Digital Attribution Comes Of Age

The Last-Click Paradigm Erodes As Marketers Turn To Fractional Attribution

June 2012

FORRESTER

Forrester Consulting
Making Leaders Successful Every Day

Table Of Contents

About Forrester Consulting

Forrester Consulting provides independent and objective research-based consulting to help leaders succeed in their organizations. Ranging in scope from a short strategy session to custom projects, Forrester's Consulting services connect you directly with research analysts who apply expert insight to your specific business challenges. For more information, visit www.forrester.com/consulting.

Executive Summary

Digital attribution — the measurement of the value of each digital marketing contact that contributed to a desired outcome — allows marketers to more clearly understand what's working and what's not. It's no surprise that more marketers are turning to attribution to gain better insights. In April 2012, the Interactive Advertising Bureau, in conjunction with AdSafe Media, AT&T AdWorks, ClearSaleing, Quantcast, and SAS, commissioned Forrester Consulting to examine the state of digital attribution, its various approaches, and its benefits and challenges for marketers and publishers.

In conducting in-depth interviews with 15 agencies, service providers, and publishers, Forrester found strong support for fractional attribution and bullish predictions on the ongoing adoption of the practice, along with notable challenges that must be addressed.

Key Findings

Forrester's study yielded six key findings:

- **Practitioners of attribution indicate general consensus on the definitions, benefits, and expectations of attribution.**
- **Forty-four percent of interactive marketers don't have processes in place to assign credit to their efforts, not even rudimentary attribution such as "last event," indicating that adoption of attribution has room to grow.**
- **Few marketers, agencies, or publishers stand behind last-event attribution, but it's still commonly used as a standard for attribution.**
- **Algorithmic attribution models are gaining acceptance, but some in the market remain skeptical.**
- **Publishers are cautiously enthusiastic about marketers using attribution to show the value of upper-funnel inventory.**
- **Attribution across devices represents a major challenge.**

Attribution Gives Credit Where It's Due

"What's working?" This seemingly simple question confounds most marketers. Historically, marketers that are focused on offline channels such as broadcast, print, point-of-sale, and outdoor have often turned to marketing mix modeling, brand tracking studies, and other statistical methodologies to attempt to answer this question and inform future strategies.[1] As digital marketing matured, it promised to one-up traditional channels by providing a clearer line of sight into the tracking and measurement of marketing performance at the individual level.[2] But in reality, the dizzying array of digital marketing touch points, formats, and inventory — compounded by a deluge of reporting data and highly diverse customer journeys — has complicated the fulfillment of this promise. To help bring more clarity to digital marketing measurement and answer the *"What's working?"* question, marketers have increasingly turned to the practice of attribution.

Attribution as it relates to digital marketing traces its roots back to the early days of web analytics providers that identified the first or last click that led to a conversion or transaction. Microsoft's Atlas unit took it a step further with its more detailed Engagement Mapping capabilities that analyzed the contribution of multiple ads on influencing a

customer's behavior. Individual digital marketing organizations have built up teams of analysts to delve deeper into the attribution question. In the course of speaking with many marketers, agencies, and publishers today, we found that the commonly used definitions of digital attribution track very similarly to this:[3]

> "The measurement of the value of each digital marketing contact or exposure that contributed to an outcome."

According to a recent Forrester Research survey, 56% of interactive marketers use some form of digital attribution (including rudimentary methodologies such as last event), which also indicates that nearly half don't have a process for assigning credit to their efforts.[4] The adopters tell us that they use digital attribution to aggregate marketing performance data; determine the value of contacts, campaigns, and channels; leverage those insights to adjust plans and budgets; and push attributed data back to decision-makers and marketing execution partners to close the loop (see Figure 1). Some of attribution's benefits for digital marketers and their agencies include:

- **Improved multichannel measurement.** By using attribution systems to consolidate marketing performance data, digital marketers can access reports that cut across different channels and also isolate the effects of one channel on another (i.e., how display media may impact search). In addition, marketers and their agencies often articulate frustration when concurrently using channel-based systems such as ad servers, bid management platforms, and email service providers to track conversions because each may claim credit for the same transaction. One of the short-term benefits of deploying an attribution solution is deduplicating conversion credit and cleaning up internal reporting.

- **Data-driven spending and strategy decisions.** Advertisers and agencies use attribution to help them optimize media plans and marketing communication strategies. Some nimble marketers and agencies also report changing in-flight campaign creative, placements, or formats based on attribution results. At the budget level, attribution supplies data to inform channel spending and allocation decisions.[5]

- **Media buying leverage.** Attribution equips marketers and their media buyers with an understanding of how specific inventory contributes value. With that information, buyers have a better understanding of what inventory is worth to them, and they can use that knowledge to cut more advantageous media deals — or confidently decide to walk away from media that will underperform when priced above a prescribed threshold.

Attribution is a better way to measure the value of various online marketing tactics, but it doesn't replace marketers or analytics professionals. No interviewees expect that attribution will completely supplant the need for people to evaluate what's working and what's not. Rather, most point to attribution as an important resource of insights that help inform overall interpretation and marketing planning. Said an agency executive: "It's wrong to think that you can set up attribution and then magically tell your CFO where to put all of your money. You still need smart people to explain what the data tells you. It's not going to drive the car for you."

The mechanics of attribution currently make it a better fit for marketers on the buy side than for publishers and sellers of media inventory.[6] Even so, advanced attribution (e.g., rules-based and algorithmic) conducted by marketers can aid publishers in several ways. It can help assess the value of inventory that contributes to upper-funnel activity like building awareness and consideration.[7] Additionally, if marketers provide publishers with a feedback loop that contains

event-level attributed data or insights about what's working, then the sell side can better match higher performing inventory to the buyer's needs.

"The main applications of attribution are for the buy side — they have access to more data across the customer journey. But attribution can also benefit publishers — especially those that feel they get short shrift as channels like search and affiliate marketing take credit [for conversions]. Publishers want to get credit for the [lift in] brand awareness, purchase intent, and brand value their media drives. Attribution can help to demonstrate the value of inventory higher up in the funnel and ultimately benefit many different kinds of publishers on the sell side." (executive at attribution provider)

"In our efforts to intelligently drive quality traffic, we are using attribution on the marketing side to deliver our value proposition to advertisers. We are building a quality audience that is in-market to shop for a product, ready to take action, and is open to influence. We are helping advertisers build brand through this asset." (marketing and audience development executive at US-based publisher)

Figure 1

Marketers Use Digital Attribution For A Range Of Objectives

Base: 53 marketers using digital attribution

Source: Q1 2012 Forrester Wave Interactive Attribution Vendor Customer Reference Survey, from May 24, 2012, "Making The Case For Interactive Attribution In Your Organization," Forrester Research

Using Attribution: From Simplistic To Advanced

Attribution originally allowed digital marketers to better understand what was working in display and search, but it has expanded its channel coverage to also include email, video, affiliate, social, mobile, and comparison shopping engines — essentially, any trackable digital marketing asset. Emerging techniques also incorporate data from offline channels to determine the cross-channel effects on marketing performance and customer behaviors.

So how does attribution work?

- **Marketing performance and conversion data is collected, cleaned, and compiled.** Ideally, data collection occurs at the user level. For digital channel data, this collection typically happens through tag-based, JavaScript, or cookie-based techniques; log file or batch file imports; or URL appends. This data is then organized to construct a history or journey for each user.

- **The data set is then processed using a model.** Working with marketing analytics technology providers or analytics software, marketers and their agencies develop an attribution model or multiple models. The model assigns weights (e.g., credit or value) to each attribute; these attributes can be at the channel level or at the granular level such as placement, format, or copy version. Reports allow end users to manipulate the model outputs to explore the data and glean insights.

- **The output from the model is applied to marketing processes.** Marketers and their agencies then use the insights and data from attribution analyses to inform their decision-making and serve as additional inputs to operational processes such as real-time bidding.

To help make all of this happen, marketers tap a variety of partners from attribution specialists and web analytics providers to agencies, marketing service providers (MSPs), data management platform (DMP) providers, and beyond (see Figure 2).

Attribution models require the marketer or its partners to identify a conversion event as the "dependent variable." A conversion event can be a transaction or a behavior (i.e., completing a quote request form). The "independent variables" in the attribution model are the marketing exposures weighted based on how much they contribute to the conversion event. Due to their access to conversion data, direct response and performance-based marketers have taken the lead in adopting attribution.[8] However, brand-focused marketers, despite often dealing with "softer" conversion data, can also employ attribution. When identifying conversion events in their attribution models, this segment of marketers will often use proxies such as content engagement, brand lift metrics, survey responses, and nonmonetary behaviors such as new user registrations.

The different flavors of attribution models fall into several categories (see Figure 3):

- **Simplistic.** At the base level, models that assign 100% of credit to a given contact or exposure (usually first or last event) are considered simplistic. These rudimentary approaches are still being practiced today even though few practitioners admit to believing in their value. According to a recent Forrester Research survey of interactive marketers, 30% of respondents indicated that they rely on a first or last interaction approach (see Figure 4).

> Forty-four percent of interactive marketers don't currently use any form of attribution to assign credit to contacts, channels, or partners. Thirty percent indicate that they use the first or last interaction approach to attribution.

- **Fractional: rules-based.** These models assign proportional credit

according to rules set by the marketer and its partners. Examples include even-weighted (each tracked event receives equal value), position-based (events are assigned weights based on where they occur in the customer path such as first/originating, middle/influencing, and last/closing), time decay (more recent events receive greater weights), and custom weights based on marketer preference or analysis. Thirty-four percent of survey respondents use either an even-weighted model or a customized rules-based attribution approach.

- **Fractional: algorithmic.** At the more sophisticated end of the spectrum are algorithmic models. These approaches rely on statistical methodologies such as regression to assign value. Eleven percent of survey respondents report using algorithmic attribution models.

Figure 2

A Range Of Partners And Providers Offer Attribution Services

"Who helps your company assign credit to your interactive marketing channels, contacts, or partners?" (Please select all that apply.)

We do this on our own	54%
Web analytics provider	30%
Agency	26%
Channel-specific provider	14%
Marketer service provider	11%
Pure-play attribution vendor	4%
Other	4%

Base: 267 Interactive Marketing executives

Source: Forrester Research Interactive Marketing Executive Panel Survey (Q2 2012)

Base: 267 interactive marketing executives; respondents selected all answers that apply

Source: Forrester Research Interactive Marketing Executive Panel Survey (Q2 2012)
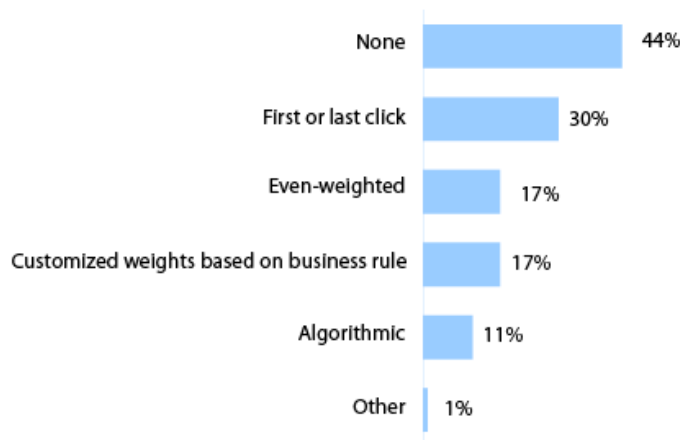

Figure 3

Attribution Approaches Span A Sophistication Spectrum

Source: A commissioned study conducted by Forrester Consulting on behalf of the Interactive Advertising Bureau, Q2 2012

Figure 4

Marketers Continue To Employ The First/Last Click Approach

Base: 267 interactive marketing executives; respondents selected all answers that apply

Source: Forrester Research Interactive Marketing Executive Panel survey (Q2 2012)

Challenges Confront The Adoption And Perceived Efficacy Of Attribution

If attribution can deliver compelling benefits to marketers and their agencies, then why has its adoption been relatively modest? Commonly cited obstacles include proving the case for incremental budget for measurement and insights, questions about the ROI of attribution, and technical implementation concerns, all of which are typical hurdles in today's business environment.[9] Practitioners we spoke with also highlighted additional challenges specific to attribution and the digital environment that will require help from forces external to a single marketing organization:

- **Cross-device attribution is a growing problem.** A customer's journey increasingly traverses more than one device. Thirty-eight percent of the US online adult population owns and uses at least three data-connected devices, accesses the Internet multiple times per day, and goes online from multiple physical locations — and that proportion will undoubtedly rise.[10] In the absence of reliable ways to track and measure marketing exposures at the user level across these devices, the full capacity of digital attribution is mainly limited to one form factor: the personal computer.

- **The "walled gardens" of social media obscure visibility into marketing performance.** In most cases, getting marketing data in and out of social media networks is significantly limited compared with other channels — or even nonexistent. Given the amount of time consumers spend using Facebook, Twitter, and other social media, this important channel represents a blind spot that complicates attribution.

- **A lack of consensus on the "right" fractional approach causes confusion.** Rules-based or algorithmic? Which one is best and why? Opinions of the attribution approaches remain unsettled in the marketplace (see Figure 5).[11] And while many of the quantitative experts we consulted with tend to support properly constructed algorithmic models as ultimately more sound, the general marketplace will require time to become comfortable with an advanced statistical methodology that helps to determine winners and losers. In the interim, the ongoing deliberations about attribution approaches, while not significantly detrimental, stall the speed of the practice's adoption. As one attribution executive put it: "There's no attribution approach that is 99.9% right, and it's not coming along. But an inability to measure *everything* is not an excuse for not trying. You can measure a lot even with basic [fractional] attribution, and there's a lot of improvement you *can* make."

  "The conversion path for any campaign is disjointed and happens across platforms. The more you move from one platform to another, depending on the flow of information between them, you lose it." (executive at a publisher)

Figure 5

Practitioners' Opinions Of Attribution Models Vary

Model approach	Supporters say it's . . .	Detractors say it's . . .
Simplistic (first /last event)	Still the standard, easy to explain	Misleading, blind to the effects of the majority of marketing events in the digital journey
Rules-based	Transparent, easy to explain, flexible	Subjective, based on intuition rather than rigor
Algorithmic	Statistically principled, objective and unbiased, "data sets the weights, not opinions"	Difficult to explain, opaque, subject to "dangerous math" that can create misleading outcomes

Source: A commissioned study conducted by Forrester Consulting on behalf of the Interactive Advertising Bureau, Q2 2012

ATTRIBUTION MUST KEEP UP WITH THE SHIFTING DIGITAL ECOSYSTEM TO REMAIN VIABLE

Moving forward, attribution practitioners we spoke to all agreed that adoption of attribution can only accelerate. As one agency executive noted: "Marketers will continue to adopt attribution because the need for accountability is paramount." Another said: "Attribution will become the expectation rather than the trendsetter. As digital's share of overall marketing rises, attribution will be more central to understanding how the pieces fit together." With attribution continuing its path to wider acceptance, we expect several trends to shape the practice:

- **Cross-device tracking and measurement won't meaningfully progress without a breakthrough.** An attribution vendor executive put it this way: "As fragmentation across devices and channels increases, it becomes harder to understand where the performance is coming from." So far, advancements in tracking marketing performance at the user level across devices have been minor. Attribution practitioners must wish for a major development that's also compliant with privacy requirements or get help with connecting the dots from platform operators such as Apple and Google. The former seems more realistic at this point, but a contribution from the platform operators could serve as the step change that cross-device tracking requires.

- **Social media "walled gardens" will open up for attribution — for their own good.** With social media providers under pressure to help marketers target users and to prove the value of those capabilities, it's in their best interest to facilitate the transfer of tracking and performance data to and from attribution systems. Said an analytics executive at a major agency: "Marketers are assessing the ROI of their social media efforts anyway, and mostly in the dark. If they don't like what they see, then they will downshift their spend on social. The social media firms really have no choice but to eventually work with the marketing community to figure out what's working and what's not. More accuracy and transparency could only be a good thing for both sides."

- **Marketers will increasingly push to compensate publishers based on attribution models.** Agencies have surfaced several examples of marketers paying publishers based on how they contribute value according to an attribution model. Aligning buyers and sellers in this process is not easy. But as more media buyers become confident in their attribution models, they will more frequently demand that publishers sign on to this compensation structure — or find themselves on the outside of media deals. As an executive at a service provider noted: "The smart buyers are already rewarding sellers of valuable inventory by re-upping. Using attribution to bring more science to that process is the natural extension." On the flip side, publishers must pursue the opportunity to use attribution data to help map the right inventory to the right buyer.

- **Optimization will become more tightly integrated with media buying and execution.** Today, most attribution practitioners indicated that they pass optimized recommendations to media buying or digital marketing partners for further refinement and execution in steps that require human intervention. In the future, we fully expect that as marketers and their agencies develop a more confident cadence with their attribution systems, digital media and marketing communications recommendations will flow to execution partners in a more closed-loop, "lights out" manner, particularly in the case of programmatic media buying and search marketing.[12] Said one agency executive: "The buying process still needs people. Yet as we get better at attribution and optimization and develop the right checks and balances, I could easily see elements of a media plan executed in a much more automated and efficient way."

- **Channel planning will make way for segment planning.** The holy grail of attribution is to understand what marketing exposures and strategies drive outcomes across a customer's life cycle, which often includes multiple conversions over time. As attribution matures, practitioners will focus less on optimizing their campaigns and channel mix against episodic but disconnected conversions. Instead, they will seek to maximize lifetime value (LTV) for customer segments and adjust their efforts against that objective.

Appendix A: Methodology

In this study, Forrester interviewed 15 agencies, service providers, and publishers based in the US to evaluate the state of digital attribution. Participants included individuals in analytical, planning, or revenue supporting roles. Questions asked included the definition, benefits, and challenges of attribution; attribution methodologies used; and the challenges and future of attribution. The study began in May 2012 and was completed in June 2012.

Appendix B: Supplemental Material

Related Forrester Research

"Making The Case For Interactive Attribution In Your Organization," by Ari Osur with Emily Riley and Elizabeth Komar, Forrester Research, Inc., May 24, 2012

"The Forrester Wave™: Interactive Attribution Vendors, Q2 2012," by Ari Osur with Emily Riley, Tina Moffett, Sarah Glass, and Elizabeth Komar, Forrester Research, Inc., April 30, 2012

Appendix C: Endnotes

[1] Forrester Research defines marketing mix modeling as the process of using statistical analysis to estimate, optimize, and predict the impact of paid, owned, and earned multichannel marketing tactics on future business revenue or any other key metric. Media mix modeling is similarly defined, except it focuses only on paid media's effect on key performance indicators (KPIs). See "Marketing Mix Modeling Landscape Overview," May 18, 2011, Forrester Research, Inc.

[2] In addition to providing more precise measurement, digital marketing also sought to one-up traditional marketing channels in terms of the ability to target specific segments and even individuals.

[3] This definition is adapted from "The Forrester Wave™: Interactive Attribution Vendors, Q2 2012," April 30, 2012, Forrester Research, Inc.

[4] Forrester Research Interactive Marketing Executive Panel Survey, Q2 2012

[5] What's the return-on-investment for spending on attribution? Marketers tend to look at improvements in media efficiencies and overall improvements in marketing performance as gauges to measure the ROI for attribution. In our research, marketers have cited improvements in digital media efficiencies from 15% to more than 30% in the first year, mostly due to finding and eliminating waste in media plans. For more about the benefits and ROI of attribution, see "Making The Case For Interactive Attribution In Your Organization," Forrester Research, Inc., May 24, 2012.

[6] Attribution works best when marketing performance across the full customer path is ingested and analyzed — and marketers are best situated to have access to that scope of information. Publishers rarely have that level of visibility into a marketer's data.

[7] Not all publishers are universally positive about attribution. As an executive at an attribution firm explained: "Depending on what model our advertisers use it's a very different evaluation; that's why some publishers aren't crazy about attribution. They are being judged on it and have no control. It's like getting ready for a test that is graded on criteria you can't prep for."

[8] Direct response and performance-based marketers have also tended to naturally gravitate toward using attribution because of their focus on optimizing marketing efforts based on response data.

[9] For more about the common obstacles that get in the way of implementing attribution within an organization, see "Making The Case For Interactive Attribution In Your Organization," Forrester Research, Inc., May 24, 2012.

[10] For more about the "Always Addressable Customer" segment, see http://blogs.forrester.com/melissa_parrish/12-05-09-engaging_your_ultra_connected_customers.

[11] In addition to debates over rules-based compared with algorithmic approaches, service providers and practitioners are also crossing swords over other attribution-related topics like causation vs. correlation and viewable impressions vs. total impressions. This paper does not specifically address the specifics of these debates, but information about these topics is available through organizations such as the IAB and Forrester.

[12] For more about programmatic media buying, see "The Future Of Digital Media Buying," Forrester Research, Inc., September 21, 2011.