Embracing Predictive Marketing

In association with RedEye

Econsultancy

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1. EXECUTIVE SUMMARY

Predictive analytics continues to be central to the most exciting opportunities in marketing; the delivery of great customer experiences, data-driven marketing focused on the individual, and the creation of compelling content for digital experiences.

But it remains a challenging discipline that many organisations continue to struggle with. This report builds on two previous studies by Econsultancy and RedEye (the P*redictive Analytics*[1] and *Achieving Predictive Maturity*[2] reports), each looking at the extent to which brands are embracing predictive analytics and marketing, at the barriers to increased maturity, and at the opportunities afforded by its future use.

This year's *Embracing Predictive Marketing* report, the third in the series, follows a survey of 400 marketers carried out in 2016, and a series of qualitative interviews with senior practitioners conducted last year. This latest report revisited some of those interviewees and added others, supplementing the insights from these conversations with data from related survey-based Econsultancy reports.

Below are the key findings from this year's report.

Data-driven marketing requires a data-led organisation

Most organisations recognise the value of data, but they face a significant journey from that initial recognition to being able to make the most of that value. Barriers include company culture, technology infrastructure, organisational structure, and the recruitment and retention of skilled staff.

Although much discussed, siloed cultures remain the biggest issue for organisations looking to integrate their data. Change must come primarily from the top. It is usually driven by a desire to be customer-centric, which means the customer experience needs to be consistent across every touchpoint. The power associated with data ownership, and the perceived 'sexiness' of data, can act as an additional brake on de-siloing, although being able to demonstrate results from the use of analytics across the organisation is a powerful way to encourage data sharing.

As noted in previous reports, legacy systems continue to be a major problem, but they need not be insurmountable if data is valued across the organisation. They just mean the process takes longer, so businesses in this position need to be more selective about the questions they want their analytics to answer.

Businesses wanting to build up their analytics capability also face a number of organisational challenges. The first is recruiting the right skills, since few organisations have experience of the data science expertise required. This is compounded by the scarcity of data scientists, putting upward pressure on wages and working conditions. The constantly changing technological environment also puts pressure on companies' ability to recruit, leading to a growing belief that best practice is to build a culture of curiosity and adaptability, rather than simply hiring for each new skill.

Once an analytics unit has been established, businesses then face the question of where it should sit in the organisational structure. Current best practice suggests that, in order to maintain the independence and integrity of the insights, it should be outside both marketing and IT, with a direct report to the C-suite.

1 https://econsultancy.com/reports/predictive-analytics-report/

2 https://www.econsultancy.com/reports/achieving-predictive-maturity

Data quality is still a stumbling block for many businesses

Attitudes to data quality appear to have shifted slightly from last year's report. Businesses still favour the use of first-party data because it is easier to collect and verify, and also because its exclusivity should deliver competitive advantage. However, third-party data is regarded with more suspicion. Businesses know it can add colour and depth to insights, but are also aware that it is often old, sometimes irrelevant, and usually available to their competitors. Many executives hold out the hope that first-party data, enriched through the use of artificial intelligence (AI), will prove to be the winning combination.

Executives' views of GDPR have also changed since last year. Where last year it was perceived as a cause for concern, this year it is seen more as a much-needed driving force in the creation of structured, integrated data environments.

At the same time, the understanding that data doesn't need to be perfect to deliver valuable insights is growing. The only point of analytics is to deliver value to the business; if that is postponed in the quest for perfect data, then opportunities are being lost.

The ability to deliver insights must be matched by the capacity to action them

Because predictive – and prescriptive – analytics are increasingly driving towards personalised communication with customers, businesses face the challenge of creating far more marketing assets than ever before. They must match their developing ability in analytics with increasing production resource. Automation is helping with this, but there are still dead spots, particularly in the delivery of assets to third-party media, that need to be overcome.

This issue of businesses' capacity to act on insights will become even more acute as the adoption of AI takes us closer to real-time individualisation.

Artificial intelligence is the key to making sense of data at scale, but few companies are ready to exploit it

The use of artificial intelligence in marketing is still in its infancy, although most marketers believe it is the only way to deliver personalised communications at scale in real time. There is also growing understanding that the output of any automated system will only be as good as the data input – Garbage In, Garbage Out – so before any investment is made in AI, the data must be clean, structured and integrated.

Businesses also need to recognise that the performance of AI systems improves with time, as the machines learn what works and what doesn't. Managing customers' exposure to the output of the machines during this learning period will be crucial to avoiding brand damage.

The customer as a compass

Customers must be the final judges of all of this. Do the changes that result from an increased use of analytics deliver value to them? Rather than seeing the increased use of analytics as a journey to becoming more customer-centric, businesses need to put the customer first from the start and test their progress against that vision.

1.1 Acknowledgements

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- Terry Rydzynski, Senior Optimisation Manager, **Camelot**
- Chris Worle, Director of Digital Strategies, **Hargreaves Lansdown**

2. FOREWORD BY REDEYE

Vasudha Khandeparkar
Head of Insight
RedEye

> THERE IS A LOT YOU CAN DO WHEN TALKING TO YOUR CUSTOMERS USING WHAT YOU HAVE NOW. ACTIONABILITY OF DATA IS PARAMOUNT SO BENEFITS CAN BE SEEN UNTIL MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE ACHIEVE MATURITY. THE KEY IS TO KEEP THE DATA CONVERSATIONS GOING.

This year's report shows slow and steady progress in building data-driven organisations. There has been a significant shift in attitudes towards data and companies are now using what they have, while caveating data issues in their quest to build a data-driven culture.

GDPR has also played a significant role in forcing a thorough examination of data and policies. GDPR has required everyone to ensure their house is in order in terms of data and compliance. It has also forced data practitioners to think about what the end goal is – is it revenue or experience?

The need for a data-driven organisation

The biggest change from last year's report seems to be the attitude towards data and analytics. While the quest for getting the maximum or the most perfect data remains, organisations are moving towards utilising the data they have, to help drive business growth. However, this change in thought, as with data, is still siloed. The push to become data-driven is coming from either the very top or the bottom of organisations and a lot of work is yet to be done in building a concrete business case for a data-driven organisation.

The challenge is that data is expensive. Storing, accessing and analysing the data also has a cost. People with the skillset to effectively work with the data are still few and far between, resulting in a considerable cost to the organisation. Even actioning insights from predictive analytics requires marketing resource which adds to the costs. While technology providers are making their mark, the returns from data-driven marketing are yet to justify the bill that comes with building the framework and putting together the resources to use data internally within an organisation.

The target has also moved. With GDPR coming into play in the past few months, there has been a shift in the end consumer realising how much their data is worth. There is now a marked shift in targeting the customer and improving their experience.

Targeting the experience

How many of us reading this report actually read through terms and conditions? Do you tend to click 'accept' so you can get to the app or read the article? When you capture data about an individual, do they truly understand what they are giving you access to? The deluge of GDPR emails has made customers realise the amount of information you hold on them. It has also forced data practitioners to think about the true goal of analytics – revenue or experience?

GDPR has forced organisations to speak to their customers as they never have before. It's refreshing to see that this has been used as an opportunity to start a dialogue around what a consumer expects and how their experience can be tailored. Isn't an individual more likely to share if they see the benefits and improved interactions?

Where do we go now?

Communication is key. It seems relatively simple, but GDPR has forced businesses to talk to their customers. It has also forced businesses into having conversations about the data they hold. Where earlier these conversations only involved a few key individuals seen as data drivers within a company, more people have become part of the data-driven culture. As we progress with predictive, we need even more involvement in data conversations. The fact that every insights project should have an actionable output is now a given, but who is going to action those insights?

Artificial intelligence and automated solutions are increasingly seen as the solution to action without a human resource cost. However, there is a danger in losing the human touch. While a machine can tell you what communication needs to be sent to whom, when and through which channel, it will not know the story you want to tell or the conversation you want to have with your customers.

You will need the individual to help tell the story and add the human touch. This again impacts costs.

A few parting thoughts

The cost element of data is increasingly becoming an issue for many organisations. Even if we put aside the lack of talent available for now, the fact is even the best machine learning algorithms need time to improve. The initial cost of setup and architecture is too expensive to justify benefits a few years down the road. This is where the value in predictive analytics comes to the forefront. You can build models to look at shorter timeframes and plan communications based on resources available.

As has been established, there is a lot you can do when talking to your customers using what you have now. Actionability of data is paramount so benefits can be seen until machine learning and AI achieve maturity. The key is to keep the data conversations going.

3. INTRODUCTION

The right message to the right person at the right time has long been the goal of marketers, but the real challenge is often left implicit – the need to do it at massive scale.

This is the promise of marketing analytics, the ability to understand the behaviour of customers so deeply that it's possible to achieve that goal, down to an individual level, across the organisation's entire customer base.

The past few years have seen significant advances in realising that promise from a technological point of view. Customers, however, remain at best unaware and at worst unimpressed, more likely to complain about ads following them around the web than to praise a company for delivering a message so relevant that it feels like a service rather than marketing.

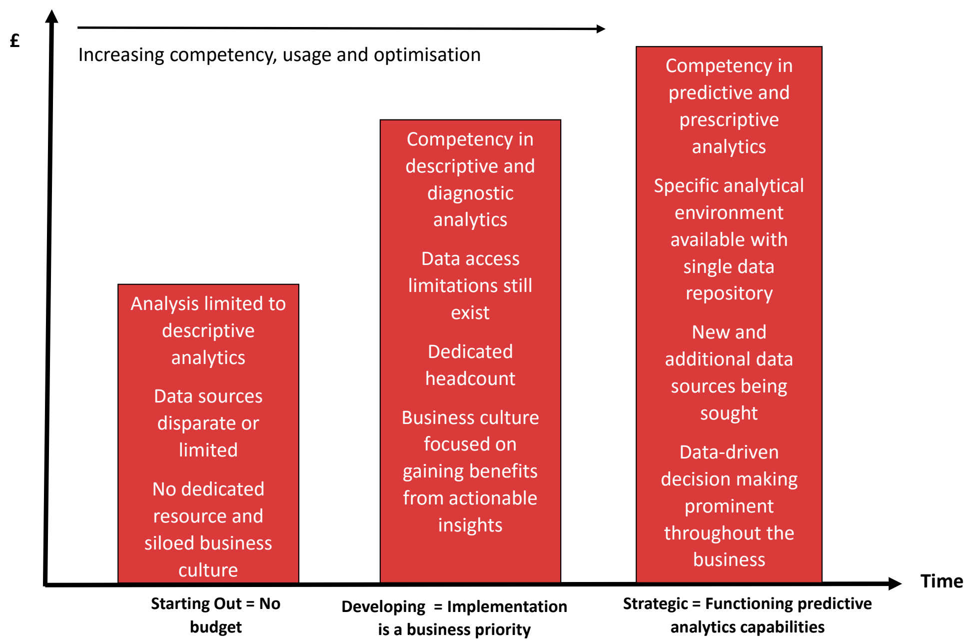
This can be partly explained by the 'Filter Bubble' effect, the difficulty of knowing how personalised your online experience is because you so rarely see anyone else's. But it's also a question of how widely predictive modelling techniques have been adopted by marketers. So, since 2016, Econsultancy and RedEye have been examining marketers' progress in this area.

The first report built a maturity model that broke companies into three groups:

- **Starting Out** – associated with not having any budget for the work.
- **Developing** – where implementation has become a business priority.
- **Strategic** – where the organisation has functioning predictive analytics capabilities.

The associated survey showed the bulk of respondents were engaged in some sort of predictive modelling, but that more than a third were only at the first stage of the journey, i.e. Starting Out.

Figure 1: RedEye Predictive Analytics Maturity Model



Last year we interviewed a group of marketers in depth, talking to them about where they were on their journey to predictive maturity and discussing issues such as sources and quality of data, automation, and the business goals they were hoping to achieve.

This year we've repeated the process, revisiting interviewees from last year and adding new voices. In doing so we have discussed three different types of modelling, which roughly correspond to the different stages of predictive maturity, and which are worth defining here.

The first is descriptive analytics – the most basic stage, which tells the organisation what has happened. The second – predictive analytics – attempts to use that historical data to tell the organisation what would happen if it took certain actions. The third – prescriptive analytics – aims to analyse an individual's behaviour in depth, to the extent that it recommends the best next action the marketer can take to deliver value both to that individual and to the business.

Voice of the brand

"For me, predictive analytics is not new. I worked at Tesco 15 years ago, and Tesco was advanced at the time because it had a vast database, and we used that to try and do smart analysis to figure out what customers would do if we put this on promotion or that on promotion, if we sent coupons, if we raised the price or did 'two-fers'. We looked at what would yield us the most profit and the biggest sales in the end.

"So, the concept of predictive analytics is not new, but the scope and the opportunity of actually achieving it in a much more sophisticated way has grown enormously, partly because now we have all the digital channels, so people leave their information wherever they go, but also because it's only relatively recently that computing power has become strong enough to actually take that information, and at least in theory, use it for something."

Helena Andreas, CMO, Nordea

Key definitions

Descriptive analytics: Using raw data to summarise historical patterns and trends based on known facts.

Diagnostic analytics: Using raw data to understand the causes of certain outcomes.

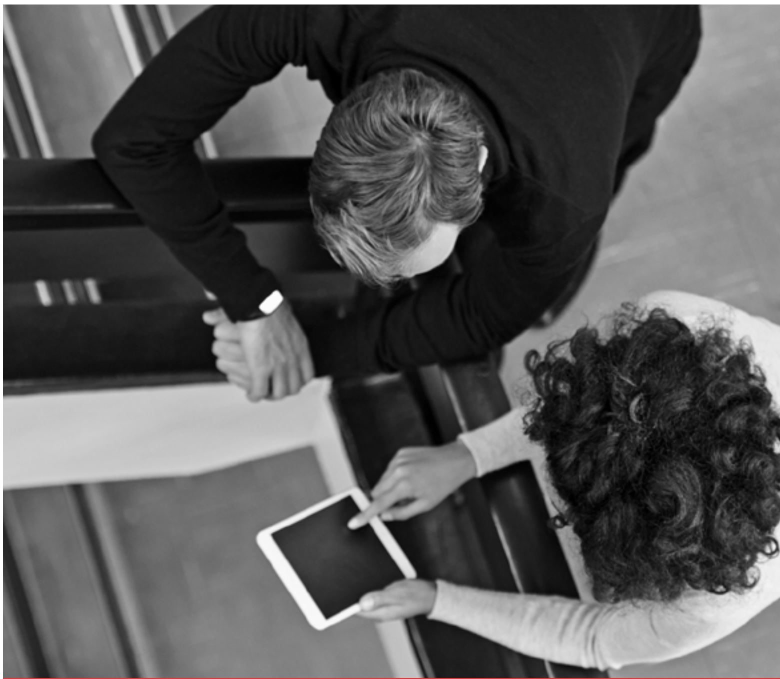
Predictive analytics: Turning insights about how and why something happened into models that can suggest future outcomes.

Prescriptive analytics: Translating insight into action by identifying optimal behaviours and recommending the most productive changes for the desired outcome.

Prescriptive modelling: Using models and simulations to forecast business scenarios that may occur based on different decisions or external factors.

Machine learning: The algorithms that enable machines to become 'smart'.

Artificial intelligence: The technology that allows a machine to perform tasks previously associated with humans.

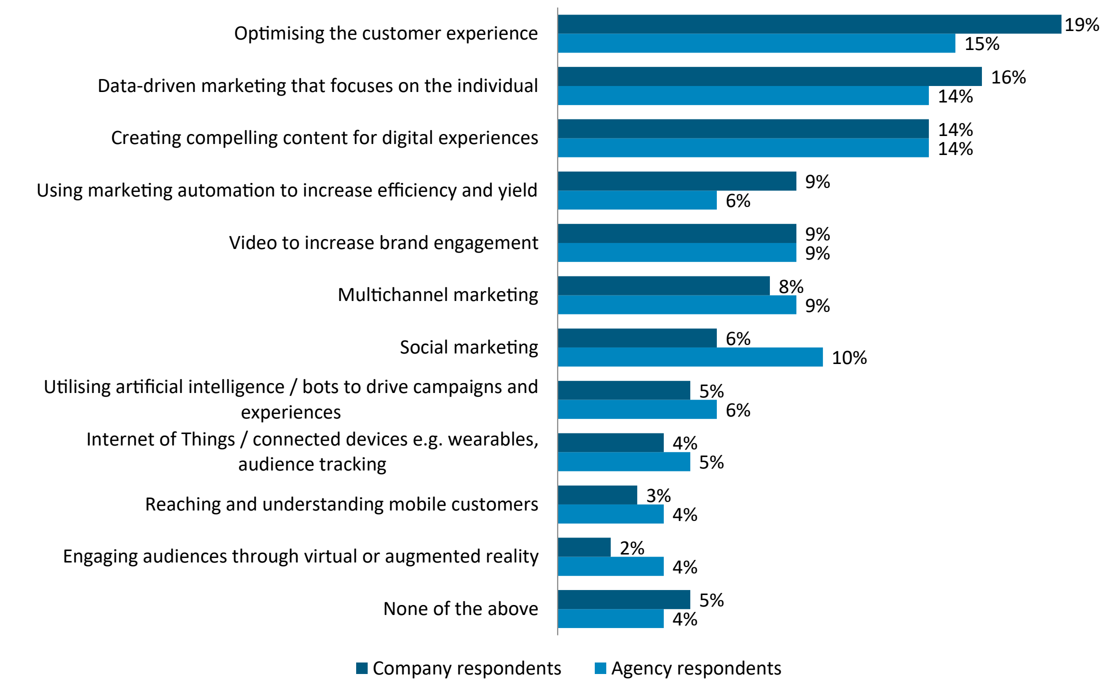


Personalisation and customer experience are driving predictive modelling

Certainly, delivering personalised communications is high on the marketing agenda. According to Econsultancy's 2018 Digital Trends[3] report, *targeting and personalisation* is the third-highest priority for businesses this year, after *social media engagement* and *content marketing*, and you could argue that successful content marketing relies heavily on the sort of precise targeting that is driven by predictive analytics. Furthermore, Econsultancy's 2018 Email Census[4] has found that 58% of respondents were either using or considering using predictive techniques to improve the content of their emails.

Personalisation also underlies the other big area of focus for businesses in 2018 – customer experience. Almost a fifth of respondents to the 2018 Digital Trends survey said *optimising the customer experience* was the most exciting opportunity for their business this year, only slightly more than the 16% who cited *data-driven marketing that focuses on the individual* (*Figure 2*). And with the quality of customer experience widely seen as the next big area of brand distinctiveness, the analytics capabilities underlying its delivery will become crucial for business success.

Figure 2: Which one area is the single most exciting opportunity for your organisation (or your clients) in 2018?



Source: Econsultancy / Adobe Digital Intelligence Briefing: 2018 Digital Trends

3 https://www.econsultancy.com/reports/digital-intelligence-briefing-2018-digital-trends
4 https://econsultancy.com/reports/email-census

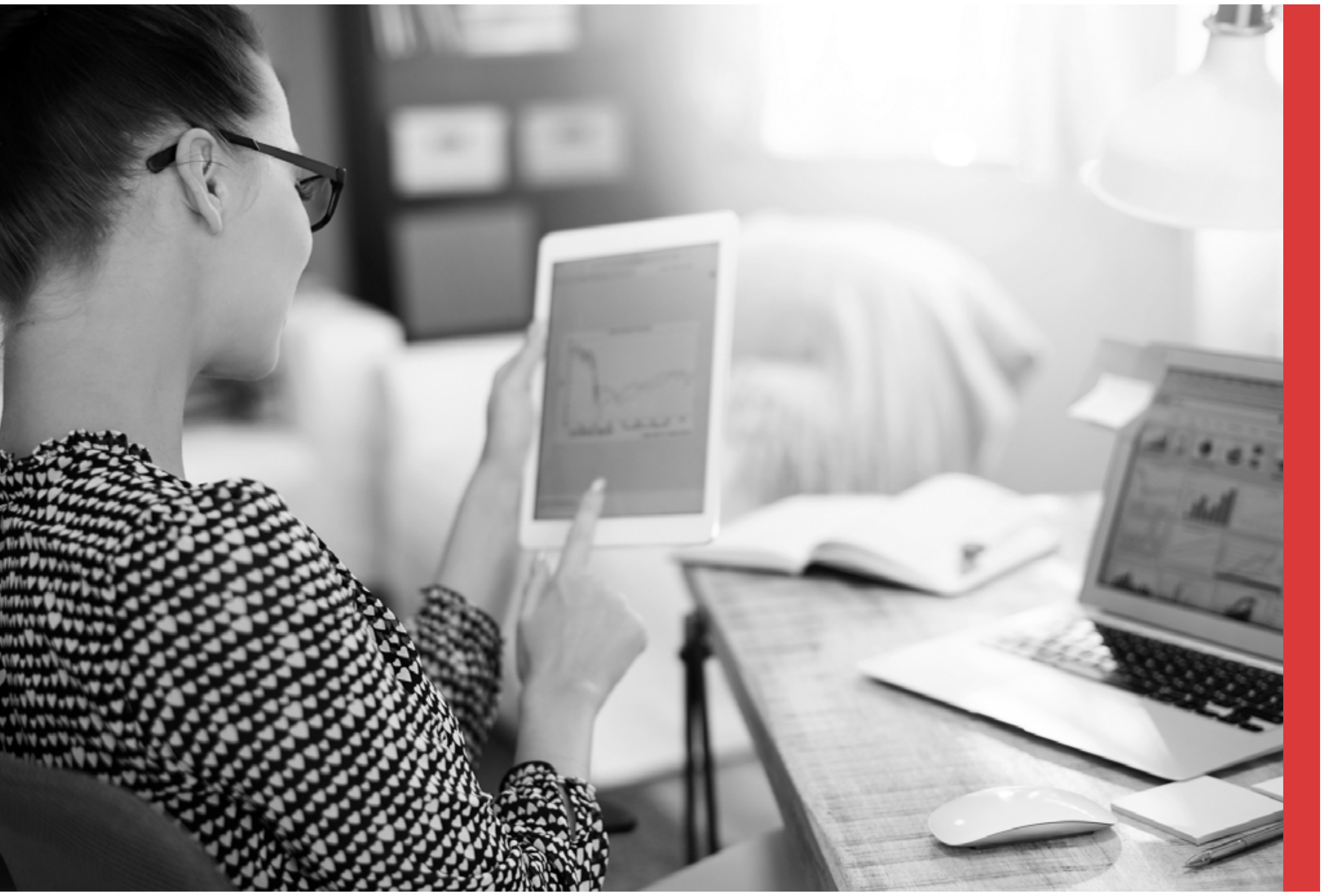
This year's Embracing Predictive Marketing report focuses on four key areas. Firstly, we look at what makes a data-driven organisation; the issues of culture, organisation and personnel that need to be addressed on the journey to predictive maturity. Then we consider issues of data management and preparation, in particular the challenges involved in bringing data together from across the organisation, and we also look at the likely implications of GDPR.

Next, we discuss the demands of actioning data-led insights, and the need to balance resources to make sure analytics and execution march in step. Finally, we examine the role of artificial intelligence in the future of predictive modelling, and the issues marketers need to consider as they take their first steps in its use.

Voice of the brand

"We've had a very successful number of years and our ambitions for continued growth are built on solid foundations, but success drives ever higher expectations each year. Each time they rachet up a level, there is only so much you can do by doing the same as the year before; insight and predictive analytics to help you reveal the areas which give you the greatest yield, and then run those as tests in market. This is still underpinned by solid marketing test-and-learn forecast loops, but it is driven by an evolution in what we do with our predictive analytics."

Iain Noakes, Chief Customer Journey Officer, The Economist



4. BECOMING A DATA-DRIVEN ORGANISATION

It might seem that the key to taking advantage of predictive analytics is having sufficient data, and being able to integrate it to build predictive models. But while data is clearly important, having the right organisational mindset is arguably more critical.

A number of the marketers we spoke to for this report talked about how they had been collecting data for years, but have only recently had the technology, skills and culture required to really take advantage of it. Others described a long-standing focus on analytics based on the data that was available at the time. In other words, there is a significant step from being an organisation that collects data about its customers to being one that is actually led by that data.

The impetus to make this step can come from either the top or the bottom of the organisation.

A senior executive might realise that the business isn't making the most of the opportunities being created by digital, and issue a mandate for change. Or there might be someone at a more junior level with a passion for data who takes the initiative and starts to show results, albeit on a smaller scale.

The main benefit of the move coming from the grassroots is that things start to happen very quickly. Unfortunately, this sort of initiative doesn't necessarily have buy-in at a senior level, which means it takes a long time to reach the critical mass required to reshape the business.

The risk of a top-down approach is that someone is appointed to drive the change, but not given the resources required. This can result in the company spending a lot of money with agencies, effectively outsourcing its response, and then having to gradually bring the expertise in-house later.

Voice of the brand

"Our move to become more customer-centric kicked off from the bottom up, but it became a business case very quickly. Senior executives recognised that we needed to do more with our data, that we needed to invest more heavily in technology and people before we really knew what the actual real use cases were going to be. Because if you don't have the kit and the people, how can you prove any kind of value?"

Terry Rydzynski, Senior Optimisation Manager, Camelot

Top-down approaches dominate

For most of the marketers we spoke to, the change in their business is being driven from a senior level, either because of the investment required or because of the complexity of the organisation itself, or indeed both. It's become axiomatic that big organisations are hampered by siloed units where department heads are reluctant to share data with each other. And even when there is a willingness to share data, the formats and software each unit uses to store its data may be incompatible.

At Scandinavian bank Nordea, CMO Helena Andreas describes a typical example of the legacy issues that can hinder the move to being data-led:

> *"There's no lack of willingness to share data; the issue is a number of legacy systems which are kind of a spaghetti. We've got pockets of data in lots of different parts of the organisation, and even trying to analyse something very simple like churn versus customer satisfaction is very challenging because it's difficult extracting the data and getting the systems to speak to each other."*

In Nordea's case, the solution is a multi-year programme to replace all the legacy systems with a new technology. But as Andreas points out, the size of task and the need in financial services to avoid any risk of things going wrong means it will be 2020 or 2021 before the programme is complete.

We also heard that, although the drive to be data-led can break down silos, the new 'sexiness' of data and the desire among departments or functions to be seen to be 'doing something with data' can lead to new barriers being erected, or new wrangles over data ownership emerging. The key is to make sure the KPIs are all aligned to the financial aims of the business, rather than having metrics for each department, as Asia Miles' Head of Insights, Analytics and Customer Experience Design, Adrian Hado, explains:

> *"You need to try and eliminate the siloed thinking, and the larger an organisation gets, the more difficult that becomes. But when everything is grounded in the thing we are trying to do for customers, and how it hits the financial targets of the business, then everyone's on board. We all have to hit that financial target because that's how we get paid our bonuses, and so the IT director, the marketing director, and myself are all tied in together."*

Having multiple business units can also hamper efforts to be data-led. Jack Daniel, Digital Director of brewer Molson Coors in the UK & Ireland, described a situation where a harmonising phase is called for to consolidate and standardise data:

> *"It's important to have a consistent approach globally. You need a consistent tech platform, data hierarchies and set of rules with the right governance and operations to manage it all."*

Where should analytics sit in the organisation?

All this leads inevitably to the question of where the data function should sit within the organisation. There was no overall consensus across our interviewees on the answer, apart from agreement that data and analytics shouldn't just be walled off within marketing, because the data and resources there are incredibly important to the rest of the business as well.

Any organisational structure must reflect not only these differing demands on the team, but also the role of IT as the provider of data platforms, and that of marketing as the department closest to the customer. There are also issues of data governance, which are increasingly handled by a chief data officer.

Voice of the brand

"It should very much be the two teams working together. IT should be providing the pipes for the data and any automation and scheduling, and ensuring that source systems are operational, but then the intelligence around the use of data absolutely needs to come from marketing."

Simon Kaffel, Head of Data, Reporting, Insight and Control, HSBC

Another issue is independence. HSBC’s Simon Kaffel argues that the use of data should be kept objective, away from emotions and not clouded by departmental targets. Picking and choosing among the data to make sure it delivers what a particular department or function wants to hear, rather than reflecting what’s actually going on in the customer base, might lead to short-term gains but is unlikely to deliver what the customers need, and therefore won’t be of long-term benefit to the organisation.

The picture is further complicated by the fact that the skillsets required by a data analytics team are different to those in either IT or marketing, potentially making them uneasy bedfellows for both departments. Not only does this make it hard to find a place for data scientists on the organisational chart, it also makes them hard to recruit, as they are not traditionally part of most organisations. And unless you build a data department or unit, they can be hard to retain too, as no-one wants to be working on something on their own.

Voice of the brand

“You need to make sure you’re really clear about how analytical teams can add value, and outline for teams and new joiners some of the exciting and challenging business problems they will be working on. Nobody wants to come in and do something boring. They want to make a difference. That’s what will attract top talent.”

Katrina King, Director of Customer Value & Experience, Direct Line Group

Voice of the consultant

“When you’re after highly-skilled data specialists, they become very aware how valuable they are to an organisation, and they begin more and more to dictate the terms of your employee package. When I was in Akzo, based in a paint factory in Slough, and trying to get some of the best digital teams that I could, I couldn’t get anybody out of London. Why would they leave their cool funky agency in the heart of Farringdon to come and stare at a titanium oxide tank? That becomes a real issue. You might think, ‘Well I’m going to get these people’. But will they want to work in your industry?”

Paul Randle, Consultant

Recruiting and retaining data specialists

Building a team of analytics specialists is one of the biggest challenges for businesses trying to be data-led. Not only is it a question of recruitment and retention, it also influences the culture of the organisation you are trying to build. While buying in expertise might solve the sort-term problem, what happens when technology moves on and you need a different set of skills? As a number of our interviewees suggested, it may be better to build a culture where specific capabilities are balanced with people who have a hunger to learn and adapt.

The solution for a lot of large organisations is to establish what is, in effect, an in-house agency in a location that appeals to this sort of specialist. But this comes with its own set of problems. Because demand for data experts is so high, recruitment is unlikely to be much easier in these favoured locations, and there will be just as much, if not more, temptation to move on. There is also the question of how the new team will be integrated back into the parent business.

This leads on to another barrier to becoming a data-led organisation. According to our interviewees, helping the people working with the data team is also crucial. Senior figures, in particular, need to be educated in what they can ask for, and the implications of their requests. This is particularly important for organisations whose data is not fully integrated, making requests much more time-consuming to process.

Voice of the brand

"A challenge we're still getting our heads around is what's the right level of data to have at each level of the organisation? How do we articulate and filter that through effectively? The data and the functionality that the team on the ground can see is incredible and can tell some great stories, but you can get very lost, very quickly, and the message can get lost if that's not brought up a few more levels when it's circulated to the board, for example."

Chris Worle, Director of Digital Strategies, Hargreaves Lansdown

However, the data specialists we interviewed were keen to point out this shouldn't be seen as a one-way process. At the same time as the data team is educating business executives in what analytics can deliver to the business, they should be listening to what the executives are telling them the business needs.

Voice of the brand

"It's hugely important to have those conversations to explain what's possible, but they're also an opportunity for me to understand what the end user actually cares about, what would be the thing that they would find most useful. And if I don't have those conversations on a regular basis it will be me making assumptions about what I think is most useful and a lot of the time, I'll be getting it wrong."

David Hoyle, Lead Data Scientist, AutoTrader

Indeed, more important than the organisational structure of the business are the relationships between the three key department heads: IT, marketing and analytics. It's these relationships that allow business goals to be dissected into target audiences by the analytics team, with insights into how best the marketers should communicate with them, supported by new technology built by IT, all working together to deliver value to customers and the business.

As all our interviewees stressed, delivering insight from analytics without then acting on it is simply a waste of time. We return to this idea in a later section.

5. MANAGING DATA

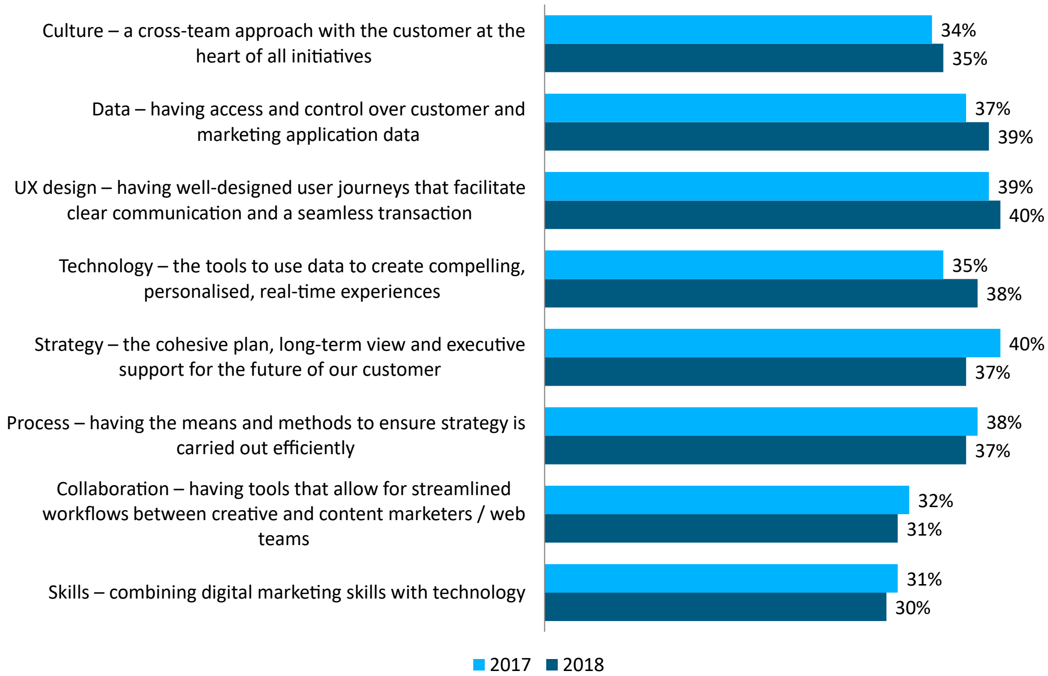
We believe that there are three linked but separate elements that determine how well organisations are able to make use of data. The first is the mindset around data use, which we covered in the previous section. The last is the organisation's ability to take action on the basis of insights derived from data, which we will look at in the next. But at the heart of it all is the data itself; what data businesses are collecting, what other data they are using to augment it, and how they are managing and integrating the resulting data resource.

What is striking is that although the subject of big data has been discussed exhaustively in the marketing media and at conferences for several years, and while its importance has been recognised by marketers for many years more, data management has yet to become something the majority of businesses see themselves as experts in.

While the 2018 Digital Trends report found that almost two-thirds (64%) of respondents said they had some access and control over customer and marketing application data, only 19% agreed strongly that this was the case.

Furthermore, as *Figure 3* shows, the percentage of respondents who rated having access and control of data as being a 'difficult' part of customer experience delivery to master rose slightly from 37% in 2017 to 39% in 2018.

Figure 3: Proportion of company respondents rating these elements of the customer experience as difficult to master ('4' or '5' on a five-point scale)



Source: Econsultancy / Adobe Digital Intelligence Briefing: 2018 Digital Trends

Certainly, the marketers we spoke to for this report were clear that their use of data was very much work-in-progress, and that the process was far from complete.

Voice of the brand

"Chapter one has been about demonstrating the value of data, understanding where that data is held, and building out services for marketers to use in their day-to-day processes. Creating some goodwill from that. Creating some understanding of customer behaviour so that the marketing team can start to evolve to be more customer-orientated than product-orientated or campaign-orientated. A lot of work has gone into that foundational phase; making sure we've got the data available, it's tagged properly and we're collecting it properly.''

Paul Morris, Global Ecommerce Director, Specsavers

Historically, data has been collected by different parts of the organisation for different reasons, in different formats and using different software. As a result, the barriers to its integration are as much organisational and cultural as they are technological. Our interviewees described a lot of wrangling and discussion around information architecture, trying to help people to understand the goal of big data and the benefits of getting it into the right place in the right way.

Javier Diez-Aguirre, VP Corporate Marketing at Ricoh, describes a typical situation:

> *"The data I have today is to some extent very static. It's data that in most cases we have had to review, whether because it is not relevant anymore, or it's not accurate, or because it's not GDPR-ready. The data is also being held in different platforms, and over the last couple of years we've been ensuring all of these platforms are integrated, and now we are finalising all of these parts being linked."*

What this hints at is that the use of analytics in marketing doesn't depend on having the latest technology and completely integrated data. For example, at the same time as Nordea is engaged in the massive re-platforming process described by CMO Helena Andreas in the previous section, the marketing team continues to mine its data for insights. As she explains, it just takes longer, because instead of extracting one data set from one database, the team is pulling elements from different databases that might not necessarily match up, and having to do a lot of manual checking of the data before it can be used.

In fact, concentrating on having a perfect base of data to work with is widely seen as counter-productive. More important than having perfect data is being able to demonstrate the value that using existing data can deliver to the business, otherwise you risk losing years before any advantage accrues.

Demonstrating value is also key to resolving some of the problems around data sharing across the organisation. If you can show people the benefits that come from them sharing their data, they're more likely to do so. And if senior staff are seeing value, they are more likely to both resource the data integration, and to force it through.

Voice of the brand

"We started to experiment with data to target the right people at the right time. That's really paying off both from an upward conversion point of view but also from an experience point of view, so we aren't talking to the wrong people at the wrong time. It's still fairly manual, but we've used the results to show the opportunity data brings, how it makes things more efficient and how it can improve the customer experience."

Chris Worle, Director of Digital Strategies, Hargreaves Lansdown

There is also a sense that attitudes to types of data are changing; that businesses are realising that not all data is created equal. This attitude was summed up by Diez-Aguirre at Ricoh:

> *"We bought third-party data, and it's poor data basically, because it's based on things that happened 30 days, 40 days in the past. Your competitors can buy it as well, the categories are obsolete, everyone has got the same data. So more and more what we are trying to do is create our own first-party data, but enhanced with machine learning."*

Voice of the brand

"I prefer first-party data because I know where that data comes from. There are always nuances to any data, and a lot of those nuances are embedded in institutional knowledge or in someone's head. So, if you can talk to the person who set up the data capture process or who's familiar with the data, then that's useful. If you're dealing with third-party data you've got less control. You may have a good relationship with the supplier but you've still got to make the call and you may have limited amount of time. And the amount to which you can change the data capture processes may be limited."

David Hoyle, Lead Data Scientist, AutoTrader

The impact of GDPR

The other factor changing the data landscape dramatically this year is, of course, GDPR. Interestingly, the view among our interviewees was unanimous; GDPR is much-needed and will bring significant benefits to digital marketing. Implementation of the regulations is clearly being driven by legal and compliance teams, but for marketers the result will be better, more easily accessible data.

Voice of the brand

"GDPR is another part of the same data journey. It's about consumer privacy and visibility but in the back-end it's all about pulling disparate data sets into one nice structured environment, so we can access it as required. Doing that benefits consumers, but also better data structures can then be used in machine learning, for example."

Jack Daniel, Director of Digital, Molson Coors

Another benefit highlighted in our interviews is that GDPR will force companies to get their customers to sign in to communications. And knowing who your customers are will be a key factor that separates the data-haves from the data-have-nots.

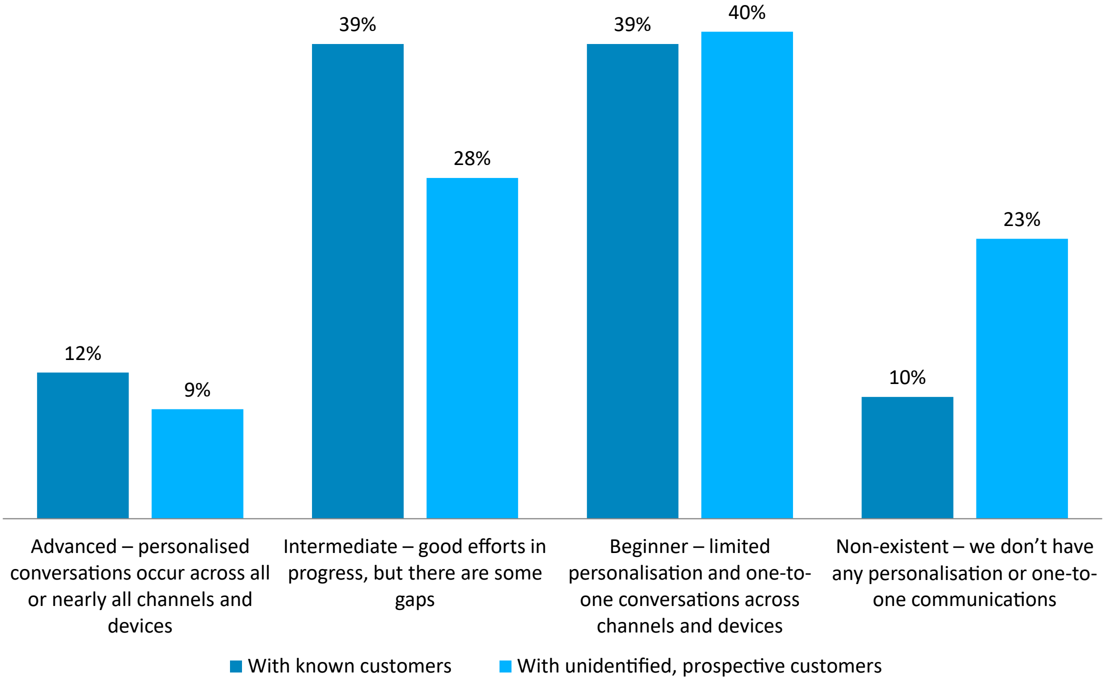
Voice of the brand

"One of the advantages we have is that in order to purchase anything from us, you have to be a registered customer and you have to be verified online. So, we've got 11 million customer records. We've got a pretty good picture of our segments and our customers. The sheer volume of behavioural data that we're potentially able to mine is pretty staggering."

Terry Rydzynski, Senior Optimisation Manager, Camelot

This is illustrated by figures from Econsultancy's Dark Data[5] report. Asked to rate their organisation's ability to have personalised, one-to-one conversations with customers across channels and devices, companies rated as beginners said they were equally able to talk to known and unidentified customers. More advanced companies, however, were significantly more able to deliver personalisation to known customers, illustrating the gap that opens up as organisations get more data-savvy.

Figure 4: How do you rate your organisation's ability to have personalised, one-to-one conversations with known customers or with unidentified, prospective customers across channels and devices?



Source: Econsultancy / IBM Marketing in the Dark: Dark Data

5 https://econsultancy.com/reports/marketing-in-the-dark-dark-data

GDPR, which came into effect in May 2018, is generally welcomed by the marketers we interviewed. But while they saw it as an important factor in driving behavioural change within organisations, they also warned that it won't be a panacea. Consultant Paul Randle went so far as describing it as only part of what is required by an industry he sees as hungry for best practices, and that further initiatives would be needed. He also pointed out that the long lead-time for regulation means it risks being obsolete even as it comes into force: *"Once legislation has caught up with where we are today, technologically we'll be in a totally different place anyway."*

Voice of the brand

"Signing in is going to be the big play in the future. The business that can convince you to sign in, to give them your data, is much more powerful than one that can only use cookie data, or is guessing data."

Colin Lewis, CMO, OpenJaw Technologies

"GDPR should be a wake-up call for a lot of organisations to get things right, to make sure that the analytics and understandings and the insights and the communications that they have with customers are right and are adding value for the customers, because it's now very easy for the customers to take that away."

Simon Kaffel, Head of Data, Reporting, Insight and Control, HSBC

"GDPR holds businesses to account on what they're doing with their customers' data, and makes it really transparent. It means that you have to be honest with your customers, and most importantly you have to create value for your customers, because if the customers see the value, they will opt in. And if they don't see the value, then they will opt out."

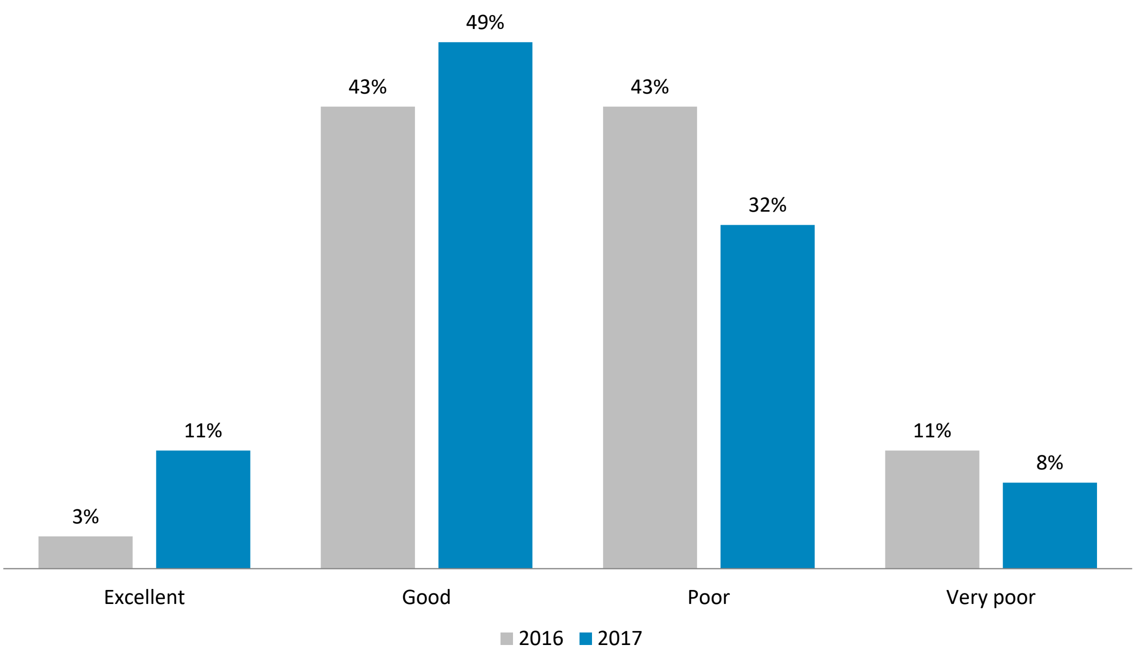
Adrian Hado, Head of Insights, Analytics and Customer Experience Design, Asia Miles

6. TAKING ACTION BASED ON INSIGHT

The final piece of the puzzle for companies using predictive analytics is their ability to take the insights and turn them into action. This is obviously crucial to delivering value yet, according to Econsultancy's Dark Data report, well over a third of businesses (40%) surveyed last year rated their ability to act on insights derived from customer data as 'poor' or 'very poor' (*Figure 5*). However, the situation is changing. The percentage of respondents who described their capability in this area as 'excellent' rose from 3% in 2016 to 11% in 2017, while the percentage describing it as 'poor' or 'very poor' decreased from 54% to 40%.

The problem, of course, is that as an organisation's ability to personalise its communications increases, so does the capacity required to create and deliver those communications. The ideal situation would be for both elements to proceed in step, but that again places significant pressure on the organisation and culture of the business, and on the resources it makes available to its marketing department. The process is often cyclical, moving forward with the way the business uses data, then focusing on the structures and capabilities required to implement the resulting insights.

Figure 5: How do you rate your company's ability to act on insights derived from customer data?



Source: Econsultancy / IBM Marketing in the Dark: Dark Data

Voice of the brand

"The only way predictive analytics will deliver value for the business is if it can be actioned by the business. You can spend years building up the most perfect model, but during that time you still have to make sure you're getting demonstrable value from it. It's really important to move the capability of the rest of marketing in tandem so they can use the data, learn from it and demonstrate actual business value. Not doing so is a mistake a lot of businesses will make."

Chris Worle, Director of Digital Strategies, Hargreaves Lansdown

Consultant Paul Randle sees the ability to produce the amount of content required by personalisation as the main factor limiting its implementation. He stressed the many different types, formats and variations of content required by predictive engines to test all the different variables to find what works best.

Marketing automation will clearly be crucial in solving this problem. The tools already exist to free marketers from the drudgery of creating multiple different variations of the same ad to fit all the possible places where it might be used. But this is only part of the story.

Automation of the delivery process is relatively straightforward for businesses operating in their own channels – email for example – but for those trying to use predictive analytics to deliver advertising out into third-party media, at some point a human being has been taking their created assets and transferring them from one place to another, because there hasn't been the ability to automate all the way through.

Solutions are getting closer, but some of our interviewees remain sceptical about how desirable full automation might be, since it could involve marketers surrendering even more control to the platforms.

Helping insights flow into action

One of the most significant changes around analytics in recent years has been the way that workflows have changed. Instead of the data team just being asked to validate the results of a marketing campaign once it has finished, analytics now 'tops and tails' marketing, in the words of Adrian Hado, Head of Insights, Analytics and Customer Experience Design at Asia Miles.

"Historically, marketing would say to analytics: 'Can you give us some customers to talk to?'. Whereas now, we've moved to being at the start of the process because we're going to marketing to say, 'Here's a customer need that's not being fulfilled. Maybe we can talk to these customers about it.' There may be a product we've already got that can fill this need, or it's a marketing problem. Or we need to talk to our product team to develop a product to satisfy this need. Then you do your campaign, and analytics is there at the end going, 'Well, did that work or not?' Which I think is very different from how it used to be."

Organisational structure also has a part to play in making sure businesses take full advantage of the insights generated from their data. In the previous section, we discussed how creating a separate data team away from the rest of the business – possibly in a fashionable location – might help solve problems in recruiting and retaining the in-demand specialists required. But we also heard the warning that taking the insights from such a team back into the main body of the business can be difficult. Two of our interviewees spoke about organisational changes intended to make insight flow more easily into action.

Chris Worle explained how Hargreaves Lansdown restructured its marketing department into self-sufficient squads based on customer segments:

> *"They need data in order to operate effectively, so they're sharing it, whereas before it was quite easy for a copywriter or a marketing comms person to turn out copy without really needing to think about the data or the targeting. Because those guys now work together as a team, you've got the marketing comms person working with the digital marketing exec and the analytics person. They've all got their shared dashboards and they're working off the same data set."*

On a larger scale, Iain Noakes, Chief Customer Journey Officer at The Economist, described the company's recently announced restructure which brings advertising and subscriptions back together as a single publisher team:

> *"In the past, each team or function has independently been using this rich data we have available for different purposes, but not necessarily thinking holistically about the audience which is engaging with that content, our assets or our services and what is the next best thing to do. So, a natural evolution for us is to join up next best actions for a given user to give them the best experience which is both fruitful for them, but also useful and fruitful for us as a business."*

Beyond this, the question companies need to ask themselves is whether predictive analytics will pay off for them at all. Will the effort they put into personalisation deliver commercial benefits in terms of improved conversion rates?

Voice of the brand

"You need to go into predictive analytics from a purely commercial perspective. Always ask the question: is this going to move the needle in terms of results? Certain brands are going all-in on data, but, with all the insight, they are not going to be able to make a difference in conversion. Why? Because their audiences don't react any differently to personalised messages than compared to if they weren't personalised."

Colin Lewis, CMO, OpenJaw Technologies

Whether personalisation will pay off depends on the individual company, its brand and what its customers allow it to talk to them about, rather than broad generalisations about sector. Persil's 'dirt is good' campaign, for example, built on the idea that getting messy was a natural part of kids growing up, and that Persil was there to get their clothes clean again. This then gave Persil permission to talk to mothers about holiday activities for their children, in contrast with other detergent brands that were still talking about whiteness and fragrance.

The continuing growth of the concept of 'advertising as a service' will see more companies looking to find ways their brand can engage consumers in conversation, conversations that can then be personalised ever more closely, across their entire customer base, through increasing use of artificial intelligence.

7. AI AND MACHINE LEARNING

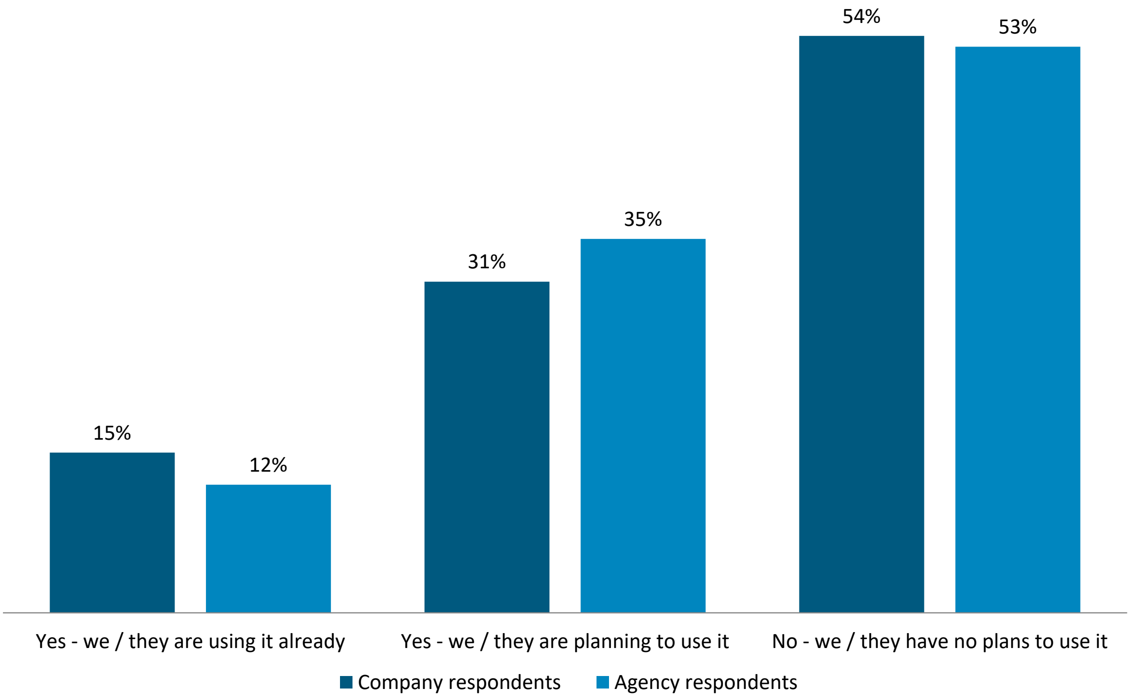
It seems no discussion of the future of marketing is complete without a mention of AI and machine learning, usually centred on how soon the robots are going to take over marketers' jobs. Consideration of how marketers will use AI to do their jobs better before that takeover happens is more limited. There is also confusion about the terms, with the marketing industry tending to use the two as a catch-all, rather than making a distinction between them. Quoted in Wired magazine, Intel's Head of Machine Learning Nidhi Chappell offered the following definition:

> *"AI is basically the intelligence – how we make machines intelligent – while machine learning is the implementation of the compute methods that support it. The way I think of it is: AI is the science, and machine learning is the algorithms that make the machines smarter."*

Media hysteria notwithstanding, the future of predictive analytics, and the development of prescriptive analytics, will be dominated by the role of artificial intelligence, if only because true personalisation in real time is impossible otherwise.

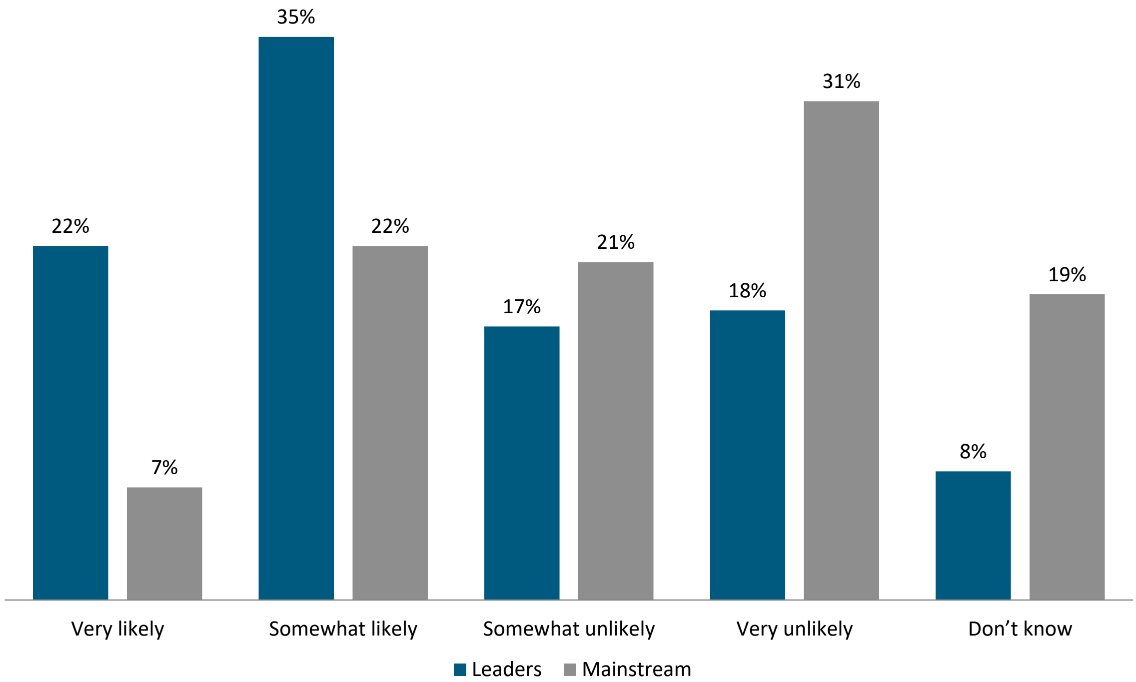
However, application of AI in marketing is still very limited. This year's Econsultancy Digital Trends report found that only 15% of respondents are already using AI, compared to 31% planning to use it and 54% with no such plans (*Figure 6*).

Figure 6: Is your organisation (or are your clients) using or planning to use artificial intelligence (AI) in the next 12 months?



Source: Econsultancy / Adobe Digital Intelligence Briefing: 2018 Digital Trends

Figure 7: How likely are you to include artificial intelligence (AI) into your marketing strategy over the next 12-18 months?



Source: Econsultancy / IBM Dark Data report

Econsultancy research has also shown that market-leading companies – defined as those whose marketing functions exceeded their top business goal for the previous year – are the ones most likely to be making bets on AI (*Figure 7*).

Econsultancy's Dark Data report found that 22% of market leaders (companies whose marketing department had exceeded their top business goal for the previous year) were very likely to include AI in their marketing strategy over the next 12 to 18 months, compared to just 7% of mainstream companies. Conversely, 31% of mainstream companies said they were very unlikely to invest in AI for marketing in the period, compared to 18% of market leaders.

Voice of the brand

"We're already using AI for some things where it makes complete sense; automated customer service, chatbots, and those sorts of things. Fund management is clearly a product where customers, instead of having a human being-managed fund, can sign up, and have AI doing that for them. I expect those sorts of products will grow in the future. I don't predict everyone will go to that, but I think there will be a market for that, in particular if they become more sophisticated. There are definitely many applications within the financial sector; I don't necessarily see that marketing is one of the biggest ones."

Helena Andreas, CMO, Nordea

We are already seeing AI gaining a foothold in the direct response end of the market, where companies have an existing relationship with customers based on a sign-in. This sort of established relationship enables the move to prescriptive analytics, where the machines can start to say: 'they're using this, they've bought that from us, they're currently at this stage in their life with us as an organisation, so these are the things we need to be talking to them about next'.

This is an extension of the point made in the last section about the importance of sign-in, and once again illustrates how companies that are not able to persuade their customers to move to a signed-in relationship risk falling behind those who are in their ability to make the most of predictive analytics.

In turn this highlights a key point about using AI in any field. It may seem obvious, but it bears repeating; the insights delivered by the machine will only ever be as good as the data that goes into it. The old computer science acronym GIGO – Garbage In, Garbage Out – still holds true. Hence the point made in an earlier section about the value of GDPR in improving the quality of an organisation's data. This may well also be the explanation behind why market-leading companies are so much more likely to invest in AI than their mainstream counterparts; they're the ones who have the best and most integrated data.

Voice of the brand

"However, an important note of caution, whilst most companies think they want advanced AI/ML, actually the most critical action all businesses need to undertake is to clean up and organise their data so that they are then ready to take advantage of, and embrace, the obvious tailwinds of machine learning and artificial intelligence. Without easy access to the right data of the right quality it makes it extremely hard to apply the services and APIs now available."

Paul Morris, Global Ecommerce Director, Specsavers

Another warning being sounded about AI is around the learning part of the machine learning that powers it. Unlike previous marketing automation technologies, which took a task and either sped it up or made it more efficient (or both), an AI has to be trained to use the data to deliver the insights the business is looking for. This takes time, and there's a risk of unexpected results in the learning period. Businesses adopting AI need to be aware of these potential problems.

Voice of the brand

"For me, the challenges are in the short term. The benefit of AI in predictive analytics is that the longer you do it, the better it gets. The more quality data that's in there, the more machine learning can improve the journey. Think about Amazon's Alexa. If you use Alexa regularly, you can see an obvious improvement in what they're doing. People think that's Amazon chucking in updates, but it's not. It's the machine learning engine doing it over time.

"So, there's this hump where you've got to let AI run its course. And you've got to expect it not to be perfect upfront. And, in the short term, that can be uncomfortable. It also might not come to fruition in year one. And it might not start paying out until year two or three."

Jack Daniel, Director of Digital, Molson Coors

Some marketers we spoke to felt experimenting with AI should be less expensive than adopting other marketing technologies, providing the initial groundwork has been done with the data. Ricoh's Javier Diez-Aguirre is one of them:

> *"The level of investment that you would require is much less because you can partner with a third party that could develop the algorithm with you. You can outsource so much of this stuff, and you can really focus on the right segmentation. You can focus on analysing the data you get from the right messaging, and because it's so focused and it's so scalable, you don't necessarily need to spend huge amounts of money at the beginning."*

Another warning about AI reiterates the point made in the previous section about actionability of insights. In this sense, AI is merely the next evolution of predictive analytics, delivering greater personalisation. As a result, it once again increases the amount and variety of content needed to turn the predictions into business value. Just as no organisation should contemplate employing AI without first making sure their data is robust and properly integrated, these is no point in investing in artificial intelligence unless you are willing and able to resource an increase in your capacity to produce content.

What's more, that extra resource should not come at the expense of activity further up the funnel, as consultant Paul Randle points out:

> *"This is all about 'we know the individual, we know the message, we know the product.' Well, you know the individual, you know the product. You still have to bring content into those worlds. Even if it's very light-touch creative, you still need that. You still need to do a bit of brand reinforcement, and how you bring then less data-informed thoughts into these equations can still be a bit of a battle too."*

Finally, it's worth re-iterating that we are only at the very earliest stages in our use of AI in marketing. The problems that artificial intelligence can help with are still small and need to be heavily circumscribed in order for AI to work. We are far from AI being able to deliver an end-to-end solution to marketers' problems, let alone take over their jobs.

Voice of the brand

"There is a lot of opportunity, and hardware and software will continually evolve. We'll get to a state where things are improving and will continue to improve, and machine learning will take us further down that road, and make all of the processes and systems that we have even smarter. We're just taking pigeon steps at the moment."

Simon Kaffel, Head of Data, Reporting, Insight and Control, HSBC

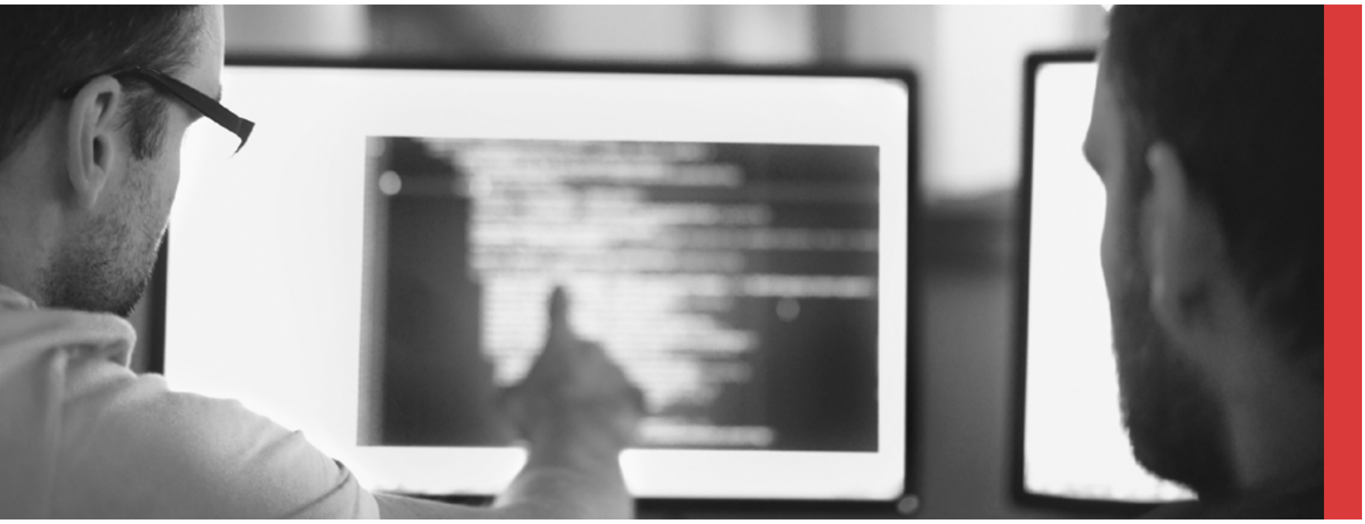
8. CONCLUSION

The terms 'predictive analytics' and 'prescriptive analytics' are relatively new to the marketing lexicon. But their ultimate goal, marketing to a segment of one, has been one of the promises of the commercial internet since pioneer thinker Nicholas Negroponte published Being Digital back in 1995.

Its roots go back further still, to the definition of direct marketing by Lester Wunderman in 1967, and to the rise of supermarket loyalty cards in the 1980s. In recent years, the amount of customer data available, the fall in data storage costs and the rise in processing power associated with Moore's Law have brought us to a point where our analytics can start to predict customer responses to our marketing. Now the emergence of artificial intelligence seems to offer the biggest step-change since those early days, with the ability to finally understand enough about the behaviour of individual customers to be able to deliver the right message to the right person at the right time, at scale.

But as we have seen in this report, there are caveats. The quality of data held by organisations, and their ability to bring it together in usable formats, is still a problem. The skills required to analyse and manipulate this data in order to extract insights from it are in short supply. And actioning those insights to deliver value to the business asks big questions about the way marketing departments are organised and how they are resourced.
What's more, the dangers of getting it wrong are significant. An alternative history of online advertising would focus on plummeting click-through rates in the early Noughties and an increasingly aggressive industry response through pop-ups, overlays and roadblocks, through to the retargeted ads of today. Each of these has resulted in customer annoyance, and as digital agency pioneer GM O'Connell pointed out back at the turn of the century, "You can't annoy someone into liking you." And as marketing communications become more personalised, the risks become even more acute. Get it right and your marketing becomes a service to the customer. Get it wrong and it's more annoying – and creepy – than ever.

For these reasons, marketers should proceed with caution. As the respondents to this report have indicated, this is a complex area with many moving parts that all need to work together. But if, as Forrester says, the quality of the customer experience is becoming the key driver of competitive advantage, those businesses that are able to use predictive and prescriptive analytics to deliver a personalised, relevant customer experience in their marketing stand to be the success stories of the future.



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Econsultancy's mission is to help its customers achieve excellence in digital business, marketing and ecommerce through research, training and events.

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RedEye is an AI-driven Marketing Automation Platform fed by an incredibly powerful Customer Data Platform. Brands who partner with RedEye gain the ability to engage with their customers on a more personal level than ever before, increasing their revenue by significantly increasing the value of the relationship. They help their clients deliver the right message, at the right time, to the right customer on the right device, cutting through the hype and buzzwords that surround marketing automation and personalised marketing. RedEye want to help clients quickly see the maximum value from a solution that could transform their CRM strategy.

RedEye's unique Customer Data Platform combines all data, online and offline, from in-store purchases to last products browsed online and makes this vast depth and breadth of data available to their clients through sophisticated and intuitive tools and interfaces.

RedEye's sister company, RedEye Optimisation, was formed to create an organisation dedicated to delivering the optimum customer experience for our clients. This London-based team focus on user research and design, conversion rate optimisation and customer experience improvements.

RedEye's clients include Travis Perkins, Footasylum, Interflora, Reiss and Hotel Chocolat.

For more information visit www.redeye.com and www.redeyeoptimisation.com.