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Keen
Model Your Brand Winning

The what, why, and how of predictive modeling

Do you really need another piece of martech?

PREPARED MAY 2019

Contents

Introduction	01
Assessing marketing's financial impact	03
Does technology lead to good decisions?	07
What do businesses want to know about their marketing?	11
Platform usage and the adoption of predictive modeling	15
Lack of major adoption amid skepticism	19
Leadership and cross-departmental attitudes	23
Is cost driving doubt?	27
Businesses with predictive modeling do it in-house	31
Does predictive modeling drive success?	33
Specialist marketing tools or generic modeling?	37
The aims of predictive modeling	39
Having data does not mean being able to use it	45
In a real-time world, delayed insights equate to lost opportunities	49
Conclusions	53

Introduction

The martech landscape has expanded dramatically over the last few years with Scott Brinker, editor of the Chief Martech blog, now estimating at least 7,040 companies within the space[1].

Companies' investments have matched this growth, with a recent report by Gartner[2] saying that spending on martech is now 22-29% of overall marketing budgets, an increase of 30% on the base over last year. But how should a business justify these increased investments?

There is an inherent tension within businesses as each department has its own priorities. The number one focus for CMOs, according to a recent Deloitte study, is driving growth[3]. However, they also acknowledge that demonstrating their financial impact is the number one challenge when communicating with the C-suite. This possibly could be resolved if there were a single source of truth. However, most companies lack quantitative metrics to demonstrate the impact of marketing spend. Most marketers continue to measure qualitative metrics (50.7%) versus just 36.4% who have implemented quantitative metrics[4].

We live in a world where we have access to more data than ever before. It is estimated we create more than 2.5 quintillion bytes of data every day. The rate of acceleration is unprecedented, as 90% of the world's data has been created in just the last two years[5].

As individuals and businesses access ever more data, the phenomenon of analysis paralysis also has become increasingly prevalent. In part, this has been as a result of the gap in connecting all marketing channels to one another and to their financial impact. The other challenge is that disparate analysis, based on different datasets, can conflict and add confusion.

Predictive modeling offers an opportunity to resolve these problems. Indeed, it is the only way to get a unified view of performance across all marketing channels. When done well, it affords the opportunity to make data-driven decisions about the best next marketing investments, with accurate forecasts about what revenue they'll return, rather than simply reporting on the past. Adopted at scale, these frameworks hold promise to finally close the communication gap between marketing and the C-suite.

New technology advancements allow data assets of disparate metrics, granularity, and even quality to be unified and analyzed faster and at greater depth. These technologies continue to synthesize marketers' views of data into a unified, forward-focused approach that aligns more closely with the decisions they need to make:

- How to best allocate budget across in-store programs, digital media, and traditional media
- When to activate specific programs and for how long
- Which programs are under-performing and should either receive additional investment or be minimized/ eliminated in favor of higher-returning programs
- How marketing channels are interacting and compounding to affect buying decisions

Another important advancement is that software is enabling data to be continuously added to the predictive modeling framework in order to facilitate more timely and agile decision-making, based on the most recent marketing data.

This report seeks to examine where predictive modeling sits today, trends in utilization, and where and how it can best be used to enhance marketing performance.

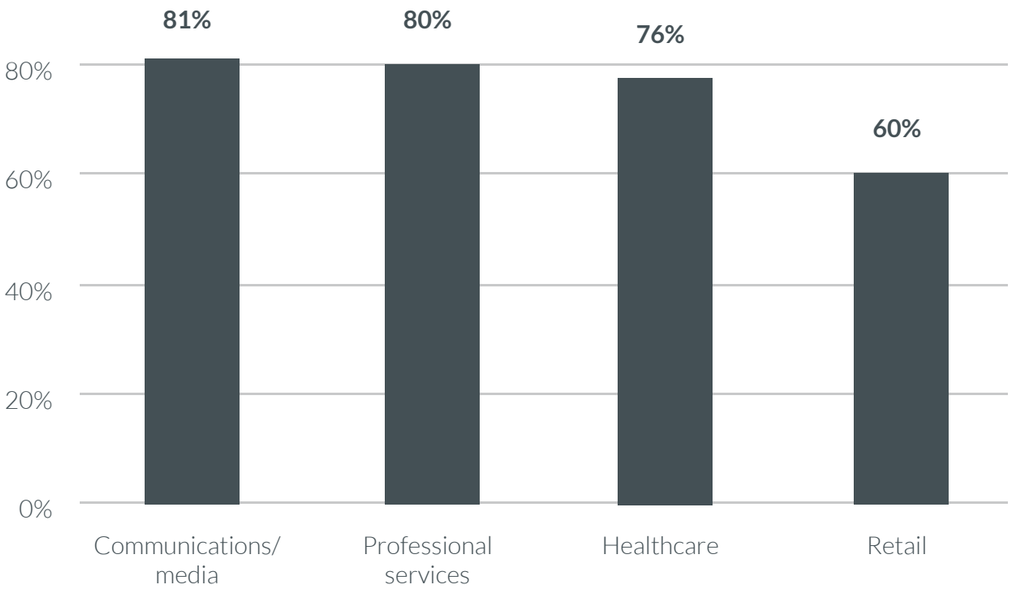
Its findings were derived from ClickZ's survey of more than 300 companies, talking to all levels, with a heavy focus on the C-suite and executive leadership (65% of respondents). Respondents were largely from brand/ client-side or agencies spanning all sales channels (direct-to-consumer (DTC), third-party ecommerce, and brick-and-mortar shops).

Assessing marketing's financial impact

Businesses spend more than a trillion dollars a year on marketing — and yet they have a very difficult time assessing its impact on business growth.

This task is made more challenging by the fact that marketing spans so many diverse channels: store-level programs, traditional media, and digital media, among others.

Adoption of advertising technology by vertical:



More than 60% of respondents rated their assessments of marketing impact as “very effective” or “above average.”

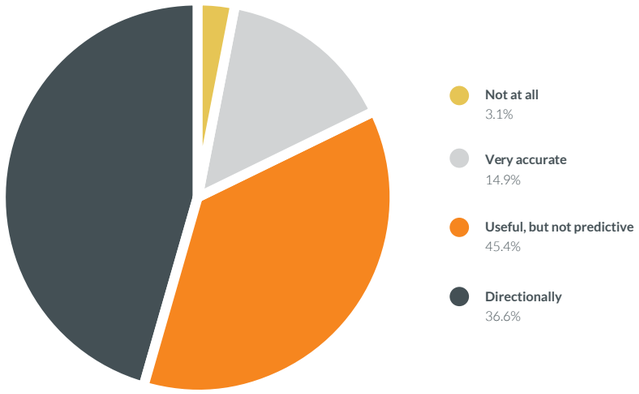
MORE THAN 75% OF RESPONDENTS SAID THEY NOW RELY ON TECHNOLOGY TO HELP EVALUATE MARKETING PERFORMANCE

Does technology lead to good decisions?

The survey also pointed to concern around the ability of these solutions to improve decision quality.

When questioned, 45% of respondents said their decisions were useful, but not predictive. Only 15% said their decisions were “very accurate.”

How accurate is your decision-making in driving improved business/sales results?



This conflict points to the inherent challenge: Too often, the vast array of information and data available to marketers and finance teams is simply used to report on what has happened in the past.

Many companies have plenty of Excel spreadsheets that are circulated on a daily, weekly, and monthly basis to justify what's been done, without providing direction on how to improve investments.

Marketing is measured against myriad KPIs, including cost per acquisition (CPA) and click-through rate (CTR), which are boiled down to headlines. The problem is these metrics are outputs.

That is, they are results from a campaign rather than inputs that can be modified, such as time of day, creative, or even device (desktop or mobile). Marketers and their cross-functional counterparts need actionable data.

Far more valuable is knowing what to do next, rather than simply understanding what has worked in the past.

This lack of predictive analytics is a problem for many businesses, as 78% of respondents felt they had missed opportunities due to slow or inaccurate decision-making.

78% OF RESPONDENTS FELT THEY HAD MISSED OPPORTUNITIES DUE TO SLOW OR INACCURATE DECISION-MAKING.

What do businesses want to know about their marketing?

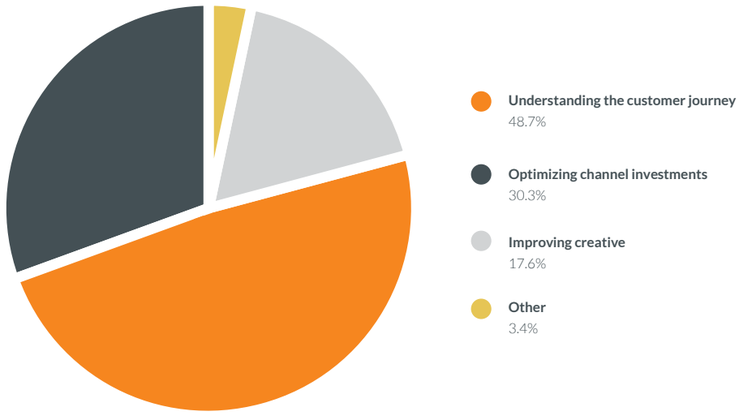
Businesses want to understand three distinct areas:

The customer journey

How to optimize media channel investments

Agile execution and performance
(business impact)

In which of the following areas do you believe your decisions can deliver the biggest business impact this year?



Traditional reporting only has enabled companies to take a retrospective view on how these marketing functions perform. Let's first examine how traditional methods struggle.

Customer journey

By better understanding the customer journey, businesses can market to the right potential customers as they move through the purchase funnel.

Businesses often have a unique customer journey, even within the same industry vertical. For example, the way customers buy cosmetics from Amazon differs from how they buy from Walmart.

Understanding when they might drop off, when they are interested in price-led offers, or when they might engage with different channels is vital to making the right investments in the right programs at the right times. Spreadsheets that show coverage and frequency for above-the-line media, impressions, and clicks do not support high-quality future decisions.

Media channels

It is crucial in today's fragmented media market for marketers to have the ability to assess channels holistically, whether it's search, social, display; TV, radio, or out of home (OOH).

In the past, marketers have used linear attribution approaches that assign zero value to such brand-led creative as online video and 100% to search simply because a user clicked on a brand-name search at the end of the purchase journey. By attributing a value to each element, marketers can better assess the value and where to buy media.

Agile execution

Rather than simply A/B testing dynamic creative with hundreds of permutations, modeling can look at which common themes drive success.

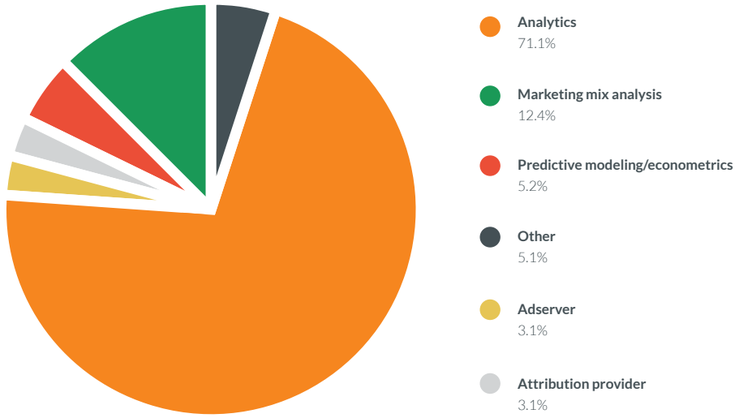
Whether it is imagery, price-driven creative, or a particular call to action (CTA), modeling can compare how different elements drive performance, specifically toward financial outcomes. Previously, this would have simply generated a report based on last-click attribution.

Platform usage and the adoption of predictive modeling

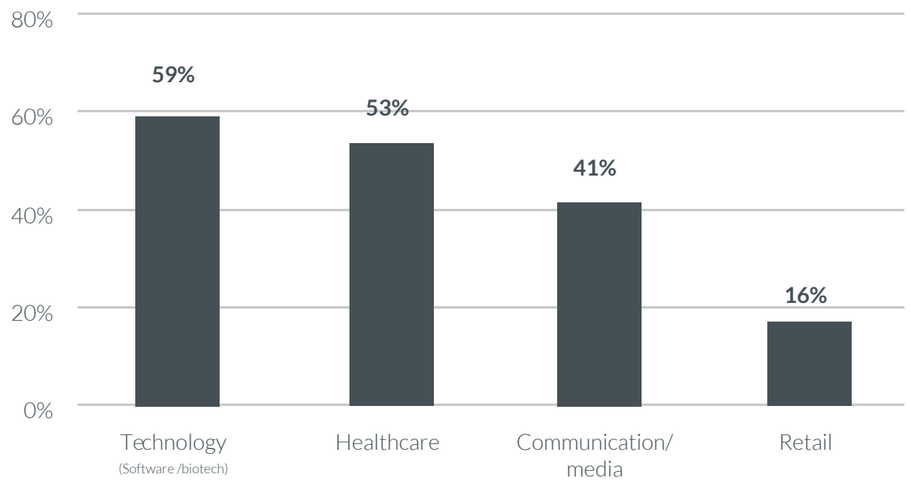
Two-thirds of respondents do not currently use any form of predictive modeling.

Of companies that do adopt predictive modeling, most are in the technology or healthcare verticals. Retail is surprisingly lagging.

What tools do the personnel involved use?



Adoption of predictive modeling by vertical



The number one platform used to understand performance is marketing analytics tools (71%).
It is interesting to note that ad servers, attribution partners, and marketing mix analytics are further down on the list.

The challenge of analytics tools is that they can be primarily historically focused. Predictive modeling is still in the early stages of adoption as businesses start to understand what it can offer, and work to align their people to pivot based on the insights gained.

Two-thirds of respondents do not currently use any form of predictive modeling. And those results are fairly consistent whether the business is direct-to-consumer (DTC), ecommerce, or brick-and-mortar.

However, adoption of predictive modeling varies widely when we look at different verticals, as seen in the graph above:

It is worth noting that general technology adoption and predictive modeling surprisingly lag retail, a vertical we would expect to be a strong adopter.

THE NUMBER ONE PLATFORM USED TO UNDERSTAND PERFORMANCE IS MARKETING ANALYTICS TOOLS

Lack of major adoption amid skepticism

Overall, survey responses suggest adoption is not going to change quickly.

More than half (54%) of businesses that do not have predictive modeling are not sure if they will ever implement the technology. A further 10% assert they will not implement predictive modeling.

The remainder (~35%) do plan to implement within the next year. Thus, even in 2020, we will not see a majority of companies using predictive modeling.

Different types of businesses vary in likelihood to adopt, with ecommerce sites far more likely to have a predictive modeling platform or a plan to adopt one; only 2% have no plans to do so.

Within direct-to-consumer (DTC), on the other hand, usage is already at 61%, but the segment shows a lower intent to invest. Nearly 60% of respondents (from all types of companies) who did not already use predictive modeling said they were either unsure or not planning to invest in the future.

ECOMMERCE SITES ARE FAR MORE LIKELY TO HAVE A PREDICTIVE MODELING PLATFORM OR A PLAN TO ADOPT ONE

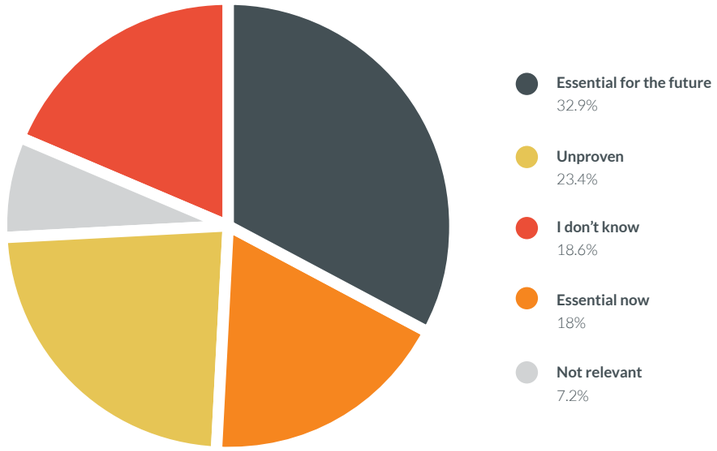
Leadership and cross-departmental attitudes

The widespread lack of intent to invest suggests some degree of skepticism around predictive modeling, which is certainly borne out by the data.

Only 18% of senior leadership teams believe predictive modeling is essential right now. This is very surprising given that the technology has been available since the early 2000s.

Surprisingly, about one-third of senior leadership teams see predictive modeling as something they would use in the future, yet 24% view it as still unproven and question whether it actually works.

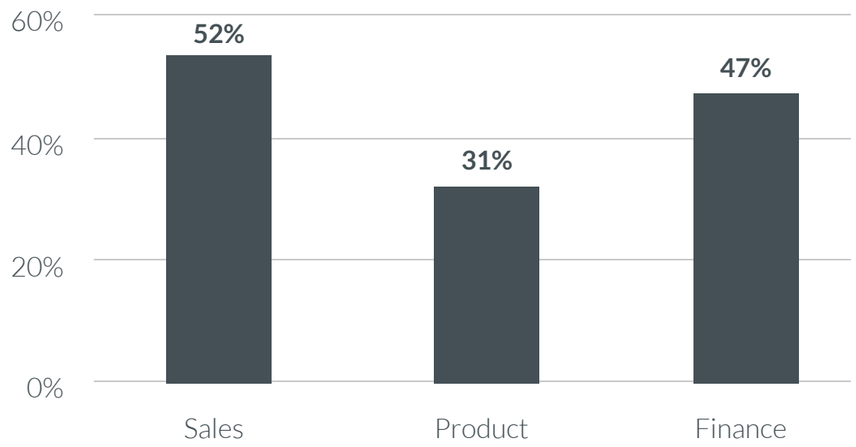
What is the view of AI/ predictive modeling among senior leadership?



Despite the fact that predictive modeling uses marketing, sales, product, and finance data, 74% of businesses have not integrated their predictive modeling into the systems of other departments, meaning it only sits within marketing.

When we break usage down by department, fewer than half of finance teams whose businesses have adopted predictive modeling actually use it. The picture does not get much brighter on the product side, where the usage rate is barely above 40%. In fact, only sales teams report adoption above 50%.

What departments and leaders outside of marketing use predictive modeling?



Without cross-functional engagement across an organization, the efficacy and value of predictive models diminish. The question is, do they understand the opportunity?

Predictive modeling is not just about closing gaps in an attribution methodology. It is about gaining a unified perspective across all marketing channels to avoid missed opportunities and holistically optimize the marketing mix.

The other question is a cultural one. Are marketers equipped and empowered to make significant — and in some cases, unpopular — shifts in marketing spending in response to the data?

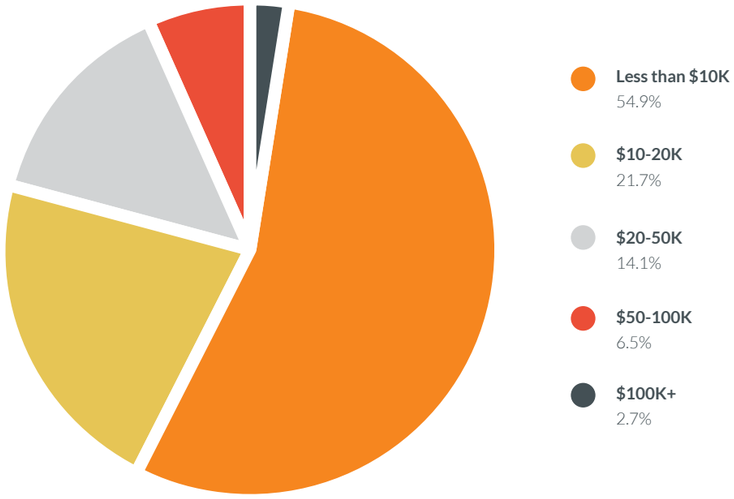
Otherwise the potential return on predictive analytics won't be realized.

Is cost driving doubt?

There appears to be a perception that the technology is (or should be) very low cost.

More than half of survey respondents expected the cost of implementation to be less than $10k, while only 10% thought it would cost more than $50k.

How much money would you expect to invest to implement predictive modeling?



Cost expectations appear to be tied to a lack of understanding about the ability of predictive modeling to improve outcomes. If viewed as an investment with a quantifiable financial return, rather than a non-working expense, the costs would be less likely to be seen in this somewhat negative light.

COST EXPECTATIONS APPEAR TO BE TIED TO A LACK OF UNDERSTANDING ABOUT THE ABILITY TO IMPROVE OUTCOMES

Businesses with predictive modeling do it in-house

Companies that invest in predictive modeling commit to building capability internally.

83% of surveyed companies rely on an in-house team to carry out the work, while 16% entrust the work to a specialist provider or agency.

Companies also incentivize their marketing teams to drive performance (typically short-term ROIs). Forty percent of respondents are personally incentivized, while 23% participate in a department-level incentive.

Does predictive modeling drive success?

Understanding the impact of any major investment is key, so how are companies evaluating predictive analytics?

For many it is very simple: 80% of respondents said they want to see increased ROI. There is some variation across industry verticals, with media and communications dropping to 72% while healthcare is at 88%.

The overall view is that marketers are expected to take ownership of their technology and prove its worth.

By focusing on ROI, it's clear that companies are expecting predictive modeling to assist marketers in getting the channels and timing right, in service of a financial goal rather than tactical performance improvement.

Only a small percentage (9%) said predictive modeling would be a success if it saved media costs. Similarly, only 11% of respondents assigned the investment to their IT budgets. It is clear the vast majority of businesses look to modeling to grow the top line rather than being a money-saving tool.

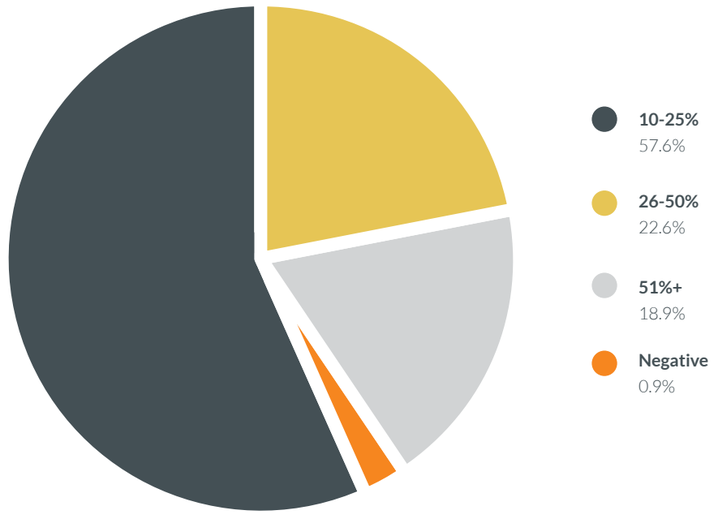
Respondents also said they anticipate a short time period to return on an investment in predictive analytics, with 40% expecting improvements in less than six months, and 23% hoping see them within one year.

IT IS INTERESTING TO NOTE THAT COMPANIES INVESTING IN PREDICTIVE MODELING REPORTED SIGNIFICANT RETURNS ON THEIR INVESTMENT.

A worrisome 34% did not know the uplift from their models. But among companies that tracked the impact, the results pointed to significant success:

- 58% saw a **10-25% uplift**,
- 19% saw **more than 50% uplift**, and
- less than 1% of respondents reported a negative impact.

Percentage uplift where performance could be tracked



These are game-changing results for organizations, relative to what they would need to spend in other areas to achieve similar returns.

The overwhelming evidence is that when predictive modeling is used, it drives a strong uplift in marketing performance.

THE OVERWHELMING EVIDENCE IS THAT WHEN PREDICTIVE MODELING IS USED, IT DRIVES A STRONG UPLIFT IN MARKETING PERFORMANCE.

Specialist marketing tools or generic modeling?

The tools used for predictive modeling are fairly evenly split between generic tools (used by 56% of respondents) such as SAS or SPSS, and specialized marketing analytics solutions (used by 44%) such as those offered by Keen Decision Systems, Neustar, or Nielsen.

At the beginning of the report, we explored how well respondents felt their businesses used data to inform decisions.

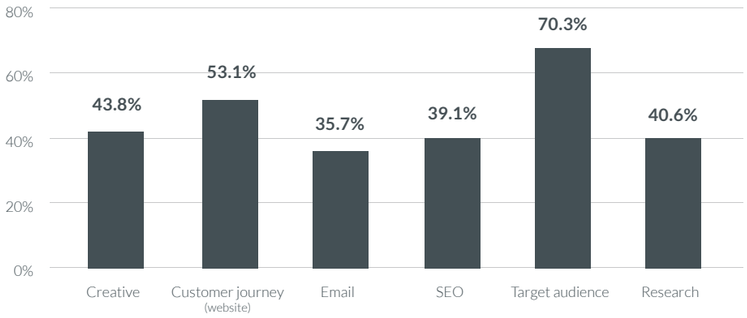
Here, when predictive modeling is used, responses indicate a definite improvement in decision-making accuracy.

The aims of predictive modeling

52% of respondents think their current metrics enabled them to accurately tie marketing investments to sales revenue lift.

Yet one-third suggested their models could be improved by closer connectivity to financial outcomes.

If you do have a predictive model, what areas does it impact?



Now let's look at the top three areas impacted by predictive modeling:

Target audience

More than 70% of respondents said predictive modeling impacts their understanding of their target audience.

This is a fascinating opportunity, given that for many years target audience has been defined by marketers' and agencies' best guesses about who "should be" buying their products. Predictive modeling refines media buying from "intended audience" to "actual buyers," often in some surprising, formerly unidentified demographics.

Customer journey

The customer journey is the second area where predictive modeling can have a significant impact, and that makes it another huge opportunity to optimize outcomes.

Predictive modeling creates new opportunities to optimize marketing spends by making decisions based on how various channels interact to influence buyers. Modeling also introduces real-time access to insights, so marketers can apply learnings in-flight, rather than waiting for their next campaign.

Creative performance

Forty-three percent of those surveyed identified creative as the third area of impact for predictive modeling.

A/B testing has been around a long time, but the scale of data available today helps advertisers coalesce the trinity of right ad, right time, right place.

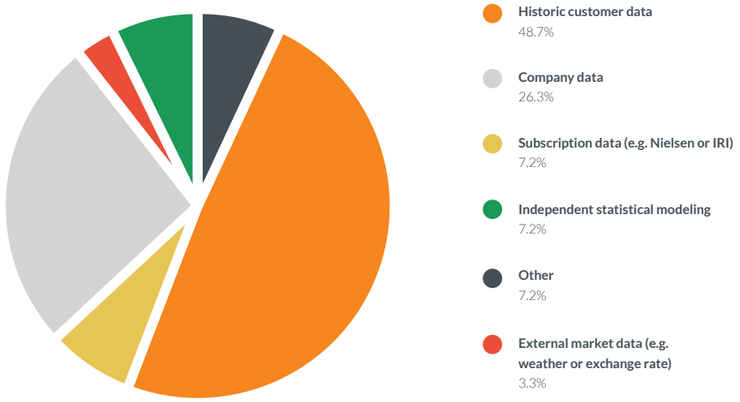
With the proliferation of dynamic creatives optimization (DCO) many advertisers have literally hundreds of different creative in digital format alone. And among print, television, and OOH ads, advertisers are faced with such an array of creative material that it can be very hard to understand what's working and what's not. Predictive modeling can start to unravel this mystery.

Again, we see that as marketers gain a high-level, unified view of how all their channels are performing and interacting to drive sales, they can begin to build a high-performing investment plan. From there, they can continue to optimize by looking at campaign-level insights and ongoing sales data.

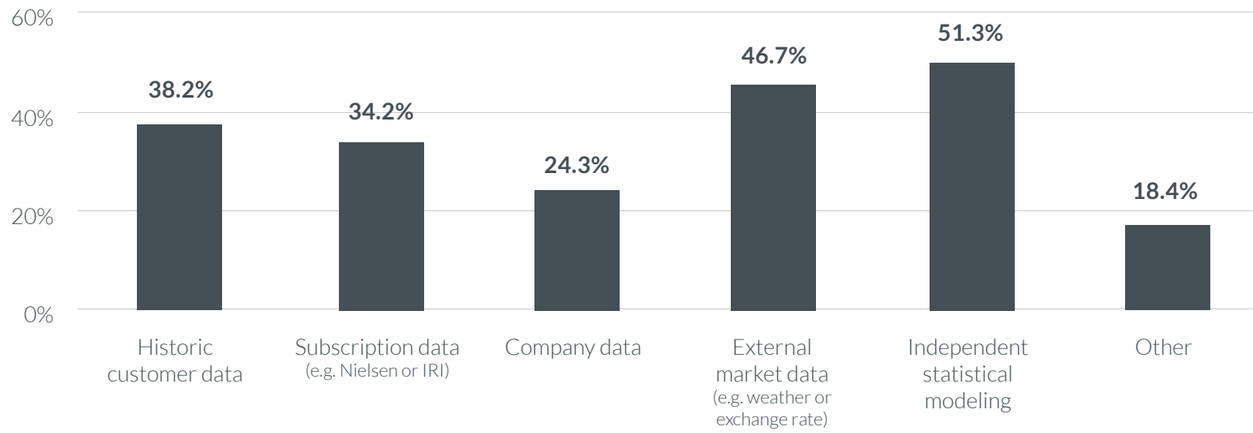
ONE-THIRD SUGGESTED THEIR MODELS COULD BE IMPROVED BY CLOSER CONNECTIVITY TO FINANCIAL OUTCOMES.

Data: Reality versus wishlist

What types of data do you work with?



What data do you not have access to that you would like to?



Nearly 50% of respondents use historical customer data, which is not surprising given that it is commonly available and one of the simplest data sets to model.

Data management platforms (DMPs), customer data platforms (CDPs), and other analytics platforms that conduct deep analysis of customers and non-convertors enable advertisers to build out simple models by analyzing time of day, day of week, device, and location from which users convert.

The next step—and where it becomes much more fascinating—is to understand the data to which marketers do not currently have access, but would like to.

Not all platforms can import these data sets, so it's important to understand the benefits of each provider.

Keen Decision Systems, for example, starts with a base of statistical priors that helps mitigate data quality concerns, and then layers in a company's sales and financial data, in addition to traditional marketing data sets.

The two highest data sets on companies' wish lists are not immediately available. Namely:

Independent statistical modeling

In the interest of accessing independent statistical modeling, 15% of respondents are working with a center of excellence.

Not every company has access to data scientists to help turn data into actionable insights. The emergence of software-as-a-service models provide an option for companies that don't have that access. It also can accelerate the data-to-decision timeframe when insights teams are on-staff.

External market data

External market data helps companies understand how factors as diverse as weather and exchange rates may impact consumers' buying patterns.

For example, a travel company might notice that a period of at least three days of rain correlates to an increase in bookings for warmer destinations.

Adding weather data to their model can indicate increases in ad volume or bids (when buying social or online display). Given the improved conversion, this in turn would help lower CPA.

Having data does not mean being able to use it

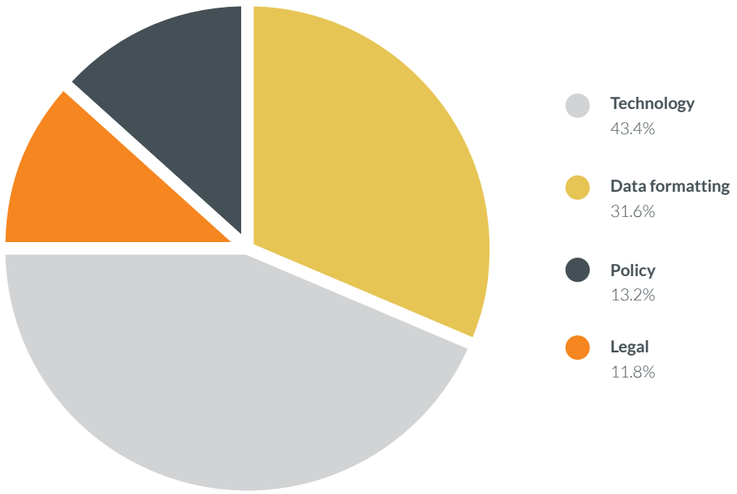
Marketers face the challenge of analyzing mountains of data to discern how to invest their marketing budgets in order to move the needle for the business.

Before predictive modeling, the available systems and technologies were unable to unify data from disparate channels and various levels of granularity.

This resulted in siloed decision-making by channel, all lacking connection to a financial outcome. Just 38% of respondents agreed that their current measurement solutions support the scale of their data. Consequently, 30% plan to upgrade to cover that gap.

The leading obstacles to data access include technology, data format, and legal challenges.

What are the obstacles to getting access to the data you need?



Technology

Forty-three percent of respondents cite legacy technology as the biggest obstacle to timely data access. This is a common problem in ad technology, which often does not integrate back to older platforms.

Data format

The second challenge is getting data into a format that can be read by other systems. Anyone who has tried to move from an Android phone to an Apple device knows the difficulty of crossing such ecosystems efficiently.

Seventy-nine percent of respondents said data quality was a barrier to data-driven marketing. Formatting is one of the biggest challenges to integrating data into a predictive model.

Legal

Legal challenges around data have compounded with the 2018 introduction of GDPR in Europe, and have severely impacted companies' access to customer and website user data. With fines of 4% of gross turnover or €20,000,000 (whichever is larger), legal teams are very cautious about exploiting customer data (the largest data pool). These changes are working their way to the US, with the California Consumer Privacy Act (CCPA) set to become law in 2020.

JUST 38% OF RESPONDENTS AGREED THAT THEIR CURRENT MEASUREMENT SOLUTIONS SUPPORT THE SCALE OF THEIR DATA.

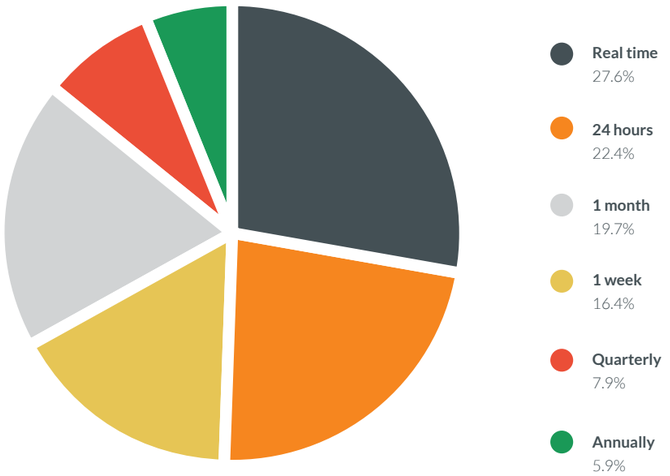
In a real-time world, delayed insights equate to lost opportunities

Even if businesses can access data, and have the technology to analyze and model it, some still face a hurdle in being unable to move fast enough to act on the insights.

Data has a half life: If it is not acted upon swiftly, its value quickly deteriorates.

Marketers are acutely aware of this, with 78% of respondents saying they have missed opportunities due to slow or inaccurate decision-making.

How frequently are you able to extract insights?



In analyzing the frequency with which teams typically update their models, we realized the scope of this challenge.

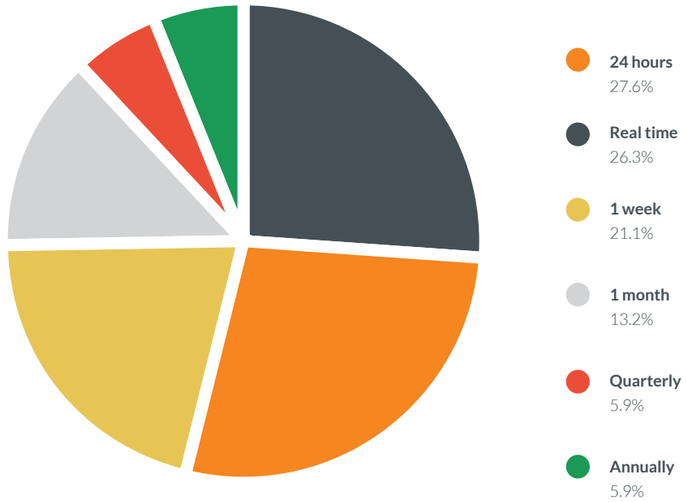
Some businesses (27.6%) have real-time insight, but for 34% it takes more than a month to get insights. An additional 5.9% only pull insights annually.

This obviously delays marketers' ability to translate findings into action to optimize marketing investments and impact financial outcomes. In a fast-changing world, this lag inhibits realizing the full financial opportunity.

Furthermore, to ensure marketing investments are delivering, it's important to keep models updated. Perhaps new data has become available, a campaign was completed, or changes occurred in influential market factors.

Again, updates are not as readily available as many businesses would like. Nearly 20% say they are able to update their models only within a one- to three-month window.

How quickly can the data model be updated?



This lag can mean many businesses will not see changes manifested for about six months, offering a softer return than if businesses are able to react more swiftly.

Considering that many companies are looking for an ROI on predictive analytics models within six months, that puts considerable pressure on the system.

78% OF RESPONDENTS SAY THEY HAVE MISSED OPPORTUNITIES DUE TO SLOW OR INACCURATE DECISION-MAKING.

Conclusions

It is clear that businesses are betting on advanced marketing analytics technologies to help them spend more efficiently and make more informed decisions.

Specifically, predictive analytics models can help optimize the financial impact of marketing investments across channels in a unified manner.

THE FINDINGS OF THIS SURVEY INDICATE THAT MARKETING TECHNOLOGY AND ADOPTION HAVE NOT YET REACHED A POINT WHERE THEY ARE CONSISTENTLY HELPING TO DRIVE DECISIONS THAT POSITIVELY INFLUENCE FUTURE PERFORMANCE.

This is largely due to the volume of data that is available—and many marketers would like access to even more. With such demand it is increasingly difficult for legacy technology to keep pace.

Predictive modeling is an emerging solution at this point.

Many businesses are still at the start of their journey, and many still believe—from the board level down—that they do not need it.

Perceptions around cost, along with the short-term expectations on ROI, may contribute to a lack of willingness to invest.

Organizations that do implement predictive modeling recognize it has a positive impact on decision-making, although it can be challenging to link it to firm financial outcomes. Hence, many decision-makers still consider the insights to be primarily directional.

The encouraging news is that where companies have effectively implemented predictive modeling and linked it to financial impact, there are clear signs of significant financial returns.

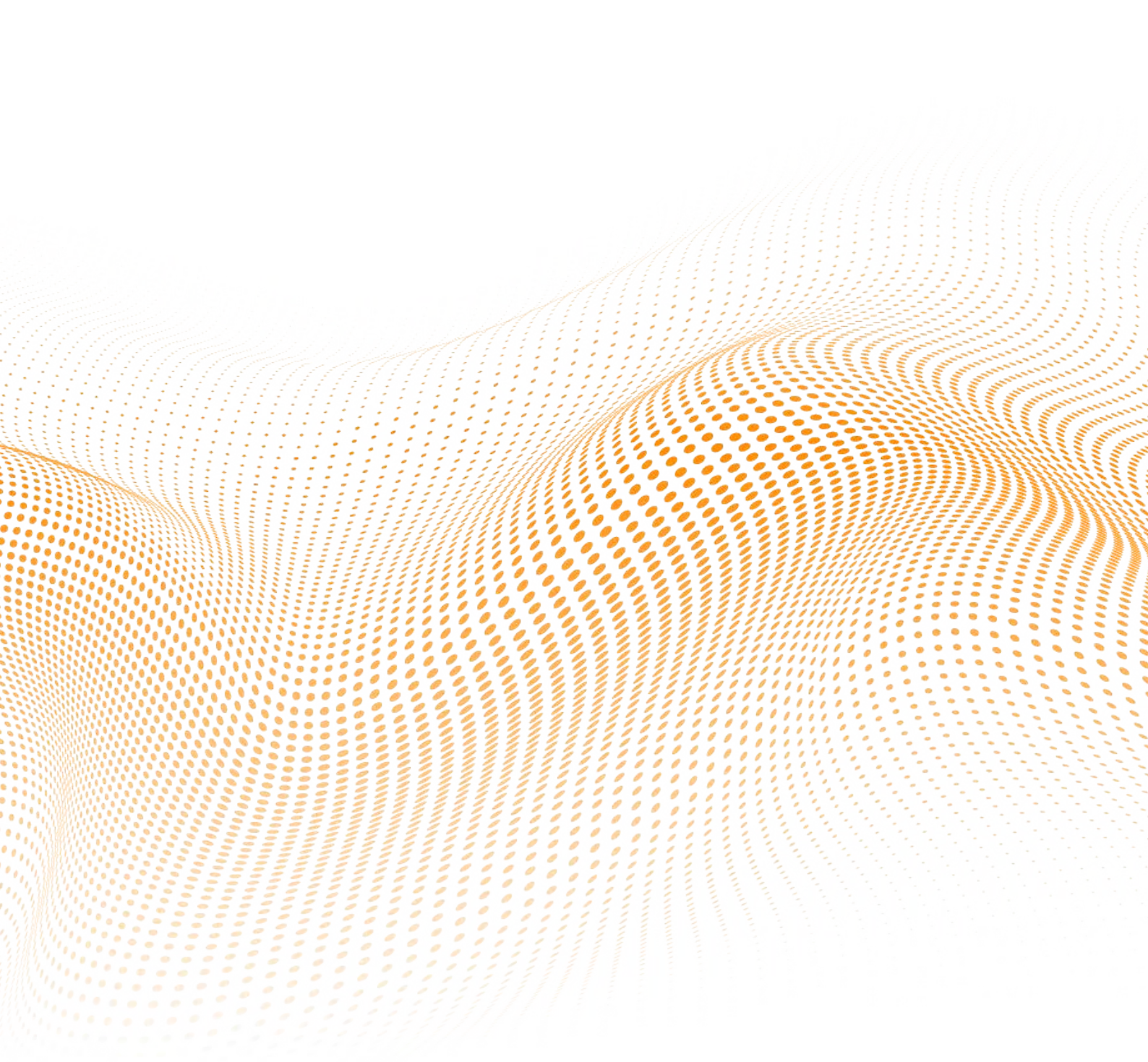
Fundamentally, adoption of predictive modeling is expected to continue. It holds enormous potential to give marketers a unified view of their marketing investments across channels and to make better, data-driven decisions about how to optimize financial outcomes moving forward.

About Keen

This research report was sponsored by Keen Decision Systems, named 2019 Best Predictive Analytics Platform in ClickZ's Martech Awards.

Keen's platform is helping leading B2C marketing leaders make data-driven decisions that build winning brands.

Keen's insights close the "proof gap" in marketing with accurate, omni-channel financial metrics and the capability to forecast and deliver predictable financial results on optimized marketing investments.



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