the complexity and speed of test and learn management, offering thousands of iterations, millions of parameters, and digital automation.

When framed correctly in a compelling strategy, the loss of third-party visibility will not necessarily harm businesses but will undoubtedly set them apart from the average. It is up to executives to choose the direction and transform threats into opportunities. Being data-driven will fully unlock the potential of the digital world, enabling efficiency and disruptive innovation that places the customer at the center.

Authors

Paola F. Scarpa
Managing Director & Partner - Milan

Javier Perez Moiño
Managing Director & Partner - Madrid

Alessandro Spotorno
Managing Director & Partner - Milan

Andrea Sangalli
Associate Director - Platinion Milan

Dharmendra Dubey
Associate Director - London

Daniele Frigerio
Associate - Milan

With the contribution of

Amaryllis Liampoti
Managing Director & Partner - Barcelona

Ray Yu
Managing Director & Partner - Atlanta

Derek Rodenhausen
Managing Director & Partner - New York

Thomas Recchione
Associate Director - Brooklyn

Sara Kuller
Principal - Boston

Term	Definition
SDK	Software Development Kit: a set of tools allowing for the programming of mobile applications
MAID	Mobile Advertising Identifier: a unique pseudo-anonymous identifier linked to mobile devices, used to monitor engagement
Cookie	A small snippet of data created by a server when answering a request from a browser (e.g., Chrome or Safari)
ATT	App Tracking Transparency: Apple's framework for requesting the user's authorization to track their activities on mobile apps
Privacy Sandbox	Google's framework for creating privacy-first digital technologies
1P / 2P / 3P	1P: First-party data, data directly collected and stored by a brand 2P: Second-party data, data purchased or rented from a second brand, subject to user agreement 3P: Third-party data, data purchased from data providers that compile data from multiple digital and traditional environments (not directly owned)
CDP	Customer Data Platform: a software-based solution for identity resolution
DACAMA	Data Capability Maturity: BCG's proprietary benchmark on data maturity spanning 1000+ companies
CPA	Cost Per Acquisition: the unit cost of an action resulting from digital marketing, obtained by dividing the total campaign investment by the number of actions achieved
ROI	Return on Investment: incremental monetary return as percentage of monetary investment
MMM	Marketing Mix Model: an econometric model that ties revenue to aggregate marketing investment (sometimes also interpreted as Media Mix Model)


BCG