Moving up the digital marketing maturity with big data analytics

Using the four "rights" to discover insights and deliver relevance
Executive summary

Digital marketing is in the midst of navigating through the most significant developments it has ever encountered. This results in the following opportunities and challenges:

- At center stage is the dramatic expansion of accessible consumer data. No matter how the ‘big data’ explosion is described, it represents an enormous opportunity for marketers to gain unprecedented insights about consumers. It also comes with major challenges defined by questions about how best to access, analyze, optimize and apply insights from big data.
- The insights derived from big data analytics will drive future decisions in accurately delivering the right message to the right person at the right time for the right price. Intuition-driven marketing is diminishing rapidly. Big data analytics and digital marketing is getting tightly interwoven.
- Simultaneously, digital marketers are dealing with newly empowered consumers. Today’s customers have instant access to product, price and quality comparisons from a steadily expanding range of channels. Successful digital marketers will have to engage consumers with consistently relevant messaging across these diverse channels in real time.
- Consumer centricity is here to stay. The growth in social media platforms has enabled individuals to express themselves in every conceivable way and generates an immense volume of data. Consumers by the tens of millions are speaking both to each other and directly to businesses about what they want and how they feel about it. Success in digital marketing means tuning in to what consumers are saying, and employing real-time messaging methods that let them know you’ve been listening. If you don’t, your competition will.
- This newly empowered consumer audience is also highly mobile with a proliferation of small screen devices enabling uninterrupted access to information and continuous real-time communication. The competition among small screens will drive device prices down and usage up. The audience shift to online will not abate.
- Digital marketers must remain connected to their audiences no matter where they go or what device they use. Tablets and smartphones combine social, local and mobile technologies (SoLoMo), enabling consumers to zero-in on precise local information about products and services. It’s another opportunity and challenge for digital marketing to fulfill growing customer centricity expectations and ‘be there’ with real time, personally relevant messaging.

Marketing has entered a mandatory transition period. This is a time when migrating away from the traditional large demographic approaches toward more granular, data-driven, highly targeted campaigns becomes a matter of survival, not a matter of choice.

During 2012, online advertising spend will surpass print for the first time and the gap between online and television will become smaller in the coming years. In 2012 the spend gap will be $25 billion but by 2016 it is anticipated to shrink to about $10 billion.
This paper will achieve the following objectives:

1. History of media and its impact to marketing.
2. Critical marketing imperatives for data-driven digital marketing.
3. Four critical optimizations.
5. Conclusion—summarize concepts and steps digital marketers need to embrace if they are to harness, manage and successfully exploit big data.

History of media and its impact to marketing

Marketing is no stranger when it comes to adopting new forms of media. This section will discuss how changes in media impacted marketing and relentlessly brought us to where we are today.

In the simplest of terms, print, radio and television merged to form the media essence of the Internet. Each medium was a dramatic step forward and each paved the way for previously impossible marketing methods. Embedded as they now are in the Internet, these traditional mediums have become an ‘audience experience’ that is much greater than the sum of its parts.

The impact of radio on marketing

Radio impacted marketing and its evolution more dramatically than any messaging method since printing. It launched the first modern age of marketing.

Just a few years after the advent of commercial radio, marketers were successfully reaching out to more consumers than any print advertiser could ever have imagined. Those businesses that quickly combined their traditional efforts with the adoption of radio surged ahead of their competitors and ushered in a new era of customer communication.

- Radio was the only advertising medium to grow continuously during the depression
- Between 1927 and 1937 radio ad spending grew at an average annual rate of 333 percent
- Radio revolutionized marketing by forever altering the expectations consumers had of technological change and the speed with which they would receive information relevant to their lives

As the consumer audience embraced radio, marketers naturally followed and began to develop new and creative dialogues with the listening audience. In radio, one can easily see the relationship of many critical consumer touch points needed for success in today’s digital marketing arena:

- Radio enabled more personalized consumer messaging.
- New methods of gathering audience data provided campaign development with deeper insight (focus groups, surveys).
- Message delivery could be immediate and dynamic.
- More refined methods of measuring success or failure in advertising campaigns developed (Gallup and Nielsen).
- The consumer audience was potentially reachable no matter where they were.

No other medium, including newspapers and magazines combined, could claim such an all-inclusive audience horizon and no other could offer marketing such new depth and dimension.

Consider the quantum leaps that radio brought to marketing in contrast to the limitations inherent with print media.
In the early days of radio, entire programs were often sponsored by a single national brand advertiser but by 1940 stations were selling primary and secondary advertising spots. This deliberate breakdown of available advertising slots into smaller time segments allowed more diverse, and often locally targeted marketing.

In 1939, while television was being demonstrated at the New York World's Fair, more than 90 percent of American households listened to radio every day. Radio marketing was in its golden age. Live audience and celebrity endorsements added credibility to product claims. Product jingles went “viral.” Marketing research became a permanent adjunct to campaign development. Local news, weather and other content brought relevance to smaller consumer audience segments.

**Marketing tunes in to television**
World War II delayed the spread of television, but like its radio-parent, television's popularity soon sky-rocketed, opening up an entirely new world of marketing opportunities. Television retained all the marketing advantages of radio's reach, speed, and diversity but added the immense power of visual content.

Television marketers inherited a strong commercial springboard with the existing array of popular radio shows that quickly became adapted for the small screen. Audiences were enthralled to actually see the stars they had been listening to for years. Associating brands with TV celebrities became a highly competitive and lucrative endeavor. The paradigm was already well-established, but the new visual impact of having a TV star look directly at you in your own living room and explain why you should buy a product was powerful because it was personal.

- **Between 1949 and 1959 television ad spending grew at an annual percentage rate of 256 percent**
- **In 1954 television ad spending permanently overtook radio**

For the most popular shows it was common for the cast to endorse their primary sponsor at least once in the broadcast and advertising agencies often wrote their copy around each show's actual script so that it seemed to be a natural part of the show. Advertisements began to flow within the context of the audience's primary interest instead of taking them away from the show.
Product placement cemented the in-situ concept. When a star reached for something in the kitchen cabinet and brought out a can of Carnation Instant Milk, it was an in-context message that was not lost on the audience. Audiences didn’t tune in to watch ads; they tuned in to see the show and their favorite performers. When marketers integrated brand presence directly into the show, they moved a step closer to being in sync with their audiences.

Affiliates of the major networks needed to develop local programming, not only because their audiences expected it, but because any advertising revenue thus generated could be retained in whole. Locally produced news, weather, sports, children’s shows, and all the local commercials associated with them, satisfied some of the audience appetite for more personally relevant content.

Creative marketing thrived as campaign developers optimized the power of visuals:

- Celebrity product endorsements induced a previously impossible “bond of trust” with audience members.
- Motion was optimized as audiences watched new cars “cruise” down the highway while a narrator extolled the virtues and value of the latest model.
- Messaging became personal, especially in the marketing of health and beauty aids.
- The marketing concept of “before and after” came to life and was used to promote everything from toothpaste, to detergent, to paint and grass seed
- Products could now be visually demonstrated to audiences to prove their benefits.
- News, as it happened, could actually be seen and heard. Unfolding world events became a personal experience.
- Audiences could like or dislike political candidates based on how they ‘appeared’ on TV.

Marketers further developed the use of focus groups, postal and telephone surveys and print media feedback inserts to better target audience segments for broadcasters. The age of demographics and program ratings was blossoming.

The data gathering work of Arthur Nielsen Sr. (begun in 1923) gained significant momentum in the 50’s and continues to heavily influence the advertising spend in television and other media today.

- By 1988 the average American household was watching more than seven hours of television a day and 98 percent of homes had at least one TV
- Annual television ad spending surpasses $26 billion

In the 60’s and 70’s programming began to reflect the social and political viewpoints of its audience segments. “Social relevance” was a term now being used by marketers and products were being aligned with programming accordingly. The audience was evolving and breaking up into ‘lifestyle’ segments.

In the 80’s and 90’s progressive marketers started to pull back from extravagant broad-based commercial endeavors in favor of connecting more simply and directly with a new range of diverse but highly influential consumer audiences. The total audience was now divided into more consumer subsets than ever before, and television itself was contributing significantly to the shift by offering more diverse, often controversial programming. Audiences were flooded with information, news, political opinion and socially charged entertainment.

Successful marketing could no longer rely on simple demographic approaches. Products now needed to be reliably placed where they could connect to lifestyle subsets. Nowhere was this
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more evident than in the realm of marketing to women. Marketers now had to reach far beyond traditional stereotypes and connect with:

- Married working women (with and without children)
- Female professionals in all fields (married or single, with and without children)
- Rising numbers of highly educated young women
- Rising numbers of divorced women of all ages
- Single career women and single mothers

Audience analysis had to become more granular if marketers were to develop accurately targeted campaigns. Audiences were starting to look like collections of diverse individuals who shared common interests that were not necessarily obvious without more sophisticated analytics.

The Internet market emerges

Just as television technology was quietly developing during radio’s domination of mass media, so too was computer networking nurturing the seeds of the Internet during the golden age of television.

- 1969: Computers at Stanford & UCLA exchange data ...
- 1971: Email begins
- 1989: The first commercial dialup ISP is established
- 1995: Ebay and Amazon debut
- 1998: Google comes online
- 2003: The term “Social Media” gains widespread use

The emergence of personal computers in the 70’s and 80’s enabled the raw foundation for today’s social media, as hobbyists exchanged diverse content across networks. But it would be the frenetic popularization of the Internet in the 90’s that would transform the web into a vast new world of digital marketing.

The interactive nature of the Internet and advances in data management drew the attention of progressive marketers. Website functions increasingly gave businesses ways to collect information about their consumers and engage with them before, during and after purchases. Consumers enjoyed the new, personalized communication from the comfort of their own homes.

As marketers analyzed the increasing amounts of consumer data, they gleaned insights that helped them to connect with consumers more as individuals than as members of larger generic groups, and provide them with more targeted product offerings. The interactive Internet gave new dimensions to marketing’s granite base of delivering the right message to the right person at the right time for the right price.

The Internet market matures

In the first decade of the 21st century the Internet continued its dramatic growth, and digital marketing stretched to keep apace as a rising tide of user data emerged from the new social media platforms.

Consumers gained the power of mobility with a proliferation of new personal devices that enabled them to take their total Internet experiences wherever they went. The merging of social, local and mobile data (SoLoMo) would again greatly increase data volume. On top of these new streams of data, traditional media such as television, radio and film also now have a fully interactive web presence generating yet other streams of data.
Thousands of developments, large and small, have impacted the evolution of media but none thus far with such significance as the astronomical expansion of accessible data. Our data aperture has suddenly enlarged beyond our immediate ability to fully harness the flood of information flowing through it. Marketers and data scientists will meet this challenging opportunity together.

**Critical marketing imperatives**

The marketers who harness and manage the expanding universe of data will succeed. The following are digital marketing imperatives, areas for optimization and how some businesses use big data to lead the way.

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**Figure 1. Media’s journey to the threshold of big data**

Data moves from small sampling to larger demographics to big data analytic insight

- Digital media spreads to multiple devices
- The Individual consumer comes into focus
- Advanced analytics evaluate and respond to consumer activity in milliseconds.
- Cross channel digital marketing becomes a reality for leaders.

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- An ever widening data aperture produces closer views of consumer audiences, right down to individuals.
Case study - Epsilon

Epsilon—an Alliance Data company that provides clients with industry-leading strategic consulting, database and loyalty technology, proprietary data, predictive modeling and a full range of creative and interactive services—teamed with Netezza, now part of IBM—for a data warehouse platform and database partner. Epsilon wanted to improve services offerings by supporting clients’ need for high-performance analytics on large data volumes. IBM provided a purpose-built, high-performance data warehouse appliance that makes advanced analytics on large data volumes simpler, faster and more accessible. This resulted in increased customer retention equating to 20 percent higher revenues and five to seven times more campaigns executed per week for one client.

Treat data as a strategic asset

Digital marketers are all too aware of the data explosion taking place. A major pain point is the fact that data became ‘big data’ almost overnight and most CMOs feel underprepared to deal with it. In fact, a recent CEB study of nearly 800 marketers found the vast majority still relied upon their intuition in making decisions. Data was most often last on their list of factors for decision making.

The first step in getting on track with data is to ‘officially’ recognize it as a key strategic asset. Until consumer data is elevated to the status of a high value, high impact marketing commodity it stands no chance of being absorbed into an organization’s decision making process. This imperative requires a cultural change within most organizations and one that needs full support from the top.

Once the edict has been made that data is a strategic asset it will initiate a natural process of policy discussions and change. The changes will be so fundamental that they will be “re-inventing the CMO” as DataXu’s CEO Mike Baker describes in his article of the same name. When combined with other key imperatives, it will begin to build the data-use initiatives specific to an organization’s goals and needs.

Data is a strategic asset in digital marketing for many reasons but far and away the most critical reason is that it can provide customer insight—insight that enables businesses to develop closer relationships with their consumers. It promotes the personalization of business messaging, which in turn can enhance customer trust and loyalty.

Address the talent gap

Purchasing the technology to handle and analyze all the data your organization could possibly want to enhance its marketing efforts would be pointless without the optimal talent to manage it.

The CEB study indicated that marketing organizations are far from being aligned with necessary big data skill sets.

“Big data” marketing staff must possess talents in analytics, data mining, storage, high-level math and a robust understanding of traditional, current and evolving marketing techniques. Marketers will need to become data-savvy and data-scientists will need to become marketing-savvy.
Owing to the current scarcity of ‘data-science marketers,’ many organizations will first be looking to outside services as they initiate their strategies to exploit insights from big data. Such an approach will still require adding data smart staff to manage the interface with outside platforms. The largest businesses are already adding data-science talent to their digital marketing staff.

New research by the McKinsey Global Institute (MGI) forecasts a 50 to 60 percent gap between the supply and demand of people with deep analytical talent. These “data geeks” have advanced training in statistics or machine learning as well as the ability to analyze large data sets. The study projects there will be approximately 140,000 to 190,000 unfilled positions of data analytics experts in the US by 2018 and a shortage of 1.5 million managers and analysts who have the ability to understand and make decisions using big data.

**Focus on measurement**

Digital media accommodates the measurement of marketing performance. Data trails from consumer activity can be analyzed to determine campaign return on investment (ROI), and that analysis can be immediately used to adjust and optimize a campaign if necessary.

Nothing will assist the expansion of big data driven marketing like the availability of solid ROI information. A commitment to continuous performance measurement is as essential as declaring data to be a strategic asset. The methods and dimensions now evolving for measuring the performance of digital marketing will be another significant, but permanent, change in advertising culture.

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**Case study - Xaxis**

WPP’s Media Innovation Group, now known as Xaxis, provides advertising management technology. This includes digital media network services, search marketing technology and other media management products and services. Rapidly measuring the effectiveness of every variable in a marketing campaign including website selection, advertising placement, format, time, cost, and ROI is critical to their success. They needed to synthesize data for measurement across multiple media channels to optimize campaigns and achieve their clients’ goals. Only an optimal data warehouse appliance could track hundreds of millions of unique users per month for many simultaneous campaigns, enabling them to look beyond the last click in the conversion funnel and provide insight on each consumer touch point. Their solution generated impressive results, including helping one banking client to achieve 25 percent higher conversions with 33 percent lower cost per acquisition (CPA).

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**Where is your organization in the big data maturity process?**

The big data maturity process shown below measures an organizations ability to use the massive volumes, velocity and variety of digital information to perform the following: accessing data, performing basic analysis, predicting and reacting to consumer behavior and converting data into actionable insights delivered in real time. The four critical optimizations below provide examples of companies in the big data maturity scale.
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Four critical optimizations

No matter where you are in the process of approaching or using big data in your digital marketing, you will ultimately face the following moving targets:

- Audience optimization
- Channel optimization
- Advertising yield optimization
- Content optimization

Audience optimization

According to the 2012 Winterberry Group Report on Emerging Marketing Data Use Cases,12 “more so than any other use case, the ability to define high-potential audiences from disparate indicators—and then communicate with them across a range of media—represents a fundamentally new approach to managing addressable customer markets.”

Reaching the right audience must be the first priority—content, timing and price are irrelevant if they are being delivered to the wrong consumer. Despite the large amount of consumer data available, the report rates the maturity level of audience optimization as ‘low.’ There is as yet no consensus as to the best approach for integrating the data, but the most dominant method seeks to generate unique customer profiles. These profiles can be potentially segmented and modeled to form what are called “look-alike audiences,” which can be found and targeted across multiple channels. It is a work in progress and will yield strong results.

Figure 2. The big data maturity process

Running | Ability to convert data into actionable insights—deliver in real time—measure ROI
Jogging | Ability to predict and react to some consumer behavior in near real time
Walking | Ability to perform basic analysis (visitor patterns etc.) and test small campaigns
Standing | Ability to access your own big data

Case study - Catalina Marketing

Catalina Marketing approached audience optimization by combining offline and online sales data analysis to give its clients more targeted insights for in-store promotions. The effort yielded coupon redemption rates of 8 - 10 percent, compared to the average 0.5 percent rates for similar large scale coupon campaigns. This case would be classed as “running” in the maturity model.

In another case, a digital marketing expert conveyed that audience optimization and gaining momentum towards fully applied data analytics must often begin with fairly simple and very measurable efforts. Combining early stage analysis of data with basic marketing savvy and solid result measurement can facilitate the migration to higher levels of analytic maturity.
This case involved combining click-stream data with email marketing data for a retail client. An analysis was made of the gap between purchases by studying how often customers browsed. The result turned up two very distinct visitor segments: infrequent visitors who purchased every time, named “focused finders,” and very frequent visitors who bought occasionally, tagged as “busy browsers.” The ‘focused finders’ then received weekly offers for specific products based on their purchasing and browsing history. The “busy browsers” received an elevated level of daily offers for diverse but most popular items. The strategy resulted in a ten percent purchase increase among the ‘focused finders’ and a surprising 200 percent increase in purchases for the “busy browsers.”

Not only did the strategy uncover a new ‘ready to buy’ visitor segment, it also generated another new layer of consumer data for deeper analysis. This example of would be classed as jogging in the maturity model.

Ultimately, the big data challenge surrounding audience optimization will revolve around the integration of huge volumes of disparate data from many potential channels, and running complex segmentation models with speed and great accuracy.

Channel optimization

Today’s consumer is armed with an impressive new array of devices capable of accessing virtually any aspect of their online world at any time they wish. The explosion of digital media channels is by no means slowing down and consumers line up to buy the newest and most versatile of these “small screens.” While consumers revel in their expanding options, marketers are hard pressed to ascertain which channels are optimal for delivering the right messages at the right times. The audience is a truly moving target.

Deep analysis of consumer behavior across multiple channels is expected to assist marketers in creating ‘media-agnostic’ messaging strategies. The potential result is the ability to retain message consistency to known audiences regardless of channel. Consumers have been taught to expect that their preferences will automatically be known as they move across channels. But again, the marketing maturity level for this capability has been graded as ‘low.’ Even though consumers fully embrace the idea that all their devices are ‘merged,’ marketers must move to include that same understanding in their approach to campaign development. Doing so accurately will require data source alignment techniques and analytics that most marketers have yet to approach.

Channel optimization offers marketers great potential for building even stronger, customer-centric relationships. Knowing that an established individual consumer-business relationship will flow without interruption regardless of the consumers’ movement between channels can increase sales and strengthen consumer loyalty.

Case study - wehkamp.nl

The number one online retailer in the Netherlands, wehkamp.nl, is a prime example of a leader in channel optimization that can be classed at the high end of the maturity model. They established their web presence in 1995 as one of the first online retail stores in Europe. They embrace 84 million visits a year, 1.5 million regular customers, over 100,000 products and more than five million shipments a year. With a long history of well-managed traditional distance selling, wehkamp.nl recognized the potential of migrating to online digital marketing well ahead of its competitors. The marketing department sought to significantly increase personally relevant communication with their customers through their email channel.
Applying specific analytic solutions enabled them to achieve a 98 percent personalization rate on outbound email. “... that ability to speak with our customers on a one-to-one basis drives immense value back to the business,” said a Senior Analyst at wehkamp.nl. When customers become engaged in an ongoing personal, consumer conversation with a business, they realize they are valued as individuals, which in turn elevates loyalty, engagement and spend.

The success must be measurable and the numbers point the way to further optimizations. The wehkamp.nl email channel program performs at a 23 percent higher open rate than standard promotional, a 68 percent higher click through rate, a 67 percent lower opt-out rate and a 271 percent higher sales-per-send ratio.

**Advertising yield optimization**

The movement away from using broad-based, simple demographics to determine advertising placement has never been more important than it is in today’s digital marketplace. Continuous audience segmentation, data growth, expanding channels, and the merging of devices have placed steady pressure on digital marketers to analyze and more efficiently manage their advertising inventories. Identifying the full depth of more granular opportunities to increase advertising yields is closely tied to channel optimization, and once again points marketers toward advanced big data analytic solutions.

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**Case study - MediaMath**

A prime example of successfully maximizing big data analytics is MediaMath. An innovator and leading provider of digital media trading technology and services, MediaMath has always been highly focused on staying ahead of their competition. Adoption and rapid deployment of the most advanced analytic technology that also performs with a minimal amount of manpower and maintenance is one way they have stayed ahead of the pack. MediaMath’s data warehouse appliance selection integrated more real-time bidding and data sources than any other DSP, with an advanced optimization platform that calculates fair market value of more than 50,000 impressions every second.

The benefits gained by MediaMath included:

- Increased client campaign ROI (one client achieving campaign goals while reducing CPA from $170 to $80)
- Reduced cycle times and learning curves
- Half the manpower requirements delivering 10X the output with triple the number of advertisers across more media channels. MediaMath would be ranked at the top of the maturity model as a “runner.”
Content optimization/advertisement targeting
Demand side platforms, digital agencies and automated trading desks have recently begun to exploit the possibilities of targeting specific audiences with relevant advertisements in real time. Only in this area of marketing data use cases did the Winterberry Report assign a maturity level of ‘intermediate.’

The analytics being employed are enabling relevant millisecond responses to consumer activity. It may be a purchase, a product search, an abandoned cart or other intent activity that triggers an analytically derived message to maintain customer engagement. The methods in play strengthen the personalized experience of the potential consumer and expand their expectations for being treated as valued individuals. The real-time response possibilities reduce turn away and enable immediate re-targeting on key issues of price and delivery.

As content optimization/ad targeting gains the ability to target customers across multiple channels in real time, opportunities for conversion will expand significantly. This too, presents marketers with the inevitable question of when (not if) they will embark on their big data analytics marketing transformation.

Case study - AppNexus
Operating at the top of the maturity model is AppNexus. Their solution creates a real-time advertisement buying platform which facilitates transactions between aggregators of publisher inventory and leading buyers of online advertising. Ads are placed based on the latest information about what content, placement and timing generates the highest response and revenue.

• Advertisers are able to buy cost effectively with highly accurate real-time targeting.
• The AppNexus platform can scale to serve tens of billions of advertising impressions per month.
• They can load and aggregate all of their data in 15 minutes. (Typical data warehouse environments wouldn’t finish data loads for eight to 24 hours).
• AppNexus has complete access to query new data immediately.
• They can determine immediately whether or not a particular advertisement placed on a particular site is generating revenue, enabling buyers to stop running ads that are not contributing to revenues.

AppNexus is ahead of the competition because of their commitment to using the most effective big data analytic solutions, exceptional talent and rigorous measurement. At the very top of the maturity model, treating data as a strategic asset means that data becomes the core around which this new era of digital marketing is built.
Five steps to success in the digital marketing big data journey

Early in this paper, it was acknowledged that marketing is no stranger when it comes to meeting the challenges of changing media. Never before has that solid history of successfully adopting and adapting to change been more important than it is today. Throughout every major shift in media the goal of marketing has remained essentially unchanged: “deliver the right message to the right person at the right time for the right price.”

Technology that can dramatically enhance the ability to achieve that goal is where you will find the most successful marketing professionals. Big data driven digital marketing is where you will find them today—and tomorrow.

The inevitable process of migrating away from traditional marketing approaches to data-driven techniques is indeed a ‘process.’ It will take time. How much time will vary greatly from business to business depending upon specific needs and goals, availability of data-proficient talent, CMO vision, CIO collaboration, willingness to invest, support from the top and a host of other variables.

1. **Recognize the vast new amounts of consumer data as the emerging core asset in your digital marketing future.**
   Until you take this step you will be standing still as competitors with greater foresight surge ahead.

2. The second step, as Mike Baker, President and CEO of DataXu so succinctly states, is to **get into the data game**.20
   In the context of our maturity model this means “standing” up and gaining access to your own big data. Even very basic analysis of the data you own but haven’t yet studied can yield meaningful insights about customer loyalty, churn, simple likes and dislikes surrounding specific products and brands etc. It can whet your appetite for accessing deeper customer insights and without such insights critical goals such as greater personalization in consumer messaging cannot be achieved.

3. The third step, **commence simple, data-driven campaigns to apply reliable measurement dimensions to justify moving ahead to more advanced data-based digital marketing**, is all about deliberate customer engagement based upon elementary analysis and the insights gleaned. Remember that digital marketing lends itself to more solid ROI measurement than any of the devolving traditional approaches. Your migration into big data digital marketing is heavily dependent on demonstrating ROI. The simple mail example presented in the audience optimization section above shows well how basic analysis can yield impressive results. In our maturity model these simple, easily measurable, data driven pilot campaigns equate to the level of “walking.”

4. **The fourth step, add platform services and talent,** is expediting the development of an expanding big data-focused culture in your marketing organization. Once you have proven that small campaigns rooted in basic data analysis can be clearly correlated to improved ROI, you will be in a position to take advantage of tools like data management platforms (DMPs) and demand side platforms (DSPs). These relatively inexpensive platforms dramatically increase your access to data across multiple channels and provide more personalized and predictive customer insights around which to build more targeted campaigns. At this level of maturity you will need to have some data-savvy talent on your marketing team for effective interfacing.

5. **The fifth step, seek out and invest in your own big data platform,** is the natural result of rigorously adhering to ROI measurement, the addition of data-science talent that understands marketing principles and the positioning of big data analytics as the new core for digital marketing—a multi-year process. At this top level of maturity you will have demonstrated impressive ROI, you will have successfully utilized diverse analytic tools to deliver real-time, relevant messaging to individual consumers across multiple channels, and you will have transitioned from a rapidly fading traditional marketing culture to a big data driven digital marketing mindset. You will
also have learned with high precision exactly what you want from your own big data platform and how much you are willing to invest.

You will have the experience to test and review the major platform offerings in pursuit of those that can deliver ease of integration, high scalability and no doubt, the savvy to exploit proof of concept (POC) before making your decision.

**Conclusion**

The goal of this white paper was to touch only upon some of the most critical aspects of marketing’s migration from its traditional habitat to its new, big data destination.

The evolution of marketing has always been a journey of consolidation, integration and especially convergence. Technology and media change have advanced along near parallel paths but not until today have we seen their paths virtually merge. It may soon be difficult to pinpoint where digital marketing and data science are separated. A new discipline of marketing-science has emerged from the technology of big data analytics. It is unlike any previous pairing of marketing and science.

Creative driven marketing will become fully merged into ‘data-driven creative marketing’ (DDCM). Consistent, real time messaging across multiple channels to individual consumers will solidify customer centricity. The newest generation of digital marketers will likely be creative big data scientists who are diligently focused on marketing’s oldest goal: delivering the right message to the right person at the right time for the right price.

Organizations are constantly making choices between data volume and analytic complexity. The infrastructure based on traditional database technologies easily gets overextended keeping up with the growth in user data and volumes. Though much of the big data evolution is being driven by the vast commercial possibilities of the Internet, the scope and pace of change suggests the advent of an even more fundamental shift, focusing the broader advertising community on a series of critical questions: How can data most effectively be used to address core business needs? Where can this data be sourced? How can it be shared, optimized and enhanced for analysis and monetization?

**For more information**

To learn more about the IBM Big Data Platform, please contact your IBM representative or IBM Business Partner, or visit the following websites:


Additionally, IBM Global Financing can help you acquire the software capabilities that your business needs in the most cost-effective and strategic way possible. We’ll partner with credit-qualified clients to customize a financing solution to suit your business and development goals, enable effective cash management, and improve your total cost of ownership. Fund your critical IT investment and propel your business forward with IBM Global Financing. For more information, visit: [ibm.com/financing](http://ibm.com/financing)