



GUIDE SERIES



Mobile

Algorithm

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The Kenshoo Guide to

BIG DATA

WHAT YOU WILL FIND IN THIS GUIDE:

- ▶ Why marketers must become technologists
- ▶ How to tell the difference between tech buzzwords and trends
- ▶ How Big Data is changing the face of marketing
- ▶ New roles in the marketing organization
- ▶ Marketing applications of Big Data such as forecasting and attribution
- ▶ Big Data rules and key trends
- ▶ Perspective from a leading marketer

3-D Printer

ROI

Beta

Viral

Engine

KPI

Cross-platform

The Next

Big Thing

Solar Max

CPL

Innovation

Real-time

Ideation

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Marketers Must Become Technologists

Data is amassing at an exponential rate with about 2.5 exabytes of data created each day. The sheer amount of sources and systems across the digital landscape and beyond that are generating data has made Big Data – and how to leverage it – a powerful yet complex topic for businesses. With an overwhelming availability of data, marketers are challenged with how to process and harness Big Data in faster and more innovative ways to deliver meaningful insights and tangible business outcomes.

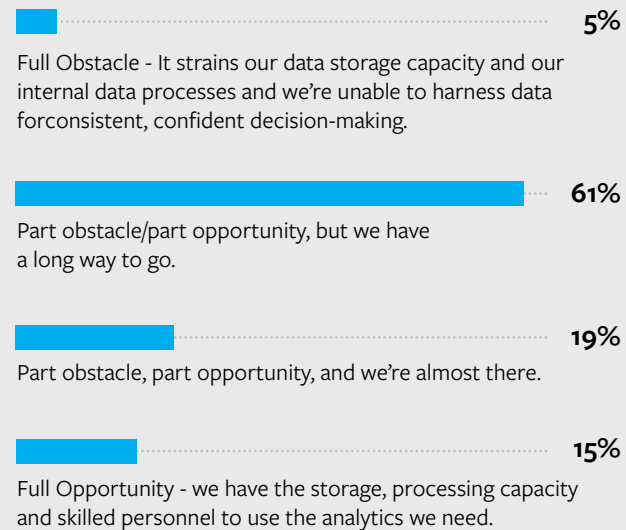
When online marketing was emerging, the Web was built around a set of standards, but as new tools, technologies, and innovations were introduced, the market became fragmented. Forrester dubbed this effect “The Splinternet.”

Now more than ever, Technology and Marketing are converging. Big Data is fundamentally changing traditional relationships within organizations, requiring marketing and IT professionals to become more collaborative in order to unlock the potential value of all this data in a customer-centric way and apply the insights across the organization.

It is imperative for marketers to become more fluent with technology and analytics in order to survive in the era of Big Data and it starts with education and training. Understanding the fundamentals of Big Data and the associated technology platforms is essential for marketers to become more data-driven and multi-disciplinary in their approach.

A survey conducted by The CMO Council and SAS revealed that 61% of marketers believe that Big Data represents equal parts opportunity and obstacle, as many are struggling to manage the complexity, flow, aggregation and analytics of the massive amounts of both structured and unstructured data flowing in to the organization.

Is big data an obstacle or opportunity for your organization?



Source: The CMO Council, "Big Data's Biggest Role: Aligning the CMO & CIO," March 2013

Tech Buzzword or True Tech Trend?

The digital marketing industry is awash with buzzwords and three-letter acronyms that, in the end, are often just meaningless jargon used to impress. It's an interesting phenomenon: many marketers openly scoff at this pervasive industry lingo – buzzword bingo, anyone? – but many also perpetuate the usage of such terms. While buzzwords can help standardize language in the industry and create a dialogue around emerging topics, the terms often become exploited and/or used incorrectly, generating more noise than signal.

Behind the smoke and mirrors, are there buzzwords that actually have substance and represent true, here-to-stay tech trends?

How to spot a buzzword versus an authentic concept:

- ▶ **Who's using it?** Salespeople or product managers?
- ▶ **Where is it being used?** Conferences and blogs or day-to-day discussions?
- ▶ **How is it being used?** Does it describe a specific problem/opportunity or is it just a catch-all?
- ▶ **Do people get it?** Is the meaning understood or is it often confused or misused?

- ▶ **How long has it been around?** Is it a new phrase just starting to be thrown around?

After a while, an authentic term or concept morphs from being a buzzword to becoming a real thing. Buzzwords don't stick. Real things do.

What's the verdict on Big Data?

In the scheme of digital buzzwords, Big Data is, for lack of a better word, a big one. Although often misrepresented, Big Data represents an entirely new approach to analytics in a world with so much data, marketers don't know what to do with it or where to begin. Data-driven analysis is the new norm, and Big Data has staked its claim in marketers' vocabulary and more importantly, strategy.

Buzzword Bingo is Nothing New: A Dilbert comic from 1994

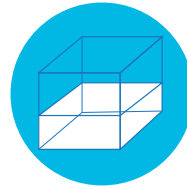


Moving Beyond Buzzword: Big Data is Here to Stay

If Big Data is more than just industry jargon, then what exactly is it?

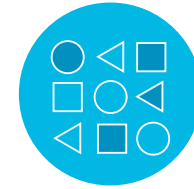
Defining Big Data: The Three V's

In 2001, industry analyst [Doug Laney](#) established the three V's of what we now term "Big Data": volume, velocity and variety.



VOLUME

Consider [this](#): About 90% of the world's data was created in the last 2 years. From dawn of time to 2003, 5 exobytes of data were generated. By 2012, 2.7 zettabytes of data were created – that's 500x more data than all data generated prior to 2003. And that number is getting larger – expected to grow 3x bigger by 2015. Many factors are contributing to increasing data volume, particularly the proliferation of unstructured data (i.e. unorganized data such as emails, videos, and social network contents).



VARIETY

Data comes in all types of formats, both structured and unstructured. So, how do you manage, merge, and analyze all these different varieties of data? The reality is that data is diverse and complex and not always neat. Although technological advancements have enabled more abundant and cost-effective data storage methods, issues remain when it comes to extracting meaning and applying analytics to these large data sets.



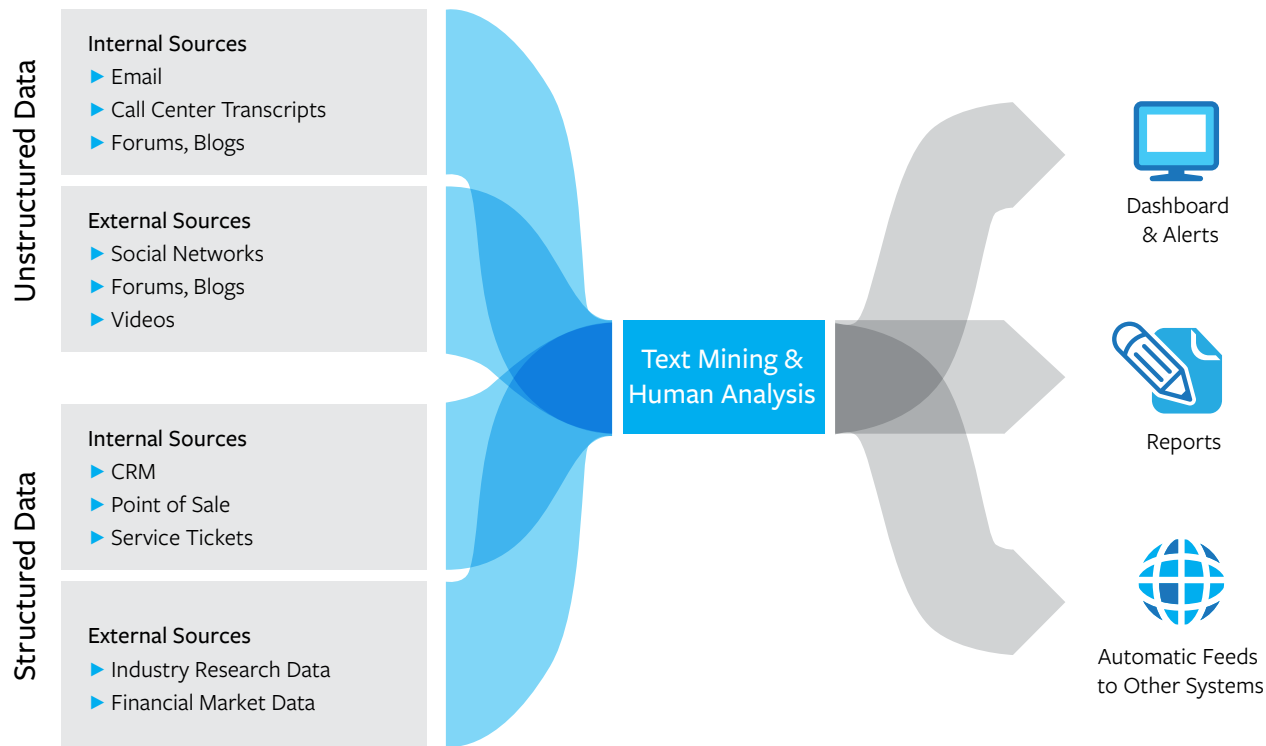
VELOCITY

The increasing rate at which data flows into an organization makes it difficult for many to react quickly enough to manage the intake. Think of all the consumer actions on the path-to-purchase that generate data – every click, every web visit, every social engagement. Marketers must leverage this intelligence in real-time to make the most optimal business decisions, hitting the right customers with the right message at the right time.

Marketers Must Become Technologists

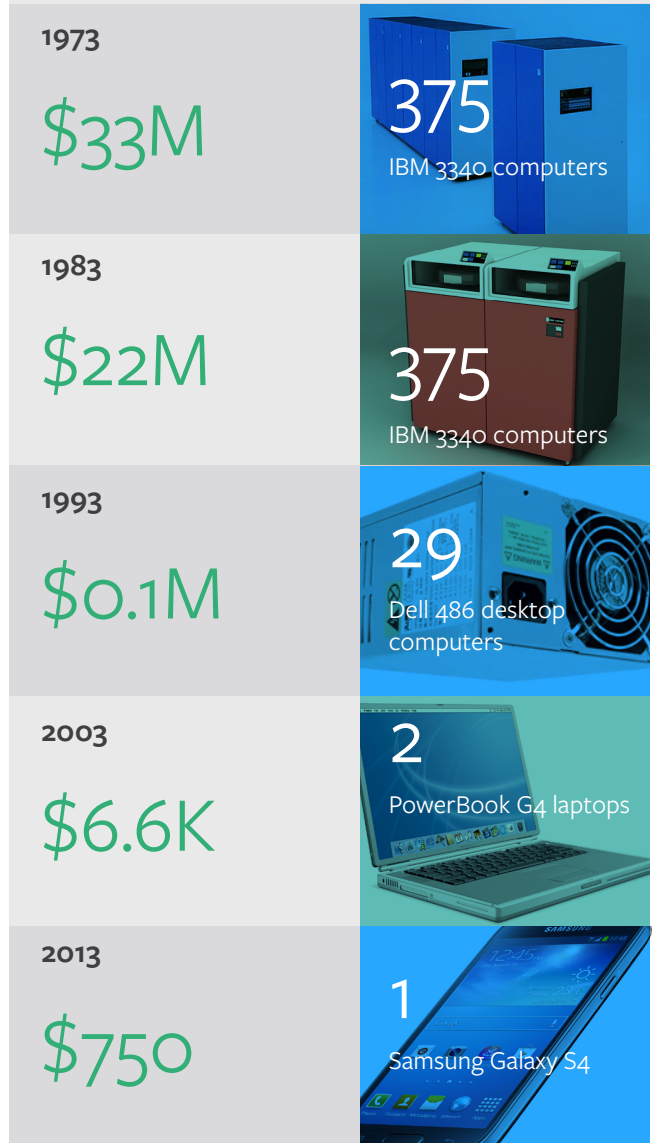


The three V's of Big Data need to be considered and addressed for effective marketing. Big Data represents both a challenge and an opportunity to better reach the right audience at the right time with the right message on the right channel for the right price. And if that opportunity is seized and the challenge overcome, it can have huge payoffs for advertisers. The key is to develop a process for mining and analyzing structured and unstructured data to create useful marketing outputs.



Source: DataScienceCentral.com

The acceleration of bandwidth, storage, and computation over the past 30 years is having a profound impact on business and marketing. As Sir Michael Moritz, chairman of Sequoia Capital, noted in his presentation at the K8 Summit entitled, “The Personal Revolution,” it would have cost \$33 million in 1973 to generate the computational power available today in the Samsung Galaxy S4.



Getting Started: Building a Big Data Framework

Per eMarketer, 61% of global marketing leaders cited data acquisition as a main internal marketing priority going into 2014. Improved data acquisition can have a positive influence on external goals and priorities that also ranked high on marketers' lists so beginning with this piece is a good place to start. Big Data can be daunting so developing a plan to aggregate and integrate data is essential.

The first phase of implementing a Big Data strategy is the collection, so ensure the “plumbing” to intake, store, and process data is set up for success. Begin with an audit to understand what data you have, how you are currently using it, and if there are any areas where you are not taking full advantage of your data. Determine if there are any silos that are limiting visibility of data across the organization and find ways to close those gaps.

Integrating data is only half the battle though. Collaborate with external partners and internal teams to understand not just the data you are collecting but also how to activate it. To drive data-driven optimizations, forecasting, and predictions, you'll need to apply advanced analytical tools and models. Make sure you have the right people and the right tools and technology in place in order to drive value from the data you're accessing.

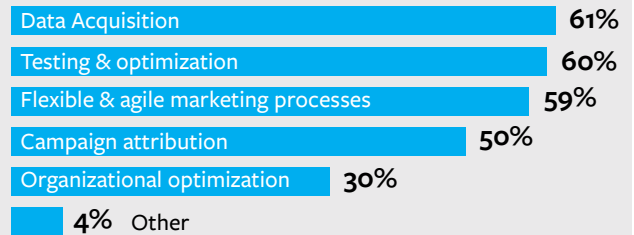
What are some of the barriers to entry for utilizing Big Data to deliver multi-channel marketing programs? 35% of marketers surveyed by Infogroup Targeting blame budget limitations, with the second most cited reason as lack of quality data, followed by limited tools and technology. As we've seen, Big Data is here to stay so make the case with internal stakeholders that this area is worth the investment in terms of budgeting and resources. At the same time, set expectations that the payoff for this investment may not be seen immediately as turning on data and adjusting marketing strategies to see results will not happen in the flip of the switch. By aligning the benefits of Big Data to your organization's overall goals, you'll be better poised to make your case, so develop the plans to run a proof

of concept on a small subset of data to test a hypothesis and prove out the business case, setting your team up for success to deliver through a practical roadmap.

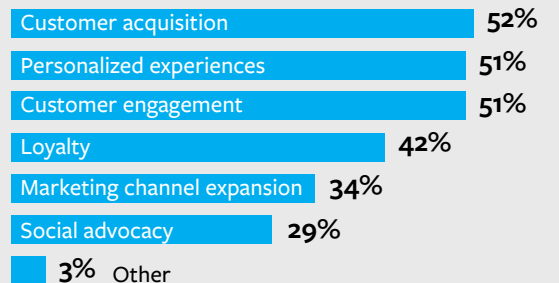
Internal vs. External Marketing Priorities According to Marketing Leaders Worldwide, Dec 2013

% of respondents

Internal



External



Note: n=208; for 2014

Source: Deloitte and the ExactTarget Marketing Cloud, “Bridging the Digital Divide: How CMOs Can Rise to Meet 5 Expanding Expectations,” April 1, 2014

Getting Started: Building a Big Data Framework

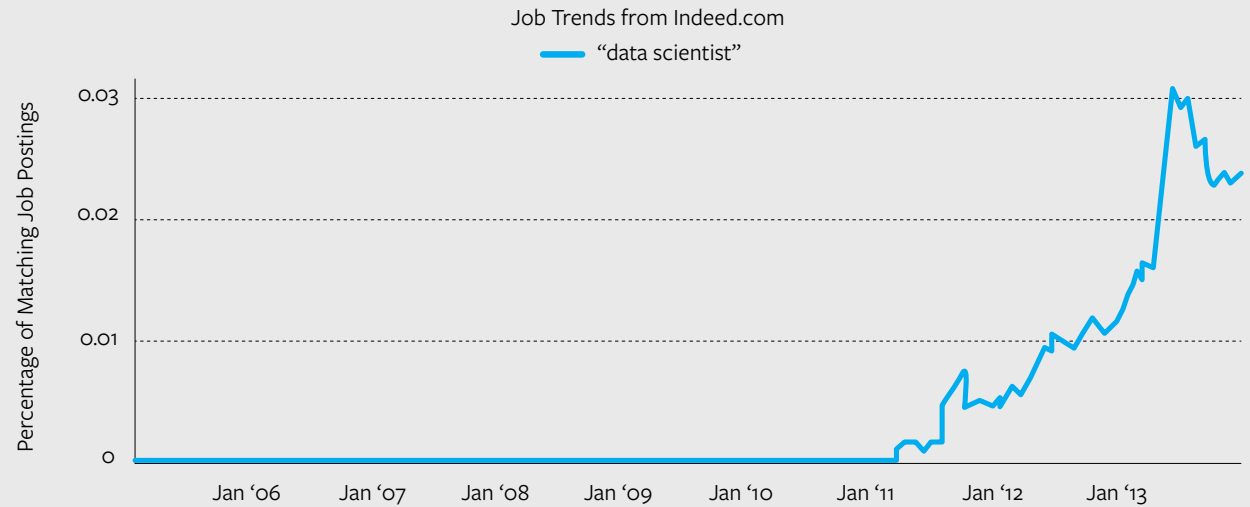
Assembling Your Team: The Rise of the Data Scientist

Managing and utilizing Big Data requires a unique set of skills. Gartner reported that the demand for data and analytics positions – Data Scientists – will reach 4.4 million jobs globally by 2015. Data Scientist is a hot new role, and in 2012, Harvard Business Review declared that “Data Scientist” was the sexiest job of the 21st century. So, what exactly should you be looking for in this role of data scientist?

A data scientist should be a mix of someone who is a data geek – understands data, how to pull out insights, and how to report on it – and business-oriented – relates to the practical applications of data within the corporate strategy.

McKinsey Global Institute estimates that by 2018, the United States could face a shortage of 140,000 to 190,000 people with deep analytical skills as well as 1.5 million managers and analysts equipped to handle Big Data analysis and decision-making. That means you need to start making the investment in this dedicated talent now.

The role of Data Scientist was barely non-existent up until 2011.



Source: <http://www.cmswire.com/cms/information-management/data-scientist-rock-star-really-013934.php>

“By definition all scientists are data scientists. In my opinion, they are half hacker, half analyst, they use data to build products and find insights. It's Columbus meets Columbo – starry eyed explorers and skeptical detectives.”

— Monica Rogati, chief scientist at LinkedIn

Source: <http://www.forbes.com/sites/danwoods/2011/11/27/linkedin-monica-rogati-on-what-is-a-data-scientist/>

The Rise of Machine Learning and Predictive Modeling

Once a framework is in place to ingest and handle data, marketers must set a course to analyze for maximum impact. The growth in the amount of data we collect has, for the most part, outpaced abilities to analyze the data. Traditional analytics aren't very well-suited for uncovering the value in today's large data sets, so technology is needed to perform some of the most valuable analytics for digital marketers.

Machine learning represents technology that allows marketers to access the vast amounts of data that they have been accumulating (and which are only continuing to grow exponentially) to help uncover and understand the patterns that emerge and act on those predictions. It's a massive field and part of the art of utilizing algorithms is picking the right approach for the data and isolating the problem you are trying to solve.

The machine learning approach to data allows for the processing of billions of data points where each data point taken by itself may contribute little or no information but, when taken as a whole, begin to paint a valuable picture. Machines are able to use all the data points fed in to test the accuracy of predictions and train the system to improve its predictions. As the system becomes skilled at recognizing valuable patterns, these predictive models can be easily distributed and disseminated across a machine learning platform at scale.

Challenges to adopting machine learning and predictive modeling

Here are some of the key topics and questions that need to be answered when embracing Big Data-driven marketing:

- 1. Variables in Flux** – how can we account for all the different inputs?
- 2. Understanding the Outputs** – how do I know if I'm interpreting the recommendations properly?
- 3. Actionability** – what do I do once I have the insights?
- 4. Trust** – how can a machine know my business better than I can?

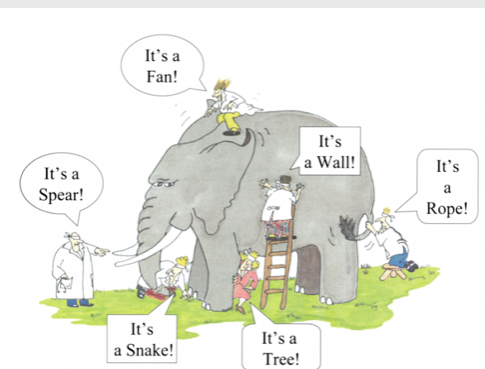
To address these questions, it helps to start bottom up. First and foremost, you have to put your faith in the system. Recognize that indeed, a machine can't know your business as well as you and that's why you get to pick which machine you use and program it with your goals and objectives.

From there, pick a machine that can, not only, deliver Big Data insights but can help you act on them in an automated way. For example, seek a platform that can provide a forecast and recommended budget pace and also implement it through a push of a button that sets advertising bids on search engines and social networks. It's also important to ensure your platform has easy-to-digest dashboards that clearly show the opportunities. And, finally, leverage a technology that can ingest custom inputs from your internal systems such as inventory, promotions, or seasonality.

Through it all, remember to focus on the big picture. Looking at a slice of data will give you a glimpse into your customers but the more complete the picture, the more accurate the predictions.

Read why Kenshoo's Director of Product Marketing, Jon Rosen, thinks machine learning is exciting in this [In the Loop](#) blog post.

Don't lose sight of the bigger picture or you may not know an elephant when it's right in front of you.



Applications of Big Data in Marketing

In order for an organization to meet its marketing objectives, Big Data analytics should be coupled with data-driven activation. There are 4 key areas for practical applications of Big Data for marketers to master:

1. Forecasting

2. Targeting

3. Optimization

4. Attribution

Accurate Forecasting and Planning

Precise forecasting is critical for understanding how various marketing activities will contribute to a program's goals. Traditionally, historical performance data has served as the reference point to predict potential return on ad spend; however, with the amount of variables at play, what worked last year might not be the most accurate lens into forecasting future performance.

Today, advanced technologies and algorithms are required to quickly and accurately make these calculations at scale. When historical data plus relevant market data are fed into predictive models, forecasts and scenario plans can be automatically generated and applied to in-market campaigns. Using this data, marketers can determine how much more return can be produced with extra budget, how much revenue can be generated at different levels of spend, and how much potential a portfolio or single campaign has. By informing forecasting decisions with data, marketers can more closely set expectations on future performance and reduce the margin of error.

Challenges to Big Data-driven forecasting

If approached correctly and done accurately, forecasting can have great payoffs for marketers; however, here are several potential roadblocks to account for:

- 1. Fluctuating market conditions and competition**
- 2. Shifts in consumer demand and merchandising**
- 3. Data sufficiency**

In marketing, change is the only constant. The dynamic nature of the market and your competitive set can render forecasts moot just days after they've been generated. Furthermore, consumer demand often ebbs and flows in unpredictable ways that impact your ability to forecast accurately. Additionally, your merchandising efforts are also subject to change whether it be in terms of inventory, price, promotion, or other variables. And finally, in order to have a reliable forecast, you need to hit minimum thresholds for data sufficiency.

Fortunately for marketers, predictive modeling can address all these obstacles and help inform your forecasting. Whether it be algorithms that anticipate and react to changing variables or models that cluster data points together based on similarity, now more than ever, marketers are equipped to create accurate forecasts and plan budget scenarios accordingly.

More tips for proper forecasting in relation to budgeting and goal setting can be found in the [Kenshoo Guide to Budget Planning for Digital Marketers](#).

Applications of Big Data in Marketing

Advanced Audience Targeting

In the early stages of online advertising, targeting options were predominantly developed around demographic, geographic, and time-based information. These tried-and-true tactics were adapted from more traditional forms of advertising. As internet usage and penetration around the globe increased, so did the user data generated, and advertisers realized they could leverage this data to develop refined audience targeting methods.

Cookies – data tracked and stored on a user’s browser – opened up a whole new world of targeting. Cookies were initially created to solve the problem of user identification by remembering usernames and passwords but evolved into a powerful method to understanding and targeting behaviors. Essentially, as a consumer moves across the web, cookies capture the interactions of the journey, thus enabling an advertiser to retarget a shopper with an ad for the exact same shoes that person had in his or her shopping cart but didn’t purchase.

The rise of social networks made ad targeting even more advanced. The rich profile data available on properties such as Facebook translate into a Big Data gold mine. Facebook targeting in particular has become much more sophisticated over the last year with the introduction of Custom Audiences – the ability to find offline users online by tapping CRM systems – and Lookalikes – audiences that behave like your high-performing segments.

Recent figures released by the United Nations (UN) revealed that the world will have nearly three billion Internet users by the end of 2014. Think of the amount of Big Data that translates to. While this data can make targeting even more intelligent, it does not come without its challenges.

Challenges in Big Data-driven targeting

1. Privacy concerns
2. Mobile and cross-device tracking
3. Cross-channel and offline tracking

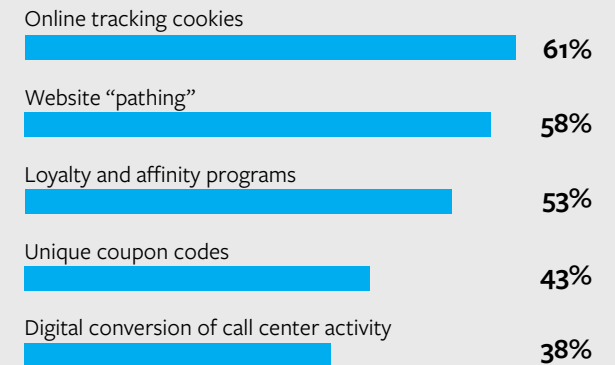
A survey from data privacy management firm [TRUSTe](#) found that 81% of U.S. consumers are concerned about online tracking. In order to better educate and protect consumers, some countries have imposed regulations that require websites to notify visitors about any tracking methods used on the site and require opt-in consent. Cookies pose a number of issues/constraints including concerns with privacy and the limited reach they provide; additional challenges arise in tracking consumers across devices and channels – into the offline world – as cookies break down as a reliable form of targeting. It’s possible that cookie targeting may fall by the wayside all together as players such as [Microsoft](#) and [Google](#) have indicated that they are developing their own systems that would bypass that use of cookies.

To combat privacy concerns, advertisers must remain transparent and compliant in a world when so much data is accessible. Ensure your organization is following industry standards for opt-out policies and information collection and educate yourself on the policies. For areas where targeting is not fully developed yet, rely on the data signals you do have to make informed decisions—on mobile this means geographic data, for one. Companies like [Drawbridge](#), [Flurry](#), [Placecast](#) and [Revtrax](#) are developing innovative ways to measure consumer behavior across screens and drive consumers all the way to the point-of-purchase in brick and mortar locations. This is unlocking a whole extra layer of targeting data for marketers to connect with valuable audiences.

Online Tracking Cookies cited as the primary method of collecting consumer data.

Methods Used to Collect Customer Data According to US Companies, Sep 2013

% of respondents



Source: Forbes Insights and Turn, “The Promise of Privacy,” Oct 23, 2013



Applications of Big Data in Marketing

Informed Real-time Optimization

Optimization refers to the many ways in which marketers can enhance or improve campaigns or programs on a real-time basis. This is done by looking at all variables that can be seen and accounted for – e.g. for a search marketer that might be: clicks, position, CPC, etc. To a certain extent, it is feasible for a human to look at performance data, analyze it and make optimization decisions. However, Big Data brings into play so many more variables that are simply not readily visible to the human eye.

In the era of Big Data, algorithmic decisioning processes have the ability to scale the millions of calculations needed to determine the proper bid for each keyword in a portfolio that are all working collectively toward one shared goal, for example. No human can possibly perform the depth and frequency of computations required to meet these bid optimization goals.

When it comes to optimization, advanced algorithms can really take Big Data and put it to work. Say, for instance, you have a set of keywords that were previously more difficult to optimize due to a low volume of historical data. Technology can enable more sophisticated bidding by creating clusters of keywords and predicting the individual behavior of each keyword, even with low volumes. And these groupings can be continually reevaluated and tweaked for optimal performance.

Areas Where Client-Side Marketers Worldwide Believe Their Organization Is Ahead of the Curve vs. Behind the Times, 2013 & 2014 % of respondents

	2013		2014	
	Ahead of curve or state of the art	Behind the times or hopeless	Ahead of curve or state of the art	Behind the times or hopeless
Social media	52%	15%	48%	12%
Data-driven optimization	42%	22%	47%	16%
Mobile	27%	31%	46%	18%
Integrated experience design	41%	20%	45%	17%
Responsive design	40%	27%	44%	15%

Source: SoDA, "1H 2014 Digital Marketing Outlook" conducted by Econsultancy, April 16, 2014

Challenges to Big Data-driven optimization

Nearly half of all marketers surveyed by Econsultancy said that data-driven optimization is one area where they are ahead of the curve. So, what could be keeping the 16% behind the times?

1. Organization size and sophistication

2. Data availability

3. Lack of internal adoption

Lack of adoption of more sophisticated optimization techniques could be correlated to the size of the organization. Smaller operations may fear that they do not have the amount of data or expertise needed to really make an impact on performance. Adding to this is the fact that like any change, adoption of new techniques and technology is sometimes met with resistance. Many marketers are simply accustomed to the traditional process of setting budgets, buying media, and analyzing results on a quarterly or annual basis.

To overcome these issues, research the technologies in the market and educate yourself on the many case studies showing successful real-time optimization. Evaluate the various technology platforms available and find the best fit for your organization. From there, continue to stay open to and adopt new functionality within the bidding/optimization platform. You may find that what was once a barrier to entry, such as low keyword data, is no longer one due to innovative advancements in the field.

Applications of Big Data in Marketing

Multi-Touch Attribution

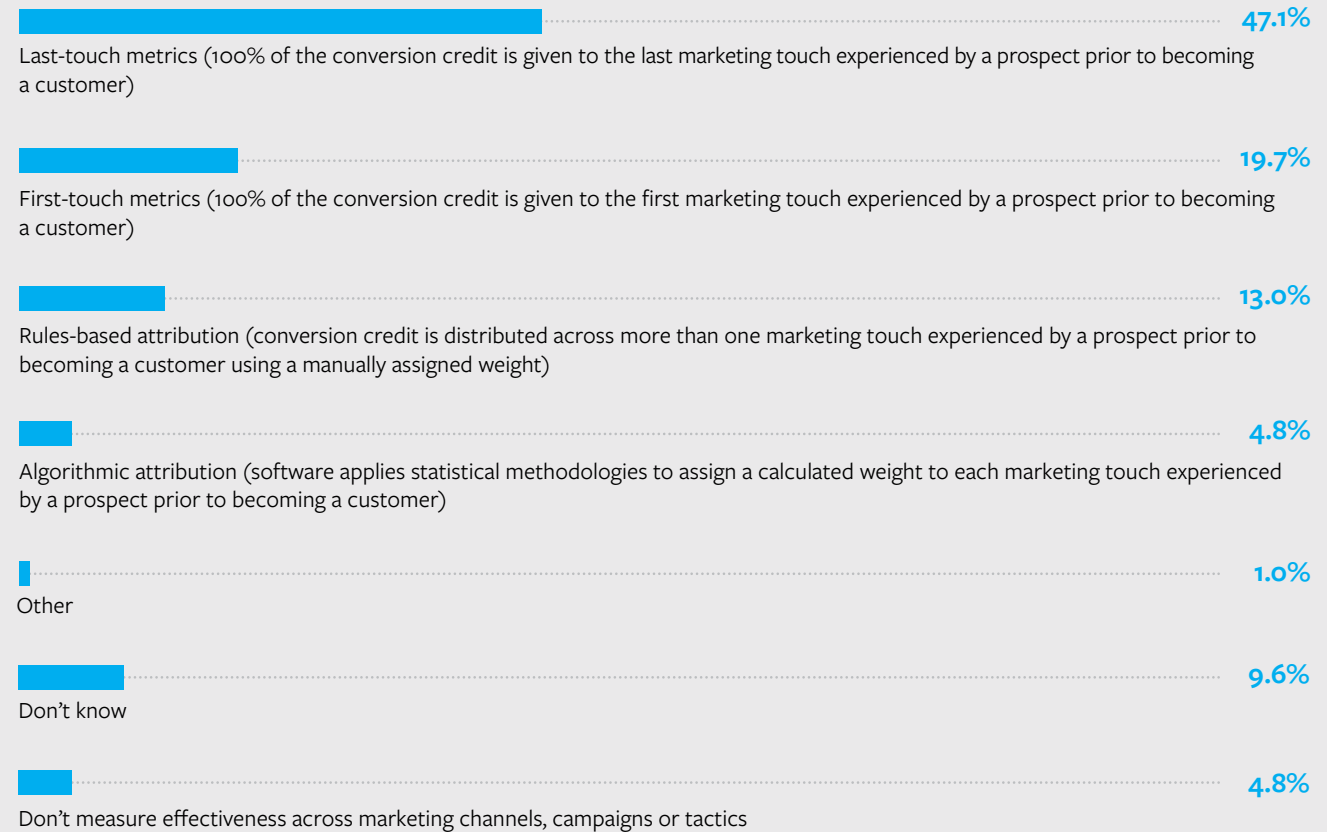
When marketers first started using the Web for advertising, it was done with the idea that online marketing was a transactional experience and, thus, a click on an ad would deliver one of two results—a conversion or no conversion. Accordingly, the prevailing methodology for marketers became attributing online conversions to the last click upon which a customer interacts before a purchase.

As technology has evolved and data has become more accessible, the digital marketing industry is moving away from crediting the entire value of a conversion against the last ad exposed to the consumer. With the amount of activity that can be tracked and analyzed, an entire customer life cycle can be evaluated, rather than just the scope of a single interaction.

Now, marketers are shifting to a multi-touch approach where all, not just the final, touch-points are valued as influencers to action. Marketers can apply these advanced multi-touch attribution (MTA) models to their campaign performance data to gain better insight into what's truly driving consumers to engage.

Primary Method* Used by US Marketing Decision-Makers to Measure the Effectiveness of Their Overall Marketing Ecosystem, Oct 2013

% of respondents



Note: n=223 CMOs and heads of marketing; *assuming that most prospects experience multiple marketing touches prior to converting
Source: The CMO Club and Visual IQ, "Building Bridges to the Promised Land: Big Data, Attribution & Omni-Channel," Jan 13, 2014

Applications of Big Data in Marketing

Challenges to Big Data-driven attribution

Despite the value that's being proven when utilizing multi-touch attribution, nearly half of all U.S. marketers prescribe last-touch metrics to measure their efforts, with less than 5% using algorithmic models.

Technical Challenges

1. Cookie deletion/blocking
2. Tracking across multiple channels and devices
3. Accounting for offline data

Operational Challenges

1. Market complexity – lots of partners, opinions, and options
2. Lack of adoption with stakeholders and misaligned incentives
3. Acting on the insights

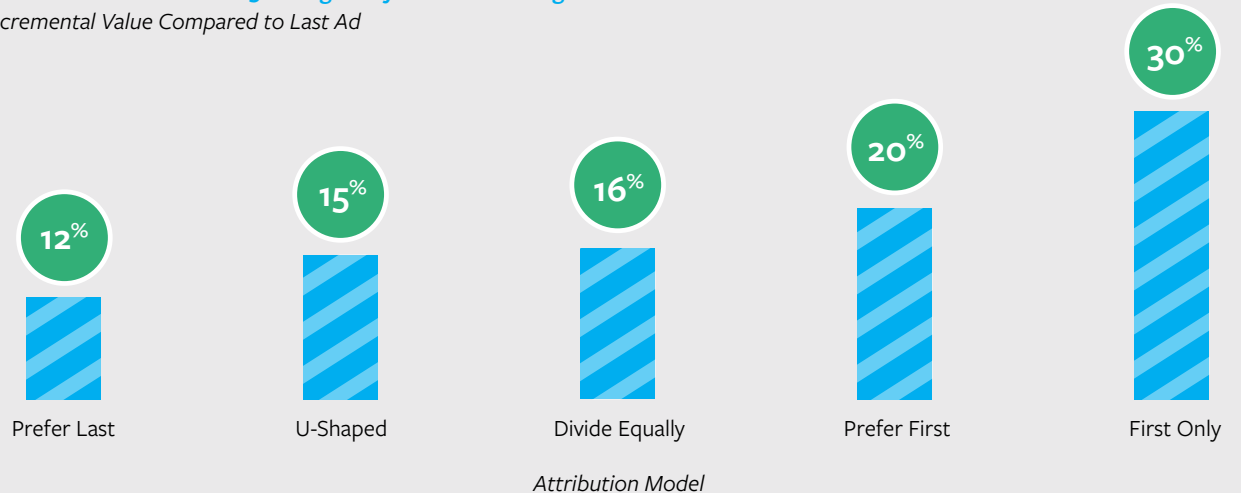
To overcome these obstacles, marketers must educate themselves on the options and prove how Big Data can help justify the decision to move toward a new approach. Say what you will about Last Click, but it's an objective model. The switch to MTA or a dynamic model requires you to trust your systems, methodology, and partners to deliver on the promise of Big Data.

By aligning your teams around the same incentives – e.g. overall revenue, ROI, CPA – rather than channel-specific goals, you can cut down the in-fighting over who gets credit and get everyone focused on truly moving the needle for your organization.

Once you have MTA consensus, seek out an advanced MTA solution that can automatically update media placement and payment based on real-time attribution calculations. If your model determines that Twitter or Facebook deserve more credit for their contributions to an actual conversion, it's critical to be able to change your bids in real-time to reflect the true value of each click.

To quantify the impact of multi-touch attribution, Kenshoo analyzed millions of converting click-paths measured via Last Click measurement against several standard MTA models. The data show that certain channels, such as Facebook, can be undervalued by as much as 30% when all of the conversion value is solely credited to the last touch-point.

Facebook Valued as Much as 30% Higher by Marketers Using Attribution Models other than Last Ad % Incremental Value Compared to Last Ad





8 Laws of Big Data

BigDataLandscape.com, a leading source for Big Data market information and insights, compiled this list of the [Top 8 Laws of Big Data](#). These tenants will help guide you as you think about the role of Big Data in your marketing organization.

- 1. The faster you analyze your data, the greater its predictive value.** Companies are moving away from batch processing to real-time to gain competitive advantage.
- 2. Maintain one copy of your data, not dozens.** The more you copy and move your data, the less reliable it becomes.
- 3. Use more diverse data, not just more data.** More diverse data leads to greater insights. Combining multiple data sources can lead to the most interesting insights of all.
- 4. Data has value far beyond what you originally anticipate.** Don't throw it away.
- 5. Plan for exponential growth.** The number of photos, emails, and IMs, while large, is limited by the number of people. Networked "sensor" data from mobile phones, GPS, and other devices are much larger.
- 6. Solve a real pain point.** Don't think of big data as a stand-alone shiny technology. Think about your core business problems and how to solve them by analyzing Big Data.
- 7. Put data and humans together to get the most insight.** More data alone isn't sufficient. Look for ways to broaden the use of data across your organization.
- 8. The focus in IT has shifted from Technology to Information.** Those that fail to leverage the numerous internal and external data sources available will be leapfrogged by new entrants.

4 Marketing Data Trends to Watch

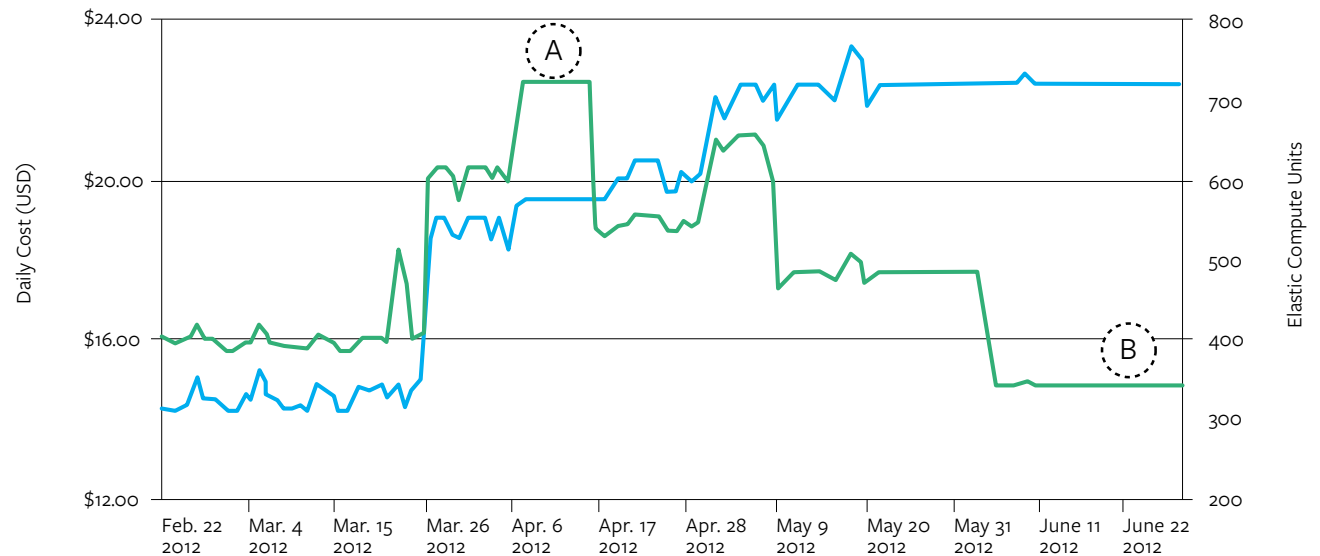
When it comes to best practices for Big Data, the only constant is change so keep an eye on these emerging trends.

1. The use of Big Data is speeding up.

It is becoming easier, cheaper, and faster to store and analyze Big Data. More accessible tools and technologies in the market are increasing enterprise adoption of Big Data. This creates a virtuous cycle whereby more data is generated, feeding the innovations that continue to improve scale and efficiency – more efficiency, means more consumption.

As Efficiency Increases, So Does Consumption

■ Cost ■ Compute Units



Source: Cloudyn; Blog.forbes.com/davefeinleib

4 Marketing Data Trends to Watch

2. The Big Data landscape is growing

The market is constantly changing. New challenges emerge, and as a result, an ecosystem of marketing tech solutions is thriving, particularly in the arena of Big Data. Increasing interest from marketers drives the introduction of more Big Data vendors and partners to the ecosystem. As marketers increase their data investment, expect this sector to continue to grow.

Infrastructure

Operational



Analytics



As A Service



Structured DB



Technology

Analytics And Visualization



Operational Intelligence



Apps

Consumer



Ad / Media Apps



Vertical



Business Intelligence



Data As A Service



4 Marketing Data Trends to Watch

3. Attitudes are changing

Marketing executives are realizing that failure to dedicate resources towards leveraging Big Data will put their organizations at a competitive disadvantage. Big Data has the potential to truly transform digital marketing when it's put at the center of strategy, and marketers are beginning to see this through advancements in real-time marketing, predictive modeling and forecasting, and attribution.

Activities/Attitudes of Marketing Professionals in Europe* Toward Big Data, Jan 2014

% of respondents

Falling to put big data at the heart of business strategy will lead to competitive disadvantage



Big data is central to shaping the overall operational and commercial strategy of my organization



Using big data a lot more now than we were 18 months ago



Using big data has enhanced the reputation of the marketing department within my organization



Marketers are gatekeepers of all customer data



Note: respondents who selected agree and strongly agree; *among respondents whose companies use big data
Source: dnx, "When will marketing be promoted to the boardroom? The reality of big data's promise" conducted by Circle Research, March 21, 2014

4. Marketers are getting more prepared to handle big data

Gartner forecasts that by 2017, CMOs will spend more on IT than CIOs. The ability to measure the impact that Big Data has on the bottom line has translated to organizations investing in infrastructures – both hardware and human capital – that can handle Big Data analysis.

Business Strategy Changes Made by CFOs and CIOs Worldwide in Response to Big Data, Aug 2013

% of respondents

Increasing the capacity (either hardware or personnel) to analyze big data



Attaining management buy-in for big data collection and analysis



Honing parameters for data collection



Putting insights garnered from big data into practice in a timely way



Note: among respondents who have changed their business strategy due to big data
Source: KPMG, "Going Beyond the Data: Achieving Actionable Insights with Data and Analytics," Jan 27, 2014

Marketer's Perspective



Daniel Morgan is the Head of Search Engine Marketing at Accor, the world's leading hotel operator and market leader in Europe, which includes such brands as Ibis, Novotel, Mercure, Sofitel and Accorhotels.com.

Big Data is a critical topic for our business. The Accor family is made up of more than a dozen brands that operate over 3,500 hotels in 92 countries -- this translates in to a complex digital environment filled with a tremendous amount of data. Thinking about the different interactions a consumer has when booking a hotel room through a cross-channel conversion path, we must ensure we are properly tracking, optimizing, and attributing credit in a holistic manner.

Like many marketers, when we began to explore the idea of attribution, we turned to the industry standard of last click. As time went on, we began to realize that we were missing out on the journey leading up to the conversion and the cross-channel influences.

Now, Kenshoo's dynamic attribution solution, SmartPath, gives our team a high level of accuracy in the way it measures the impact of Big Data across our programs. We've gained new and interesting insights, noting the fact that people who've viewed our ads are also more likely to go on and book hotel rooms when they subsequently see Accor in emails, maps, or on affiliate sites, for example.

By analyzing the contributions of different digital marketing channels, particularly search and social, on hotel bookings, we are able to more precisely optimize our advertising spend and improve campaign performance. In fact, we've seen through Kenshoo's technology we've been able to drive increases of 149% in revenues year-on-year.

We've been on the Kenshoo platform since 2011, and during that time, we've seen the industry evolve and the topic of Big Data come to the forefront. Kenshoo helps us to stay innovative, breaking through the question of attribution and delivering strong, automated data-driven analysis and actions across both search and social channels.

Closing Thoughts



Amit Golan

Senior Director of Product Strategy
Kenshoo

“If HP knew what HP knows, we would be three times as profitable.”

— Lew Platt, Chairman, President and CEO of Hewlett-Packard (1992-1999)

No other business world quote epitomizes better for me the value of harnessing Big Data. According to Wikipedia, “Big data is the term for a collection of data sets so large and complex that it becomes difficult to process using on-hand database management tools or traditional data processing applications.” For those who are able to overcome the challenge, however, the data can offer advanced insights —into business problems, macroeconomic trends, consumer behavior — thanks to what makes it so challenging: the sheer volume of data makes the conclusions sound and statistically-significant. As the saying goes, nothing in life worth doing comes easy.

In my own career, I have seen the challenge, and value, of Big Data. For the past decade, I have served in a series of Product roles in B2B software companies (including at HP, by the way). In a product management/strategy capacity, you always aspire to be market-driven. To do so, you are constantly in learning mode: analyzing market dynamics; collecting data points regarding clients’ and prospects’ unmet, and unrealized, needs; looking for patterns that suggest what the biggest opportunities are; then translating those insights into a product strategy that would create an ever-improving product-market fit.

When you only have several, or even a couple of dozen clients, the process itself is not very challenging. The conclusions you will reach, however, may be misleading. By having too few data points you may have an availability bias, make the wrong decisions, and completely miss out on the market. Serving hundreds or even thousands of clients gives you a much more solid foundation for keeping a finger on the pulse of the market – but also makes it harder to analyze the data to identify those trends.

Few areas depict the challenge Big Data poses as online marketing does. To add some color, here are but a few numbers behind the Kenshoo platform:

- ▶ Every day, Kenshoo processes 85 million tracking events
- ▶ Every week, Kenshoo manages \$100 million in spend
- ▶ Every month, Kenshoo delivers 1 billion clicks
- ▶ Every year, Kenshoo serves 1 trillion ads

As you could read in this guide, Big Data is changing the face of marketing. Marketers are increasingly required to become technologists, combining art and science to engage with customers across media, devices, and lifecycle phases. It is my hope that this guide got you thinking about how to build a framework to truly harness the power of Big Data.

The data is surely out there; you just need the right predictive analytics tools to help you sift through the insurmountable amounts of it, and come up with the insights to steer the business in the right direction.

Easy, right?

Amit Golan

