Garry Lee

has worked in online analytics for over 10 years. He began client side using the original WebTrends products and has spent the past 9 years with RedEye focusing on online behavioural services and segmentation. During this time, Garry produced the first UK results from analytic-driven behavioural e-mail, led industry setting analysis tracking technologies and launched a leading media attribution system, Media Mix. Garry currently heads up the analytics department at RedEye where he is responsible for behaviourally targeted systems for leading industry names such as William Hill, Monarch and Legal and General, as well as providing bespoke consultancy services for companies including HSBC, Expedia and The Government. Garry is a professional member of the Web Analytics Association.

Keywords: media attribution, media data, sales attribution, media spend, full customer journey, online customer behaviour

Garry Lee
Oak House
Crewe Hall Farm, Crewe
Cheshire, CW1 5UE, UK
E-mail: garry.lee@redeye.com

Papers

Death of 'last click wins': Media attribution and the expanding use of media data

Garry Lee

Date Received (in revised form): 23rd February 2010

Abstract

This paper examines how companies are currently using online analytics to understand the effects of different media in contributing to a sale, and how they can best optimize media spend. As the author indicates, this is a developing area and the paper looks in detail at how this type of analysis is evolving, specifically looking at the integration of media channels and the ability to analyse the full customer journey. In this paper, the author will refer to work performed by Digital Marketing Company RedEye to help Monarch Airlines and Hotel Chocolat understand how correct analysis can accurately identify the role different forms of online media play in contributing to an online sale. This paper is intended to promote reflection and discussion around the idea of online media reporting, through understanding the different methods currently employed and new methods now available. The author concludes that the future of reporting and analysing media spend is changing. In order to report accurately on customer behaviour and understand what marketing activity contributes towards a sale, marketers must analyse the full journey a customer makes before a conversion is achieved. There is no 'one-size-fits-all' approach to effectively attribute sales revenue to particular forms of marketing activity. The only way to ensure marketing spend is distributed effectively is to fully understand (through the analysis of data) how different media interact with each other and their relationship to the all-important final click that leads to a sale conversion.

Journal of Direct, Data and Digital Marketing Practice (2010) **12**, 16–26.
doi:10.1057/dddmp.2010.14

Introduction

This paper is intended to show how online analytics are changing; it is becoming evident that raw data are no longer sufficient, and that marketers are looking for actionable information.

The paper will discuss how the future of media reporting will rely on the integration of different media channels to gain a full and accurate analysis of how consumers shop online and the true role that different forms of media play when contributing to a sale.

Throughout this paper, 'last click wins' will refer to the traditional form of reporting in which a marketer attributes a sale to whichever medium was clicked directly before the sale was made, to the exclusion of all other media used prior to this point. For an expanded definition, see Dave Chaffey's popular e-marketing glossary.¹

The term 'media attribution' will be used to describe how online sales results are credited to, and shared between PPC, SEO, e-mail, referring website etc.

Analysis of 'the full customer journey' refers to a detailed look at the online journey a customer makes from first interacting with a company's online media through to the online purchase.

Within the paper, the 'assist' is the channel/site that drove a user to visit the website once prior to the sale. For example, search drives a visitor A to a website on Tuesday; on Wednesday visitor A enters the site from an affiliate and makes a purchase. In this example, search would be classified as the assist.

Online sales attribution has traditionally used the last click model since post-click tracking began online in the mid-1990s. It was adopted and used as the standard by Google AdWords and DoubleClick, and analytics vendors. Thus, it became the default for the majority of e-commerce sites.

While doing campaign analysis for clients, RedEye noted more and more how channels and sites that direct a lot of traffic to a website (eg generic search terms) were not showing up well in terms of directly contributing to a sale. This phenomenon has grown over the last few years. Through analysis of data, RedEye observed that many clicks could be seen from multiple channels, leading to a final click to convert a sale. Therefore, there were far more channels involved in a sale than the final click. A particular channel should not be seen as entirely responsible for a sale just because it was the last channel clicked before the sale. The entire online journey had to be considered. See Appendix for a more detailed explanation of RedEye's work.

Increasingly, marketers have become concerned that marketing spend would be affected as people, in particular Financial Controllers, failed to understand the need for integrated marketing campaigns, when the majority of sales were apparently coming from a small set of sites/channels. Marketers found that abandoning display advertising, because of a lack of last click sales, could result in a significant fall in search traffic and sales.

There has been a growing momentum in the marketplace as a whole around the importance of looking for an alternative to the 'last click' method. For example, a search for 'media attribution' on the Forrester Research website produces six newly commissioned reports in the last 5 months alone.

The concept of multi-channel attribution is defined by Forrester² as

The practice of attributing credit to all marketing exposures that led to a Web site and subsequently resulted in a conversion event, rather

Last click sales attribution becoming outdated

Media attribution gains momentum

than attributing all credit to the exposure immediately preceding the conversion.

The subject has gained momentum, over the last 2 years, as proven authorities such as Neil Mason³ and Forrester began talking about it as an area of interest.

In addition, analytics and media systems started to add attribution style reports, including companies such as Omniture, CoreMetrics, DoubleClick, Atlas and RedEye.

This paper refers to work completed by RedEye to help two companies, Monarch Airlines and Hotel Chocolat, to understand the relationship among different online media in relation to making an online sale. This client work is used to understand the possibility of accurately analysing the full customer journey and investigating how expanding the use of media data can change the future of online analytics and media attribution.

Previous methods of reporting

As stated in the introduction, online sales attribution has traditionally used the 'last click wins' model. Over the years, there have been a few different methods employed by specific channels or industries.

The Affiliate market strongly promotes a method in which a click is 'owned' by the affiliate for a set period of time, sometimes known as the 'click window'. The main reason for this is that they were one of the chief losers under the last click model, because they would often be the channel generating the interest but not converting this into a sale. In recent times, this has expanded in the financial sector in which aggregators such as MoneySupermarket have used a model that allows them to own the prospect for up to 60 days.

None of these methods, however, solved the problem of accurate media attribution; they merely transferred the same issue to another point in the customer journey. Ultimately, none of these techniques account for more than one medium influencing the user into completing the sale.

While companies are beginning to understand that more than one medium is responsible for a sale, they are still failing to find a suitable way to measure the relationship between different media and get a full picture of the online customer journey. According to the 2009 Forrester Research Report,² *A Framework of Multicampaign Attribution Measurement*, from 275 website decision makers surveyed, 52% agreed attribution would make marketing spend more effective, yet only 31% of website decision makers currently claim to perform media attribution on their activities.

This lack of understanding and analysing the full customer journey is likely to be due to the following obstacles:

- *Multiple data sources* — traditionally, each channel has tracked its own data via its own system, leading to multi sources of data that do not talk to each other. The only place these different channels were

Interest in media attribution currently outweighs application

brought together was often through analytic reporting systems or, more recently, the uptake in universal tagging solutions such as DoubleClick's Spotlight tagging.

- *Data accuracy* — even when the data are captured in one place, there have been concerns about the accuracy of the data because of issues such as cookie deletion. RedEye's research in 2005⁴ found that cookie deletion resulted in over-reporting of traffic after 28 days of over 100%. A 2008 JupiterResearch survey⁵ found similar results, quoting that 28% of leading decision makers dismiss media attribution because it will never be precise.
- *Time and money* — companies and agencies have struggled to justify investment in more accurate media attribution without any proven benefits; thus a cycle starts where no time is invested without evidence and no evidence is possible without investment. The same JupiterResearch survey⁵ lists inadequate staffing levels as the biggest barrier to doing proper attribution.
- *Organizational structure* — traditionally, companies and some agencies have split who owns different channels. Therefore, the incentive to look at a global picture is simply not there.

By overcoming these obstacles and expanding the way we use data, it is possible that a new form of more accurate media reporting can be achieved to effectively understand the full customer journey.

How Monarch Flights overcame the complexities of media attribution to get actionable data

The future of media reporting

The author believes that online campaign reporting is moving towards a method of attribution in which all visits influencing the final sale will be considered when reviewing the effectiveness of media spend. The case study of Monarch Airlines illustrates the reasons for this belief.

Case study: Monarch Airlines

This research was carried out by RedEye from January 2008 to January 2009.

The following is the project plan used by RedEye to investigate the claims of last click vs. a full attribution approach.

Client selection criteria

- Possessing the necessary level of data and tracking.
- Willingness to work with RedEye to analyse and understand the outputs from the data, in particular to overview all the media involved in the analysis.
- Being prepared to test ideas that come out of the initial results to see what changes and improvements could be made.

Monarch Airlines was ultimately selected as one of these clients.

Data preparation

- On the basis of industry standards, data preparation was expected to be two-thirds of the total work required. The data preparation was based on the core marketing database that already existed within Monarch Airlines.
- The creation of new tables to go within this database that would hold the information needed to assess the last four clicks prior to a sale.

Data outputs

- The data outputs needed to include listings of the campaign; site; section and creative/phrase that drove each of the four clicks prior to the sale.
- The outputs had to be in formats that enabled initial conclusions to be derived.

Testing and results

- The initial conclusions resulted in tests that Monarch could run over a period of time to prove or disprove the theory, in the form of marketing strategy changes.
- The results of these marketing strategy changes were reviewed and final conclusions reached based on a combination of the initial analysis and results from the tests.

Start by looking at the interaction between the different marketing channels

Analysis of initial data output

The analysis began by looking at the likelihood of a medium achieving a sale having any assist or not. We then moved on to looking at the effect of the 'first click' on the 'last click'. Ultimately, this then led us deeper into the data to look at the combination of clicks in between, looking at the full customer journey and ultimately looking at the complete contribution of each channel looking across all visits.

Table 1 shows how we can understand the relationship between a customer's first arrival at a site and the eventual completion of a sale. The percentage in the table indicates how often the last click channel sale was started by the equivalent first click channel. For example, 14.3% of the last click pay per click (PPC) sales were started on comparison sites.

In addition to this, results can also be compared via channel. The two pie charts in Figure 1 compare sales attributed to the last click against sales recognizing all interactions of different media channels.

As is evident from the many ways to present the data and the increasing complexity of the analysis, it became necessary to develop a new data visualization method to show the data in a manner that was both easy to understand and easy to make recommendations from.

Table 1: First click vs. last click table for Monarch Flights

First click	Last click						
	PPC campaigns (%)	Natural search — brand (%)	Natural search — generic (%)	Comparison sites (%)	E-mail (%)	Other referrer (%)	Direct (%)
PPC campaigns	46.5	13.5	10.5	3.2	3.7	2.5	20.0
Natural search — brand	17.1	42.9	11.4	2.5	3.9	2.8	19.4
Natural search — generic	13.2	10.1	55.0	4.9	2.6	3.3	10.8
Comparison sites	14.3	8.0	7.0	42.1	2.4	4.1	22.1
E-mail	15.1	12.3	11.0	2.7	19.3	3.5	36.1
Other referrer	12.4	9.6	5.0	3.7	3.7	36.6	20.3
Direct	13.2	9.5	7.3	2.5	4.8	2.9	59.9

Note: The shaded areas indicate where the first and last click was from the same channel

Figure 1: Comparison of where sales are attributed under the different methods.

Different methods of outputting the data in visual formats leads to increased knowledge

Figure 2: Assist correlation between four key channels for Monarch Flights.

Figure 3: Assist correlation between search sub-channels for Monarch Flights.

The formats we had used up to this point did not illustrate things clearly, being too data and table heavy, and therefore we looked at other formats such as Venn diagrams for illustrating the combinations.

Taking a format used elsewhere for showing the relationships among pages on a website (node correlations), we applied this to our findings. (See Figures 2 and 3.)

The relative size of the nodes in Figures 2 and 3 shows the relative sales and contribution of each medium to the final sale. The arrows show how much each medium assisted the other media.

Figure 2 shows that comparison sites were much less supported by other channels than other activities, thus delivering a greater proportion of stand-alone sales that would not be gained elsewhere. As a result of

Evidence suggest natural search has a big overall influence and increased budget is required

this analysis, a new hypothesis was formed that an increase in investment would lead to a similar increase in revenues. While a saturation point would naturally appear at some point, the evidence indicates that the search channel would produce the most linear increase in sales; thus, this should be the focus of the biggest change in media strategy.

Figure 3 shows that paid search destination terms were not converting and were also not influencing brand terms, which was contrary to popular search theories that these types of phrases were very influential in the conversion of other terms. This leads to the conclusion that reducing spend in this area would not affect overall sales. The level of spend should therefore be reduced, thus giving back budget that could be better utilized elsewhere.

Looking at the information in both Figures 2 and 3, it is clear that natural search (both destination and brand terms) was influencing paid search brand terms as well as other channels. This supported the new hypothesis that an increase in this channel would lead to a significant increase in immediate sales, and in indirect sales.

The initial results above led to the following changes in the Monarch Airlines marketing strategy.

Most of the budget from expensive paid search destination terms (eg 'flights to Malaga') was removed because it was felt that this budget would gain greater sales if redeployed.

The budget was used to

- increase the work done on improving natural search;
- increase slightly the investment in paid search brand terms, for example 'Monarch flights', as they worked best with natural search; and
- double the available budget for comparison sites as evidence had shown that there was a strong possibility of doubling sales from this source.

Results of the changes led to dramatic increases in sales and lowering of costs

Results from strategy change

On the basis of the strategies implemented as a result of the initial analysis, Monarch saw the following results when comparing the results pre changes (January 2008) with an equivalent post-change period (January 2009):

- Initially, a 73% reduction in cost per passenger from search (combining PPC and SEO) as a channel overall based on a better allocation of the spend.
- A more detailed analysis of the search results showed that a 14% increase in SEO investment led to a 55% increase in revenue and 45% increase in bookings.
- The 100% increase in investment into comparison website (CPC) media, led to a doubling in revenue and passengers from this activity, proving its scalability and effectiveness as a stand-alone channel.

**Whilst attribution
can be complicated,
it ultimately delivers
profitable results**

However, further investigation proved that changes implemented by Monarch would not necessarily be relevant to other companies. This became evident from the research RedEye did with Hotel Chocolat.

In the case of Hotel Chocolat, a change was made to the allowed ROI for a specific channel, PPC generic, because it was felt to have a larger overall influence, while also adjusting the terms of their affiliate programme. This was the opposite of what was recommended to Monarch Airlines. After just 3 months, Hotel Chocolat noticed a significant improvement in ROI from the PPC channel as the cost of bidding on brand and generic terms reduced.

The main point to conclude from these case studies is that this type of analysis will reveal different scenarios that should be tested. It is from these tests that the real evidence is obtained to see if changing media spend has worked. The initial analysis will never give us the complete answer.

Conclusion

While multi-channel media attribution is clearly a complex process, the evolution of new analytics provides evidence showing that analysing the full customer journey can ultimately be financially beneficial.

The work with Monarch Airlines and Hotel Chocolat is important evidence that it is worth the investment of time and money to progress proper multi-channel media attribution and that marketers should at least begin the process (if they have not already) of testing attribution analysis.

The new analytics techniques that are becoming available mean that the concept of using 'last click' attribution, as the default and only model, will cease to be true.

The future holds a world of opportunities both in how we visualize the data so that more people can use and learn from the information, and also in how we ultimately evolve the attribution model.

One day we might reach the point where everyone uses full attribution models for all their media analysis and sales attribution. Those companies that resist using these new techniques are missing the opportunity to maximize their online media spend and risk losing out to more sophisticated competitors.

References and Notes

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Appendix

Further research

This analysis was carried out across RedEye clients to understand assist and no assist levels.

The graphs in Figures A1 and A2 show that channels can influence sales by assisting in the online customer journey. As seen in Figure A1, the average of 'no assists' is just 40%, indicating that people are more likely to require at least one previous visit to the site before purchasing or converting. Meanwhile, Figure A2 shows that half

Figure A1: The graph shows the percentage of times that the sale visit had no assist, that is no previous visit before the visit on which they bought.

Figure A2: Graph showing the percentage of times that the assist site was different to the final sale. For example, the prospect first found the website via PPC, the first click or assist, and bought as a result of SEO, the last click.

of assisted users will convert from a different site or channel from the previous visit.

The analysis supported our initial hypothesis that only looking at the last click does not give us the true understanding of media effectiveness, and certainly we cannot assume that multi visits are driven by the same medium or channel.