

Long Tail

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The long tail is a type of statistical distribution where a high-frequency population is followed by a low-frequency population which gradually "tails off".

The long tail in keyword research is basically an expansion of a core, generic, high volume keyword phrase to include numerous combinations and permutations of the keywords and their associated or relevant phrases. These phrases individually are unlikely to account for a great deal of searches, but when taken as a whole, can provide significant traffic. The long-tail is unlikely ever to exceed searches for a brand name if the brand name is reasonably well established, but the volume of converting traffic these terms can generate by nature of their specificity and relevance is worth investigating. Ken Jurina reiterates that thorough keyword research consistently uncovers surprising topics in every study and presents him with numerically supported ratios that challenge his assumptions about his industry.

Conducting Keyword Research

(Please note, this is not an entry on how to apply keyword research.). Keyword research should not be undertaken ad hoc. It is the foundation. for all natural search engine optimization techniques as the keywords finally selected based on search volume and likely ability to compete should be included in some, if not all, of the following SEO onpage elements, as well as in any anchor text backlinking to the relevant webpages:

- URL
- Title tag
- Metadata
- Headers
- Actual Content
- Navigation links
- Image names
- Alt attributes

Christine Churchill, another noted SEO expert simply states that keyword research is the bedrock of successful web page optimization.

Sources of traditional paid and free keyword research data:

- Yahoo Panama Keyword Tool
- Google Keyword Tool
- MSN Keyword Forecast
- Trellian Keyword Discovery
- Google Webmaster Tools
- GoodKeywords.com
- Google Suggest
- Google Traffic Estimator
- Google Trends
- Hitwise
- NicheBOT
- SEO Book Keyword Tool (see Aaron Wall)
- We Build Webpages "Cool SEO Tool"
- KeywordSpy
- Cutop Keyword Density tool and other Seo Tools- Free – <http://freekeywords.wordtracker.com> (sai)

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Uses of Advanced Keyword research

- Business Research - Product Research - Brand Equity - Competitive Intelligence - New Market & Product Opportunity Identification - Consumer Feedback
- Social Research - Political Topics - Public Issues - Celebrity Brand

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The phrase The Long Tail (as a proper noun with capitalized letters) was first coined by Chris Anderson in an October 2004 Wired magazine article to describe the niche strategy of businesses, such as Amazon.com or Netflix, that sell a large number of unique items in relatively small quantities.

However, the concept of a frequency distribution with a long tails — the concept at the root of Anderson's coinage — has been studied by statisticians since at least 1946. The distribution and inventory costs of these businesses allow them to realize significant profit out of selling small volumes of hard-to-find items to many customers, instead of only selling large volumes of a reduced number of popular items. The group of persons that buy the hard-to-find or "non-hit" items is the customer demographic called the Long Tail.

Given a large enough availability of choice, a large population of customers, and negligible stocking and distribution costs, the selection and buying pattern of the population results in a power law distribution curve, or Pareto distribution, instead of the expected normal distribution curve. This suggests that a market with a high freedom of choice will create a certain degree of inequality by favoring the upper 20% of the items ("hits" or "head") against the other 80% ("non-hits" or "long tail").

Ken McCarthy addressed this phenomenon from the media producers' point of view in 1994. Explaining that the pre-Internet media industry made its distribution and promotion decisions based on what he called lifeboat economics and not on quality or even potential lifetime demand, he laid out a vision of the impact he expected the Internet and consumer choice would have on the structure of the media industry, foreshadowing many of the ideas that appeared in Chris Anderson's book *The Long Tail: Why the Future of Business is Selling Less of More* (ISBN 1-4013-0237-8).

The Long Tail concept has found a broad ground for application, research and experimentation. It is a common term in the online business and mass media, but also of importance in micro-finance (see Grameen Bank), user-driven innovation (Eric von Hippel), market mechanisms (e.g., crowdsourcing, crowdcasting, Peer-to-peer), economic models, and marketing (viral marketing).

Statistical meaning

The tail goes to bigger and longer in new markets (such as online bookstores).

The long tail is the name for a long-known feature of some statistical distributions (such as Zipf, Power laws, Pareto distributions and general Lévy distributions). The feature is also known as heavy tails, power-law tails, or Pareto tails.

In "long-tailed" distributions a high-frequency or high-amplitude population is followed by a low-frequency or low-amplitude population which gradually "tails off" asymptotically. The events at the far end of the tail have a very low probability of occurrence.

Power law distributions or functions characterize an important number of behaviors from nature and human endeavor. This fact has given rise to a keen scientific and social interest in such distributions, and the relationships that create them. The observation of such a distribution often points to specific kinds of mechanisms, and can often indicate a deep connection with other, seemingly unrelated systems. Examples of behaviors that exhibit long-tailed distribution are the occurrence of certain words in a given language, the income distribution of a business or the intensity of earthquakes

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(see: Gutenberg-Richter law).

Chris Anderson's and Clay Shirky's articles point to special cases in which we are able to modify the underlying relationships and evaluate its impact on the frequency of events. In those cases the infrequent, low-amplitude (or low-revenue) events — the long tail, represented here by the portion of the curve whereby the sum of events is greater than 20% of the total — can become the largest area under the line. This suggests that a variation of one mechanism (internet access) or relationship (the cost of storage) can significantly shift the frequency of occurrence of certain events in the distribution. The shift has a crucial effect in probability and in the customer demographics of businesses like mass media and online sellers.

Chris Anderson and Clay Shirky

The phrase The Long Tail was, according to Chris Anderson, first coined by him. The concept drew in part from an influential February 2003 essay by Clay Shirky, "Power Laws, Weblogs and Inequality", which noted that a relative handful of weblogs have many links going into them but "the long tail" of millions of weblogs may have only a handful of links going into them. Beginning in a series of speeches in early 2004 and culminating with the publication of a Wired magazine article in October 2004, Anderson described the effects of the long tail on current and future business models. Anderson later extended it into the book *The Long Tail: Why the Future of Business is Selling Less of More* (2006). Anderson argued that products that are in low demand or have low sales volume can collectively make up a market share that rivals or exceeds the relatively few current bestsellers and blockbusters, if the store or distribution channel is large enough. Anderson cites earlier research by Erik Brynjolfsson, Yu (Jeffrey) Hu, and Michael D. Smith, that showed that a significant portion of Amazon.com's sales come from obscure books that are not available in brick-and-mortar stores. The Long Tail is a potential market and, as the examples illustrate, the distribution and sales channel opportunities created by the Internet often enable businesses to tap that market successfully.

An Amazon employee described the Long Tail as follows: "We sold more books today that didn't sell at all yesterday than we sold today of all the books that did sell yesterday."

Anderson has explained the term as a reference to the tail of a demand curve. The term has since been rederived from an XY graph that is created when charting popularity to inventory. In the graph shown above, Amazon's book sales or Netflix's movie rentals would be represented along the vertical axis, while the book or movie ranks are along the horizontal axis. The total volume of low popularity items exceeds the volume of high popularity items.

Research by Brynjolfsson, Hu, and Smith

Impact of online access

In his Wired article, Chris Anderson cites earlier research by Erik Brynjolfsson, Yu (Jeffrey) Hu, and Michael D. Smith, who first used a log-linear curve on an XY graph to describe the relationship between Amazon.com sales and sales ranking. They found a large proportion of Amazon.com's book sales come from obscure books that are not available in brick-and-mortar stores.

They then quantified the potential value of the long tail to consumers. In an article published in 2003, these authors showed that, while most of the discussion about the value of the Internet to consumers has revolved around lower prices, consumer benefit (a.k.a. consumer surplus) from access to increased product variety in online book stores is ten times larger than their benefit from access to lower prices online. Thus, the primary value of the internet to consumers comes from releasing new sources of value by providing access to products in the long tail.

Goodbye Pareto Principle, the new distribution

In a 2006 working paper titled "Goodbye Pareto Principle, Hello Long Tail", Erik Brynjolfsson, Yu (Jeffrey) Hu, and Duncan Simester found that, by greatly lowering search costs, information technology in general and Internet markets in

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particular could substantially increase the collective share of hard-to-find products, thereby creating a longer tail in the distribution of sales.

They used a theoretical model to show how a reduction in search costs will affect the concentration in product sales. By analyzing data collected from a multi-channel retailing company, they showed empirical evidence that the Internet channel exhibits a significantly less concentrated sales distribution, when compared with traditional channels. An 80/20 rule fits the distribution of product sales in the catalog channel quite well, but in the Internet channel, this rule needs to be modified to a 72/28 rule in order to fit the distribution of product sales in that channel. The difference in the sales distribution is highly significant, even after controlling for consumer differences.

Economics and markets

Demand-side and supply-side drivers

The key supply-side factor that determines whether a sales distribution has a Long Tail is the cost of inventory storage and distribution. Where inventory storage and distribution costs are insignificant, it becomes economically viable to sell relatively unpopular products; however, when storage and distribution costs are high, only the most popular products can be sold. Take movie rentals as an example: A traditional movie rental store has limited shelf space, which it pays for in the form of building overhead; to maximize its profits, it must stock only the most popular movies to ensure that no shelf space is wasted. Because Netflix stocks movies in centralized warehouses, its storage costs are far lower and its distribution costs are the same for a popular or unpopular movie. Netflix is therefore able to build a viable business stocking a far wider range of movies than a traditional movie rental store. Those economics of storage and distribution then enable the advantageous use of the Long Tail: Netflix finds that in aggregate, "unpopular" movies are rented more than popular movies.

A MIT Sloan Management Review article titled "From Niches to Riches: Anatomy of the Long Tail" examined the Long Tail from both the supply side and the demand side and identifies several key drivers. On the supply side, the authors point out how e-tailers' expanded, centralized warehousing allows for more offerings, thus making it possible for them to cater to more varied tastes.

On the demand side, tools such as search engines, recommender software and sampling tools are allowing customers to find products outside their geographic area. The authors also look toward the future to discuss second-order, amplified effects of Long Tail, including the growth of markets serving smaller niches.

Crowds

The "crowds" of customers, users and small companies that inhabit the Long Tail

Distribution can perform collaborative and assignment work. Some relevant forms of these new production models are:

- The peer-to-peer collaboration groups that produce open-source software or create wikis such as wikipedia.
- The crowdsourcing model, in which a company outsources work to a large group of market players using a collaborative online platform.
- The model of crowdcasting is the process of building a network of users and then delivering challenges or tasks to be solved with the purpose of gaining insights or innovative ideas.
- Work performed by individuals in commons-like, non-market networks, described in the work of Yochai Benkler.

Business models

Competitive impact

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The Long Tail may threaten established businesses. Before a Long Tail works, only the most popular products are generally offered. When the cost of inventory storage and distribution fall, a wide range of products become available. This can, in turn, have the effect of reducing demand for the most popular products. For example, Web content businesses with broad coverage, such as Yahoo! or CNET, may be threatened by the rise of smaller Web sites that focus on niches of content, and cover that content better than the larger sites.

The competitive threat from these niche sites is reduced by the cost of establishing and maintaining them and the bother required for readers to track multiple small Web sites. These factors have been transformed by easy and cheap Web site software and the spread of RSS. Similarly, mass-market distributors like Blockbuster may be threatened by distributors like Netflix, which supply the titles that Blockbuster doesn't offer because they are not already very popular.

Internet companies

Some of the most successful Internet businesses have leveraged the Long Tail as part of their businesses. Examples include eBay (auctions), Yahoo! and Google (web search), Amazon (retail) and iTunes Store (music and podcasts) amongst the major companies, along with smaller Internet companies like Audible (audio books) and Netflix (video rental).

Video and multiplayer online games

The adoption of video games and massively multiplayer online role-playing games such as Second Life as tools for education and training is starting to show a long-tailed pattern. It costs significantly less to modify a game than it has been to create unique training applications, such as those for training in business, commercial flight, and military missions. This has led some to envision a time in which game-based training devices or simulations will be available for thousands of different job descriptions.

Microfinance and microcredit

The banking business has used internet technology to reach an ever increasing number of customers. But the most important shift in business model due to the Long Tail has come from the various forms of microfinance developed.

As opposed to e-tailers, micro-finance is a distinctly low technology business. Its aim is to offer very small credits to lower-middle to lower class and poor people that would otherwise be ignored by the traditional banking business. The banks that have followed this strategy of selling services to the low-frequency long tail of the sector, have found out that it can be an important niche, long ignored by consumer banks. The recipients of small credits tend to be very good payers of loans, despite their non-existent credit history. They are also willing to pay higher interest rates than the standard bank or credit card customer. It also is a business model that fills an important developmental role in an economy.

Grameen Bank in Bangladesh has successfully followed this business model. In Mexico the banks Compartamos and Banco Azteca also service this customer demographic, with an emphasis on consumer credit. Kiva.org is an organization that provides micro credits to people worldwide, using a distinct direct business model.

User-driven innovation

According to the user-driven innovation model, companies can rely on users of their products and services to do a significant part of the innovation work. Users want products that are customized to their needs. They are willing to tell the manufacturer what they really want and how it should work. Companies can make use of a series of tools, like interactive and internet based technologies, to give their users a voice and to enable them to do innovation work that is useful to the company.

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Given the diminishing cost of communication and information sharing (in analogy to the low cost of storage and distribution, in the case of e-tailers), long-tailed user driven innovation in will gain importance for businesses.

In following a long-tailed innovation strategy, the company is using the model to tap into a large group of users that are in the low-intensity area of the distribution. It is their collaboration and aggregated work that results in an innovation effort. Innovation communities formed by large groups of users can perform rapidly the trial and error process of innovation, share information, test and diffuse the results.

Eric von Hippel of MIT's Sloan School of Management defined the user-led innovation model in his book Democratizing Innovation. Among his conclusions is the insight that as innovation becomes more user-centered the information needs to flow freely, in a more democratic way, creating a "rich intellectual commons" and "attacking a major structure of the social division of labor".

Marketing

The drive to build a market and obtain revenue from the consumer demographic of the Long Tail has led businesses to implement a series of new marketing techniques, most of them based on extensive use of internet technologies. Among the most representative are:

- **New Media Marketing:** a term to describe the building and managing of social networks and online or virtual communities, and extend the reach of marketing to the low-frequency, low-intensity consumer in a cost effective way.
- **Buzz Marketing:** The strategic use of word of mouth, the transmission of commercial information from person to person in an online or real-world environment.
- **Viral Marketing:** The intentional spreading of marketing messages using social networks, with an emphasis of the casual, non-intentional and low cost.

Cultural and political impact

The Long Tail has possible implications for culture and politics. Where the opportunity cost of inventory storage and distribution is high, only the most popular products are sold. But where the Long Tail works, minority tastes become available and individuals are presented a wider array of choices. The long tail presents opportunities for various suppliers to introduce products in the niche category. These encourage the diversification of products. These niche products open opportunities for suppliers while concomitantly satisfying the demands of many individuals — therefore lengthening the tail portion of the Long Tail. In situations where popularity is currently determined by the lowest common denominator, a Long Tail model may lead to improvement in a society's level of culture. The opportunities that arise because of the Long Tail greatly affect society's cultures because suppliers have unlimited capabilities due to infinite storage and demands that were unable to be met prior to the Long Tail become realized.

Cultural diversity

Television is a good example of this: TV stations have a limited supply of profitable or "prime" time slots during which people who generate an income will watch TV. These people with money to spend are targeted by advertisers who pay for the programming so the opportunity cost of each time slot is high. Stations, therefore, choose programs that have a high probability to appeal to people in the profitable demographics in order to guarantee a return. Twin Peaks, for example, did not have broad appeal but stayed on the air for two seasons because it attracted young professionals with money to spend. Generally, as the number of TV stations grows or TV programming is distributed through other digital channels, the key demographic individuals are split into ever smaller groups. As the targeted groups become smaller niches, and the quantity of channels becomes less of an opportunity cost, previously ignored groups become profitable demographics in the long tail. These groups along the long tail then become targeted for television programming that might have niche appeal. As the opportunity cost goes down with more channels and smaller niches, the choice of TV

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programs grows and greater cultural diversity rises as long as there is money in it.

Distribution of independent content

Often presented as a phenomenon of interest primarily to mass market retailers and web-based businesses, the Long Tail also has implications for the producers of content, especially those whose products could not — for economic reasons — find a place in pre-Internet information distribution channels controlled by book publishers, record companies, movie studios, and television networks. Looked at from the producers' side, the Long Tail has made possible a flowering of creativity across all fields of human endeavour. One example of this is YouTube, where thousands of diverse videos — whose content, production value or lack of popularity make them inappropriate for traditional television — are easily accessible to a wide range of viewers also monkeys have a significantly long tail

Contemporary literature

The intersection of viral marketing, online communities and new technologies that operate within the Long Tail of consumers and business is described in the novel by William Gibson, *Pattern Recognition*.

Military applications and security

In military thinking, John Robb applies the Long Tail to the developments in insurgency and terrorist movements, showing how technology and networking allows the Long Tail of disgruntled groups and criminals to take on the nation state and have a chance to win.

Responses and Criticism

A study by Anita Elberse, an Associate Professor of Business Administration in the Marketing unit at Harvard Business School, calls the "The Long Tail" theory into question, citing sales data that show that the Web magnifies the importance of blockbuster hits. Anderson responded to the study on his blog, praising Elberse and the academic rigor with which she explores the issue, but drawing a critical distinction between their respective interpretations of where the "head" and "tail" begin.

Email Marketing Software refers to a computer application which provides the ability to send bulk email to target audiences. The intent is usually to send newsletters or promotional materials to opt-in lists of subscribers, although the software can be used to send unsolicited email. The software typically includes a database that stores contact information, campaign statistics, and message history. The interface provides features necessary to run an email campaign, such as message sending, contact entry, contact importing, and reporting. Software packages range in price from free, to about five hundred US dollars. Some companies charge a monthly fee. There are also enterprise solutions that can cost thousands of dollars a month to manage large enterprises mass marketing email campaigns.

Advantages

- Email marketing software speeds up the process of direct marketing by sending personalized email messages to a customer or prospect.
- A Gallup poll found over 67% of Internet users send and receive email regularly and email outranks other online activities including shopping, downloading music, or reading blogs.
- Most email marketing software includes a scheduler which can send emails automatically. This allows marketers to adhere to a marketing plan without much intervention.
- With email, frequency is free. A business or organization can communicate with people, keep teaching them, keep trying to turn them into customers. And it's free, which is attractive to any business trying to reduce costs.
- Business can use email marketing software to make their communications appear more professional. Many email marketing software packages such as EmailBrain include templates for attractive emails.

Features

Most email marketing software has features that assist the user in the process of organizing contacts, creating campaigns, and scheduling communication. In addition, the software usually provides features, such as an "unsubscribe check" that assist in complying with the CAN-SPAM law. Email Marketing software can also provide tracking functions such as how many people have opened an email, how many emails bounced-back, how many people visited the hyperlinks provided in the marketing message, and how many people actually purchased something as a result of the email.

The common features are listed below:

- Ability to create and send personalized email using data from a customer database.
- Ability to import customer lists
- Automatic unsubscribes and bounce-back handling
- Ability to authenticate to SMTP and POP servers or send directly with an internal server
- HTML and plain text editor for creating messages
- Reporting features such as bounce-back reports
- Tracking abilities such as tracking who has opened the email, usually by using a web bug

Behavioral targeting or behavioural targeting is a technique used by online publishers and advertisers to increase the effectiveness of their campaigns.

Behavioral targeting uses information collected on an individual's web-browsing behavior, such as the pages they have visited or the searches they have made, to select which advertisements to display to that individual. Practitioners believe this helps them deliver their online advertisements to the users who are most likely to be influenced by them.

Behavioral marketing can be used on its own or in conjunction with other forms of targeting based on factors like geography, demographics or the surrounding content.

Examples of behavioral targeting in advertising targeting systems include: AdLINK 360, Avail, Boomerang, Criteo, DoubleClick (prior to 2002), nugg.ad, prudsys and WunderLoop.

Behavioral Targeting allows site owners or ad networks to display content more relevant to the interests of the individual viewing the page. On the theory that properly targeted ads will fetch more consumer interest, the seller may ask for a premium for these over random advertising or ads based on the context of a site.

Onsite Behavioral targeting

Behavioral targeting techniques may also be applied to content within retail or other e-commerce website as a technique for increasing the relevance of product offers and promotions on a visitor by visitor basis. Again, behavioral data can be combined with demographic and past purchase history in order to produce a greater degree of granularity in the targeting.

Self-learning onsite behavioral targeting systems will monitor visitor response to site content and learn what is most likely to generate a desired conversion event. Some good content for each behavioral trait or pattern is often established using numerous simultaneous multivariate tests. Onsite behavioral targeting requires relatively high level of traffic before statistical confidence levels can be reached regarding the probability of a particular offer generating a conversion from a user with a set behavioral profile. Some providers have been able to do so by leveraging its large user base, such as Yahoo!. Some providers use a rules based approach, allowing administrators to set the content and offers shown to those with particular traits.

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Examples of onsite behavioral targeting systems include: Valtira, Kefta, Maxymiser, Netmining, prudsys and Touch Clarity. Yahoo! Inc. has been offering onsite behavioral targeting for many years as well.

Network Behavioral targeting

Advertising Networks use behavioral targeting in a different way to individual sites. Since they serve many adverts across many different sites, they are able to build up a picture of the likely demographic makeup of internet users. An example would be a user seen on football sites, business sites and male fashion sites. A reasonable guess would be to assume the user is male. Demographic analyses of individual sites provided either internally (user surveys) or externally (Comscore \ netratings) allow the networks to sell audiences rather than sites.

Although advertising networks used to sell this product, this was based on picking the sites where the audiences were. Behavioral targeting allows them to be slightly more specific about this.

This service is offered by (among others): Adlink, Adviva, Adzilla, AlmondNet, Blue Lithium, Front Porch, Tacoda, Burst, NebuAd, Phorm, Project Rialto, and Revenue Science.

Concerns

Many online users & advocacy groups are concerned about privacy issues around doing this type of targeting. This is a controversy that the behavioral targeting industry is trying to contain through education, advocacy & product constraints to keep all information non-personally identifiable or to obtain permission from end-users. AOL created animated cartoons in 2008 to explain to its users that their past actions may determine the content of ads they see in the future.

Conversion marketing

In marketing, a conversion occurs when a prospective customer takes the marketer's intended action. If the prospect has visited a marketer's web site, the conversion action might be making an online purchase, or submitting a form to request additional information. The conversion rate is the percentage of visitors who take the conversion action

In Internet Marketing, conversion rate refers to the number or percentage of visitors who convert casual content views or website visits into desired actions based on subtle or direct requests from marketers, advertisers, and content creators.

Successful conversions are interpreted differently by individual marketers, advertisers, and content creators. To online retailers, for example, a successful conversion may constitute the sale of a product to a consumer whose interest in the item was initially sparked by clicking a banner advertisement. To content creators, however, a successful conversion may refer to a membership registration, newsletter subscription, software download, or other activity that occurs due to a subtle or direct request from the content creator for the visitor to take the action.

Measuring conversions

For web sites that seek to generate offline responses, for example telephone calls or foot traffic to a store, measuring conversions can be difficult. In order to measure online conversions a marketer can use web analytics software. Some online marketing companies, such as Verizon, offer tracking programs tied to a specific phone number that the business registers for receiving web site inquiries.

In Internet Marketing, Conversion optimization is the science and art of creating an experience for a website visitor with the goal of transforming the visitor into a customer.

Web Origins

Conversion optimization was born out of the need to define the new type of customer that surfaced as a result of the web. Internet marketers had to figure out what web surfers were thinking when browsing a site and how the site could influence them to perform specific actions. Two of the pioneers of conversion marketing, Bryan Eisenberg and Jeffrey Eisenberg, recognized this emerging field and quickly became an integral part of its development. Through the creation of concepts such as Persuasion Architecture, the Eisenbergs soon became two of the biggest names in the conversion optimization field.

Why conversion optimization

Frequently, when marketers target a pocket of customers that has shown spectacular lift in an ad campaign, they belatedly discover the behavior is not consistent, with online marketing response rates fluctuate widely from hour to hour, segment to segment and offer to offer.

This phenomenon can be traced to the inability of humans to separate chance events from real effects. Using the haystack process, at any given time marketers are limited to examining and drawing conclusions from small samples of data. However, psychologists (led by Kahneman and Tversky) have extensively documented tendencies which find spurious patterns in small samples, thereby explaining why poor decisions are made. Therefore, statistical methodologies can be leveraged to study large samples and mitigate the urge to see patterns where none exists.

These methodologies, or "conversion optimization" methods (x), are then taken a step further to run in a real-time environment. The real-time data collection and subsequent messaging as a result, increases the scale and effectiveness of the online campaign.

How conversion optimization works

Conversion optimization platforms for Content, Campaigns and Delivery, then need to consist of the following elements:

Data collection & processing

The platform must process hundreds of variables and automatically discover which subsets have the greatest predictive power, including any multivariate relationship. A combination of pre- and post-screening methods is employed, dropping irrelevant or redundant data as appropriate. A flexible data warehouse environment accepts customer data as well as data aggregated by third parties. Data can be numeric or text-based, nominal or ordinal. Bad or missing values are handled gracefully. Data should be geographic, contextual, frequency, demographic, behavioral, customer, etc.

Optimization goals

The official definition of "optimization" is the discipline of applying advanced analytical methods to make better decisions. Under this framework, business goals are explicitly defined and then decisions are calibrated to optimize those goals. The methodologies have a long record of success in a wide variety of industries, such as airline scheduling, supply chain management, financial planning, military logistics and telecommunications routing. Goals should include maximization of conversions, revenues, profits, LTV or any combination thereof.

Business rules

Arbitrary business rules must be handled under one optimization framework. Some typical examples include:

- Minimum (or maximum) weights for specific offers
- "Share of voice" among all offers

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- Differential eligibility for different offers
- Mutually exclusive offers
- Bundled offers
- Specified holdout sample

Such a platform should understand these and other business rules, then adapting targeting rules accordingly.

Real-time decisioning

Once mathematical models have been built, ad/content servers use an audience screen method to place visitors into segments and select the best offers, in real time. Business goals are optimized while business rules are enforced simultaneously. Mathematical models can be refreshed at any time to reflect changes in business goals or rules.

Statistical learning

Ensuring results are repeatable by employing a wide array of statistical methodologies. Variable selection, validation testing, simulation, control groups and other techniques together help to distinguish true effects from chance events. A champion/challenger framework ensures that the best mathematical models are deployed always. In addition, performance is enhanced by the ability to analyze huge datasets and to retain historical learning.

Win-loss analytics involves identifying and analyzing the reasons why a visitor to a website was or wasn't persuaded to engage in a desired action (conversion).

This information allows web teams to improve the website's navigation and content, identify individuals that are more likely to convert, to improve marketing efforts

History

Determining why one person engaged in a desired action and another did not has long been a topic of interest in sales, where measurement of conversion has always been possible through sales data.

In contrast, marketing has been mostly concerned with targeting with the masses, and the results of marketing have traditionally been more difficult to accurately measure. With the internet, it is much easier for marketers to collect data for analysis and evaluation in order to understand and demonstrate the effectiveness or ineffectiveness of their efforts and to make changes to improve them.

Win-loss analytics vs. web analytics

Web analytics tools have existed since the early days of the internet and are now ubiquitous. These tools provide a bird's eye view of a website's traffic. The information that is gathered allows webmasters to make informed decisions about making changes in order to improve a website.

Win-loss analytics tools track the individual perspectives of each visitor, uncovering who the visitor was, what products they were qualified for, how well they were persuaded, and why they did or didn't convert.

Promotion involves disseminating information about a product, product line, brand, or company. It is one of the four key aspects of the marketing mix. (The other three elements are product management, pricing, and distribution.) Promotion is generally sub-divided in the textbooks into two parts:

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- Above the line promotion: Promotion in the media (e.g. TV, radio, newspapers, Internet) in which the advertiser pays an advertising agency to place the ad.
- Mid line promotion: Promotion within the organisation (e.g. [to promote the workers working within the organization. to increase incentives etc...])
- Below the line promotion: All other promotion. Much of this is intended to be subtle enough that the consumer is unaware that promotion is taking place. E.g. sponsorship, product placement, endorsements, sales promotion, merchandising, direct mail, personal selling, public relations, trade shows.

The specification of these four variables creates a promotional mix or promotional plan. A promotional mix specifies how much attention to pay to each of the four subcategories, and how much money to budget for each. A promotional plan can have a wide range of objectives, including: sales increases, new product acceptance, creation of brand equity, positioning, competitive retaliations, or creation of a corporate image.

Examples of a fully integrated, long-term, large-scale promotion are My Coke Rewards and Pepsi Stuff.