The Digital Analytics Handbook
Crawl, Walk, Run your Way to Maximum Data Value

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Digital analytics are perhaps the fastest-growing and fastest-changing analytics domain within contemporary organizations. Every company today wants to know how its customers are thinking and behaving online. And it is now possible to know about, understand, and even predict digital activities by customers and prospects with great precision.

This guide to digital analytics is helpfully organized in a "crawl, walk, run" structure. If you're just starting with the topic. you can learn how organizations like yours are doing basic descriptive analytics on their digital data and tracking down the causes of problems in digital relationships. If you're ready to walk, you can learn about how a company used digital attribution methods and predictive modeling to make their website far more effective. And if you're a digital analytics runner, find out how a company can optimize marketing spending or interpret free form customer chat data.

Of course, digital analytics aren't just about selling more. They can also be used for defensive purposes—reducing fraud or identifying customers likely to attrit. You'll find examples of those objectives here as well—again, classified at the appropriate speed for your organization.

Every organization wants to know its customers better and anticipate their needs, and it has become impossible to do so without employing digital analytics. What were once simple bar charts of "unique visitors" or "length of stay" have become sophisticated, multivariate statistics that shed light on virtually every aspect of customer behavior and attitudes. This handbook will be invaluable to any organization in taking the necessary steps to digital analytics prowess.

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Digital Analytics
How to Get More Value from your Data

Across many industries, customer journeys and touch points increasingly take place via multiple digital channels. For companies this represents both a challenge and an opportunity. On the one hand, new datasets give companies the ability to gain a deeper and clearer understanding of their target customers and to take actions that can help them to convert or retain those customers.

At the same time, competition for customer mindshare among brands is increasing. As customers become more digitally empowered, brand messages lose their impact, and the likelihood of conversion decreases. The conclusion? Companies with greater digital capabilities are able to convert sales at a rate of two and a half times greater than those with lower levels of capability[i].

Getting that capability does not happen overnight. Companies need to build a data culture where employees can experiment, build confidence and accelerate the process of getting insights from data and use those insights to change the way the business operates. But that framework cannot be built on aggregated data and traditional web analytics tools anymore.

Companies can get far more granular with their data than ever before – a necessity in today's world of the connected customer. Digital today stretches beyond websites to encompass the multiple devices used to access them, the ability to map the real-time location of customers, sophisticated apps and a plethora of social channels.

Companies who want to be able to paint a far more detailed and complete picture of their customer interactions need to record and capture every browse, click, on-site search, device type and mouse over. And with data this granular, companies need to employ newer and more advanced types of analytics. Analytics that can:

- Enable the actions of individual customers across digital touch points to be pieced together to create that elusive Single Customer View
- Anticipate which customers are most likely to buy and serve the right offers and promotions to them
- Optimise the digital customer experience, for example, ironing out areas where customers are getting stuck or dropping off our website or mobile app
- Guide decisions on the best price point for a product and predict potential latent demand
- Maximise return on marketing investment by identifying which combinations of activities, campaigns and channels drive the highest value customers

To date, many companies are just not collecting data that is granular enough. And for those who do, there is a feeling that there is much that their data is not telling them. This is why more marketers today (87 percent) than in 2013 (46 percent) consider data their most underutilised asset[ii]. In reality, armed with the data and digital analytics available today, companies can drill down deeper than before in areas such as digital marketing effectiveness, customer experience, and business efficiency.

Digital analytics can help organisations drive value from their data no matter their current level of analytics maturity. For companies new to unlocking value from their data, using a "crawl, walk, run" approach to analytics not only makes it less daunting; it could also provide a platform on which to build skills and experience to get maximum value from this most critical business asset – data.

This handbook will demonstrate that getting started with digital analytics is not complicated. So start experimenting with data, find use cases to test, and accelerate ahead of the competition!


SENTIMENT ANALYSIS
SENSITIVITY
PREDICTION

Marketing Effectiveness

McKinsey estimates that global marketing spend has been rising faster than the top line for several decades and now exceeds US$1 trillion. However, they estimate that up to one-fifth of that annual marketing spend could be re-focused with little or no impact to return on investment, if companies deployed better marketing analytics[iii].

Whether it is about the number of sales generated as a result of an email campaign, or evaluating whether the budget was better spent on online display advertising or social media, marketing want to understand just how much value has been generated by their budgets. With four in five companies planning to increase their investment in digital marketing in 2015[iv], timely data and analysis is needed to determine if value for money is being delivered to the business.

A "Crawl" Example:

Making Every Campaign Count

When a fashion retailer wanted to improve the relevance of the marketing communications sent to customers in order to increase their return on investment, they decided a new approach to their marketing efforts was in order. Previously, the retailer's emails and promotions were sent to customers who had been segmented based on demographic variables like a customer's age, gender, or dress size.

In a new approach, the fashion retailer decided to segment their new and returning customers by the sorts of behaviour they exhibited on their website. This involved collecting data around the amount of time customers spent on site, the pages that customers visited and the items that they added and removed from their shopping basket.

By applying behavioural segmentation to this data, this retailer was able to categorise its customers based on what they did rather than demographic data that they held on the customer. They were then able to shape their customer contact strategy around these customer segments, using this information to decide the sorts of promotions and channels of communication a specific customer segment should receive.

For instance, they found that some customers were "value hunters". These customers consistently clicked on or visited the "Sale" area of the site. They would also sort products by descending value or filter product lists on price. The retailer changed their email strategy and ensured that this group of customers had early visibility to online sales. They were also able to reduce cost by only sending "Sale" paper catalogues to this group of customers.

By contrast, the retailer identified another group of customers, whom they called "in-trend" customers. A high percentage of this group of customers' spend was in the "New In" section of the site and they would regularly search for specific products, and visit the "New In" section of the site. The retailer sent this group emails that had an aspirational feel, highlighting products that were "new in". They also limited the number of mailings these customers received with similar products in.

Segmenting their customers in this way meant that the retailer could

choose to send emails only to those who were most likely to respond. Not only did this reduce the number of unwanted emails sent, it also improved the return on investment of their email campaigns. The company found that a customer who was more likely to respond to the campaign, was also one who was more likely to spend hundreds of pounds more than a customer who was least likely to respond. In addition, the company used key online customer behaviours to segment those customers receiving a full sized catalogue and those getting a reduced sized version in order to optimise catalogue production and postage spend. The results were impressive – an improvement in overall return of over 3 percent.

A "Walk" Example:

Identifying and Targeting Mortgage Prospects Using Digital Analytics

A leading financial services provider wanted to identify quality leads for their sales and marketing teams. They decided to look at how customers may show interest in a mortgage before even starting an application. They thought that by looking at the sequence of webpages browsed, the combination of pages browsed and the complete journeys that customers took through their website, before filling in an online application form, that they would be able to quickly identify pre-purchase intent.

The company used browsing data from customer sessions, including the pages visited, the clicks registered, the dwell time and the number of visits a customer made to their website in the past month.

Attribution analysis was then used to determine how important the web pages leading to a visitor entering the application phase were in predicting that customer's propensity to buy a mortgage.

Firstly, they discovered there were a number of pre-application online interactions that were very significant when predicting how likely a customer was to purchase a mortgage that had not previously been obvious or detectable. They then created new variables using these insights and introduced them to their existing analytical models to better predict which customers were most likely to buy mortgages. The results were impressive. They achieved a 50 percent uplift in mortgage conversion while at the same time expanding the pool of high performing leads.

Instead of passing leads on to sales teams monthly, they were able to pass them on daily, improving the timeliness of any follow-up actions. Finally, the company put in place a programme to win back visitors that had abandoned the application process. These insights generated many millions of incremental sales revenue, a great result.

A "Run" Example:

Optimising Marketing Spend for Maximum ROI

For a fashion retailer, determining the effectiveness of all their marketing efforts was difficult as individual marketing teams worked in silos. Campaigns were deployed throughout the year to different customer segments across brands and some of the marketing was also outsourced to an external media agency.

This meant that customers could be exposed to multiple campaigns at any one time, making it difficult to measure what impact each campaign

had. There was also no way of understanding what the impact of overlapping campaigns was, all of which meant that the retailer had difficulty identifying which channel or campaign gave the best return on investment.

The retailer wanted to find out exactly what triggered a sale, whether it was as a result of an affiliate website promotion, personalised email, display ad, or pay-per-click search. In many instances like this, companies use an analytics tool known as last click attribution, meaning that the last marketing campaign or activity before the sale is credited as being the most effective tool that motivated the customer to complete the sale.

However, this method does not provide an accurate picture, especially as customers may have interacted with a multitude of promotions and campaigns before they finally clicked on the 'Buy' button.

In order to get clarity around this, the retailer used data that could identify individual customers across channels. Then they tracked a customer's journey and the interactions that the customer had over a certain period. A fully weighted attribution model was applied to the data. This considered customer segment, online behaviour, position in marketing path and time to conversion. A weighted score was applied to each of these factors, which meant the company could identify which channels were performing well and understand how different touch points contribute to a customer's purchase decision.

This new insight enabled the retailer to reduce marketing spend in areas that were shown to be ineffective, while optimising spend in areas that were. This led to a significant improvement in the return on investment.

Customer Experience

According to a recent report, customer experience looks set to overtake price and product as the key brand differentiator by 2020[iv]. Companies need to examine their customers' digital journeys and evaluate their experience in order to be successful. In the process, fixing broken journeys and identifying and resolving areas customers find problematic is essential. This in turn helps companies anticipate the needs of their customers, provide proactive customer care, and display more relevant marketing messages or promotions. The impact on the bottom line could be huge – at present, it is estimated that brands in the U.K. are losing nearly £15 billion annually due to poor customer service[vi].

A "Crawl" Example:

Improving Online Forms and Processes for Better Customer Experience and Profits

A retail bank knew that a number of their customers were dropping out at various points in their online application processes, but not why. They wanted to recreate customer journeys by time sequencing interactions in abandoned sessions in order to identify customer pain points.

Using visualisation of the most frequent paths though the website, they identified the main points at which customers were rejected, where on the page or form this was happening, and the experience for the customer when this happened.

In one instance, they found that if

a particular field was completed in a particular way it would send customers back to the start of the process. This affected over 50 percent of customers attempting to complete the form. Further analysis revealed the nature of the ”bug” which existing web reporting had not been able to identify. The root cause related to a validation rule sitting behind the field which was very simple to fix. Resolving this had a huge positive impact on form completion and customer experience.

This analysis was then repeated across a range of online processes and application forms and the bank was able to pinpoint which forms needed to be re-designed, and which customers had been affected by problems previously.

A side benefit of this analysis was the reduction in calls to the call centre by visitors unable to complete

their online applications, freeing up valuable resources and lowering operational cost.

A "Walk" Example:

Increasing Revenue by Tempting Customers to Shop in More Product Categories

A fashion retailer wanted to expand their footprint with the customers, and tempt those who shopped with them for items from a particular product category, to browse and shop from another category.

This retailer decided to build a propensity model that would enable them to predict the likelihood that a customer who bought a dress, for example, would also buy a pair of shoes, or another product from a different category. To do this the retailer tracked customer activity on their website – which pages did a customer visit after putting an item from a particular category in their basket, which categories they browsed in succession, and so on.

Once the data had been collected, affinity testing revealed a clear link between products. For example a dress, was shown to affect over 200 other products. A customer buying or adding this to a basket, also had a high likelihood of buying four other products.

This enabled the company to ensure they served customers with appropriate ads, offers and email messages that were most successful in converting customers to increase their spend with the company across more than one product category. It also gave the company insight into the products they should ensure supply of, as running out of stock of these particular products meant losing revenue well beyond the value of that product alone.

A "Run" Example:

Preventing Lost Opportunities by Decoding Customer Conversations

For a bank, the free-format text generated by the web chat facility on their website proved to be a treasure trove of valuable information about how their customers felt about the bank's products and services.

In order to analyse the free-format text, the conversation logs had to be put into a structured format. Next, text analysis was used to group conversations based on key words or phrases. This enabled topics of conversation to be identified, such as, usability issues, new feature requests, hot leads or difficult processes.

Then, sentiment analysis was used to detect whether the words or phrases used in each topic had a positive or negative connotation. For instance, words such as "poor", "not as good as", or "disappointed"

Business Efficiency

would all fall into the category of negative sentiment.

As a result of continually monitoring the topics of conversation and their sentiment, the bank could identify and resolve customer issues quickly and effectively. The bank was able to reach out to disgruntled customers to win them back with a specific action or offer. In another instance, the company found usability issues with their website and put in place a new design to remove those issues. These actions were instrumental in recovering the customer experience and increasing revenue for the company.

The drive to be more cost effective, more productive and more efficient is played out in companies worldwide today. The companies in the examples below demonstrate how the right combination of data and analytics can improve sales efficiency, prevent customer churn and protect business losses as a result of fraudulent activity.

A "Crawl" Example:

Preventing Losses from Retail Fraud

Retailers are facing increasing levels of fraud, most of which is now committed online. A British Retail Consortium fraud report showed that they expect fraud to pose the single most significant threat to the retail business over the next two years. In 2013-14, there were an estimated three million offences against U.K. retailers, which added £603m to retailers' costs[vii].

Actions taken after a fraudulent event are not always economically viable and can be a waste of time so one fashion retailer decided to tackle this issue head on, by improving existing preventative measures.

Existing measures involved looking for single items in customer shopping baskets that were known to be popular in fraudulent orders, such as fragrances, electronics, watches, ladies gifts and makeup. This did not deliver accurate results and fraudulent orders were still getting past this system.

To improve the identification of fraudulent orders, this retailer looked at customer behaviour on their website. They managed to identify specific behaviour that was indicative of fraud. For example, path analysis showed that customers attempting to place a fraudulent order tended to add and remove items from their bag at a higher frequency, as they aimed to move closer to the credit limit. They also looked for unusual online behaviours such as someone making several purchases from the same IP address over a short period of time, making multiple purchases with different credit cards or frequently re-typing credit card numbers in the form.

By identifying specific behaviours such as this, the retailer was able to prevent hundreds of thousands of pounds worth of fraudulent orders per year whilst not negatively impacting the purchase experience for genuine customers.

A "Walk" Example:

An Insurer Uses Predictive Campaign Optimisation to Maximise Conversion of High Value Customers

For many companies the conversion rate for visitors to the website is around one to two percent. For one insurer this represented a big missed opportunity as the customers in the country which this insurer operated in could only change their insurance supplier on a set date once a year. As such, this insurer decided to focus on the 98 percent of visitors to their website that they had not managed to convert.

To do that, this insurer wanted to identify which campaigns were most valuable, not in terms of driving lead volumes but, more importantly, generating the most profitable leads. First the team built data models comparing the online behaviour of visitors from different online marketing campaigns in order to understand which campaigns were driving the highest value visitors. They tracked every action a visitor performed on the site in real-time, and attributed a value to the complete online customer journey, from the first visit to the last visit. They then developed predictive models which allowed them to predict, to an accuracy of more than 90 percent, whether a visitor was likely to convert on this or a future website visit based on their online behaviour.

By applying these models to their marketing campaigns, the team could predict whether a specific campaign would be successful or not within 24 hours of its launch. Prior to that, they had to wait a few weeks for enough data to be collected in order to be able to judge a campaign's success. And with a short annual campaign period of around three months, waiting weeks to re-allocate spend meant time and resources wasted on a campaign that was not working.

By using predictive campaign optimisation, the marketing department now had the insight to dynamically allocate resources and budget to the most appropriate activities much earlier than previously, thereby optimising spend and maximising results.

A "Run" Example:

Accelerating Sales Close Rates with Better Lead Grading

With up to 96 percent of those looking to buy a car now turning to the internet to do automotive research[viii], a leading car manufacturer wanted to see if they could better route the customers who were most likely to buy after browsing their website to dealers for follow up. A significant number of unqualified leads were being sent to dealers, causing much frustration and impacting efficiency. This led to many

leads not being followed up as dealers lacked confidence that the leads would result in sales.

The car manufacturer had been capturing the different customer touch points on their website that could generate leads, such as requests for brochures, test drives and quotes. The company used information supplied by customers when they completed the online request forms and matched these against known customers whose additional demographic information, past purchase history, and historical sales information they already held.

The aim was to build a lead scoring model that would help the car manufacturer predict which leads were most likely to purchase and therefore should get most urgent attention. The company also used additional data, such as, Customer Relationship Management (CRM) interaction data, marketing campaign data, and web

interaction data to improve predictive quality. This model would be validated and continually updated by measuring close rates and comparing against the predictions to ensure accuracy over time.

In this case, the car manufacturer wanted a lead scoring model that could predict a lead's propensity to buy a new car in the next 90 days. Leads were segmented into "High Priority", "Normal" and "Low Priority", based on the predictive model. Some of the factors considered included whether someone who was requesting a brochure was as "High Priority" a lead as someone who was requesting a test drive based on other insight about each specific individual.

By grading the leads the company was able to relay better information accompanying these leads to its dealer network. Ultimately, the car manufacturer increased their credibility amongst their dealer network, while the dealers' follow-up rates and sales close rates were improved and their efficiency optimised.

These are just a few of the examples from our trailblazing clients across various industries that have already realised the value of data through digital analytics to fuel their competitive edge. These companies were able to implement the crawl, walk, run methodology because they had the three key elements needed to power their analysis:

Timely, Granular Data

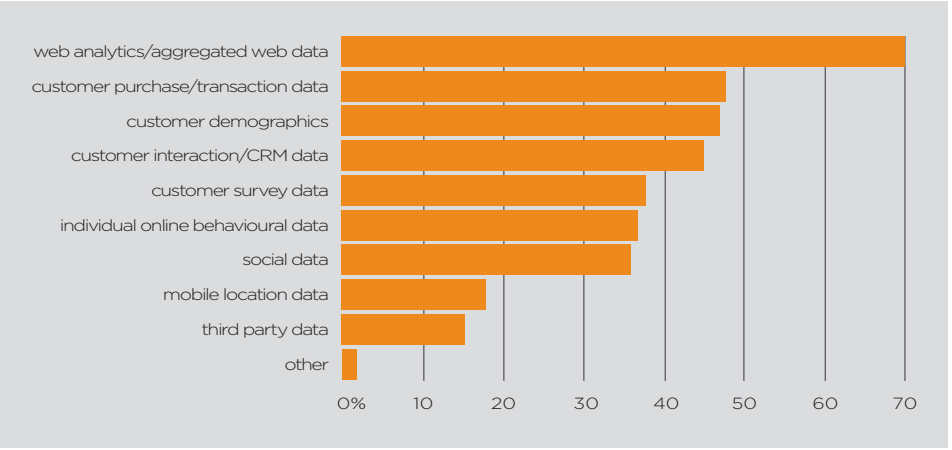
Too often companies rely on data that is aggregated or trending data. This is not sufficient to truly understand the customer on an individual level. Neither is the approach of collecting data by tagging, as it is impossible to determine if the right components have been tagged. Companies need to collect all data at an individual level. And this extends to all the different channels that the customer has used

to contact the brand, whether that is website, mobile apps, streaming or social media as well as all the devices they use for those interactions.

Moreover, companies need the data quickly. In a recent survey, 59 percent of marketers[ix] believe that data can speed up decision making. If a company knows how an individual customer is interacting with the company's digital channels, they will be able to react in a timely manner with appropriate responses that can influence the customer's buying decision.

Trying to build a 360° view of the customer without timely individual-level digital data is impossible and this is an issue that many companies are currently struggling with. Over 70 percent of respondents in a recent survey admitted to relying on aggregated data[x] (see Figure above).

What kind of customer data do you collect?



By capturing and analysing every browse, click, on-site search, device type and mouse over, the company can then have a better and deeper understanding of the motivations behind the customer. This information, when integrated with the data that companies already hold on their customers, such as age, gender, purchase history or credit score, can allow them to be more effective when sending personalised offers or optimising website and mobile apps.

Adopting an Agile Analytics Mindset

The examples listed in this handbook illustrate how digital analytics go well beyond reporting and dashboards to provide deeper and more valuable insights. For companies wanting to understand the relationships and dependencies between different multi-structured datasets such as web browsing, free form text fields, and geo-location, it is not just new analytical tools that are needed. A whole new mindset has to be adopted by the organisation.

Instead of finding the right answer to a set of pre-determined questions, companies need to discover the right questions to ask. Employees should be encouraged to explore and experiment with the data, scope their questions, and identify the signal or golden nuggets of insights. With this new model, companies are geared to learn, test hypotheses, and either act quickly or move on – a very agile fail fast mentality.

Putting Data and Analytics in the Hands of Business Users

The longer a company takes to collect the data and analyse it, the longer it would take for crucial decisions to be taken that could affect a customer's buying journey.

The best way to ensure that does not happen is to put the ability to query the data in the hands of the employees, at an operational level, and not just strategic or middle-management levels. This means employees can get timely insights that inform decision making.

For marketing, sales, call centre operatives, and customer services, this provides awareness of all the other touch points and conversations that a customer has had with the brand. This allows them to take the right actions to individualise their response to the customer.

According to a recent study[xi] 37 percent of companies struggle to achieve this due to a lack of analytics expertise within the business. The technology exists to provide pre-built analytics with easy-to-use interfaces in the hands of business users and analysts, without putting strain on IT resources.

Establishing an Analytics Roadmap

In an ideal world, companies would have all three elements listed above at the beginning of their analytics journey. However, in practice, it takes time for a company to acquire the three components. This is not to say that businesses should wait till all three are in place. Rather, businesses should focus on areas where there are easy gains to be made – the "crawl". Initial success will build confidence and skills, which in turn justifies more resources, tools, and talent that will allow businesses to progress through the "walk" and "run" stages.

Companies that have a roadmap of how they will acquire and use all available data, adopt an agile analytics mindset, and put data into the hands of the business users are those who will find success. That's because they will find that their employees understand the value of data to their work, use it effectively, and keep coming back for more – in what The Economist terms a "virtuous circle of data" that underpins commercial and financial success. This is backed up by the results of The Economist's survey, which found that companies that had a shared commitment to making data central to business decision-making were 78 percent more likely to have a culture of creativity and innovation, 68 percent more likely to outperform its competitors in terms of profitability, and 67 percent more likely to have superior risk management and operational efficiency[xii].

The examples described in this handbook are just a fraction of the insights that companies can use their data to uncover today. What will your business discover tomorrow?

Credits

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Katharine has over 20 years of marketing management experience with data and analytics software and service providers including Experian Marketing Services and SPSS. She has also held marketing roles at industry analyst Gartner, security software vendor Websense and Sony.

Appendix

Definitions of analytics techniques as used by the companies listed in this handbook

Affinity

Affinity analysis is used to uncover the relationships among the digital activities of a particular user. This information can then be used for purposes of cross-selling and up-selling, in addition to influencing sales promotions, loyalty programs, store design, and discount plans.

Attribution

The process of understanding the interplay and quantifying the impact of multiple marketing exposures and touch points preceding a desired outcome .

Path

This is the statistical method used to trace the dependencies that a set of variables may have on each other.

Predictive Modelling

Predictive modelling is used to create a statistical model of future behaviour by forecasting probabilities and trends.

Segmentation

Segmentation is a statistical technique used to separate out target groups based on individual or group behaviours or demographics.

Sentiment Analysis

Sentiment analysis, which is also known as opinion mining, refers to the use of natural language processing, text analysis and computational linguistics to identify and extract subjective information in source materials, for instance, looking at whether a text has positive or negative connotations.

About Celebrus

Celebrus collects, contextualises and delivers data about how individuals are behaving across a brand's digital channels including websites, mobile apps, social and streaming media. The tagging-free software streams this digital big data in real-time, or near real-time, into the client's chosen technology. Global blue-chip clients use the granular data captured by Celebrus to power big data analytics, customer-centric digital intelligence and 1:1 contextual marketing.

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Teradata helps companies get more value from data than any other company. Our big data analytic solutions, integrated marketing applications, and team of experts can help your company gain a sustainable competitive advantage with data. Teradata helps organizations leverage all their data so they can know more about their customers and business and do more of what's really important.

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