2014 ARF DAVID OGILVY AWARDS

TITLE OF CASE STUDY: **ART.COM: "FIND YOUR ART. LOVE YOUR SPACE."**

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Synopsis

From 2012 to 2014 Art.com launched a series of visually stunning, immersive, television commercials, and deployed a range of new advertising research methods which have only recently been reported in the literature. This case study recounts what can be accomplished when great art and great science come together.

Campaign Summary

Art.com is the world's leading online destination for experiencing and buying high-quality wall art. Offering the largest selection of handpicked art images, as well as custom framing, specialty printing, and interactive visualization tools, Art.com helps everyone explore, experiment with and express themselves through artwork—and have fun doing it. In 2012 Art.com launched a series of visually stunning television commercials that were designed to capture the magic, beauty and experience of great works of art. Art.com ran in-market television experimental designs prior to deploying the ads, and segmentation analyses to determine the optimal clusters to target. Art.com also used new set top box algorithms to target high probability buyers, and web response techniques that have only recently been reported in the literature. This work enabled Art.com to make the transition from an online retailer to a household name, reach into a whole new pool of customers, create a measurable and on-going revenue impact, and all in a highly innovative campaign that combined great science and great art.

Background

Art.com Inc. is a privately held company headquartered in Emeryville, CA near San Francisco and founded in 1998. The company aims to be the world's leading authority in wall décor. Art.com is a new breed of dot com company that enables customers to interactively search about 1.7 million pieces of art-work using their iPad, laptop, or mobile device. Using its factory, Art.com then manufactures custom made-to-order framing, specialty printing, in just-in-time fashion, and delivers their artwork for mounting in the home. Art offers every style of art work conceivable.

Selecting art is a highly visual and personal experience. Like high fashion, making the leap from an in-store experience, to a wholly on-line experience, with a factory-made-to-order product, has been both disruptive and challenging. However Art.com has made the leap and is the largest company of its kind with about 600 employees.

Art.com also shares its success and gives back to its community with a variety of outreach programs. Its "Art Sparks" program gave away artwork and supplies to schools (http://www.art.com/artevent/) and was covered by several news outlets. Art.com also runs a "Meet the Artists" series in which up-and-coming artists are show-cased on its website and with video pieces (http://www.art.com/~/new-artists).

Business Problem

In 2012 Art.com faced the challenge of how to grow its business given its traditional roots as a dot com company, and differentiate itself from other lower quality competitors. Art.com also wanted to find a way to tap into new markets of consumers who would be interested in its products.

Creative development

Art.com began work on revitalizing its brand, including:

1. Creating branding that emphasized the value and experience of Art, and Art.com as the way for people to easily access the world's artwork. (example) (Figures 12a-12b, 13a).
2. Creating materials that emphasized the workmanship and quality of its custom, made-to-order product (craftsmanship video) to differentiate it from other companies (Figure 13b).

A major part of Art.com's strategy was the launch of national television advertisements for the first time ever. This was a big step for what had previously been an online only company.

"Anthem" was the first in a series of television ads designed for US networks, and was a visually stunning piece which transported the viewer into 5 famous artworks. The commercial used innovative three dimensional renderings as it immersed the viewer in the art-work. This not only show-cased the

art, but also captured the fantasy, magic and beauty of great artwork in the home. The commercial was accompanied by music from the critically acclaimed, modern Glassnote Records recording artist, Oberhofer (Figures 3-6).

"Anthem" was followed by "Re-decorate" and "Moving In" (Figures 8-9 and 10-11). These pieces showed the product in more detail, beginning with a laptop search, and leading to delightful moments as art adorned a home. A little girl plays with Muybridge's kittens, and is swung joyously into the air with Magritte's 3D clouds. Sanchez's bright colors light a room, and other creative pieces come to life and fill their spaces. These television commercials leveraged the power of video in order to capture the experience and joy of great artwork, whilst all at the same time focusing on the artwork itself which is at the heart of what Art.com is providing.

Segmentation

The scientific part of Art.com's campaign was also critical. Art.com firstly needed to know to whom to advertise. In order to determine who the buyers of Art.com were, over 200,000 customers from 2010-2012 were enriched with demographics from Acxiom corporation. These customers were then statistically clustered using the K-Means algorithm (MacQueen, 1967). The average for the population was female and 34, although the population separated into two clusters (Figure 14):

(a) Young, tech-savvy, females (26 – 35) who just got married and were moving into a house or had just moved into a house. The probability of having just bought a house in the past 3 years was 360% greater, and probability of being a newlywed was 300% higher than the US population. (Figure 14).

(b) Middle-aged, high-income, females (55 – 64) who's adult age children had moved out, and they now had the time and disposable income to re-decorate their houses. Move-in events also were strong triggers for purchases in this group also, although it was lower at about 190% above US population. We ascertained that move-in events were triggers for interest in art.com products regardless of demographics (232% above population mean).

"Re-decorate" and "Moving In" targeted each of these two clusters. "Moving In" captured the clear high lift of buyers who were selecting art-work after moving into a new house (360% greater than US population). "Re-decorate" captured the second cluster in which an established couple decided to re-decorate their household (Figure 14).

In-Market Television Testing and Set Top Box Ad Targeting

In order to determine how to effectively run national television, Art.com executed a series of television tests using local in-market experimental designs.

1. Effect of television commercials via in-market testing:
    a. Art.com ran television ads against women 25-54 in 8 geographies between July 2012 and August 2012 (Figure 18).
    b. This experiment showed that the Art.com commercials would produce a prolonged lift: whatever initial lift was generated, would be multiplied by 3.5x after cessation of the television ads by the 6 month mark, based on observed elevated sales in treatment areas that were exposed to the TV ads (Figure 19).
2. Effect of Targeting via in-market testing:
    a. Art.com ran two additional test cells between February 12 and March 4 2013, to further increase the impact of the TV campaign. They measured (a) targeting against women 25-54 (control) and (b) targeting Art.com buyer clusters as described in the above k-means segmentation method. This used a new method that uses set top box data to identify the highest buyer per million programs to target (Kitts, et. al., 2013a, 2013b)
    b. This revealed that 77% more orders would be generated by focusing on high probability buyers, further increasing TV impact (Figure 22 and 23)

Using the data collected in the treatment-control design, Art.com produced analytical model for orders per targeted television impression, and then designed their national campaign in order to achieve their demand and profitability goals.

Starting in April 2013, Art.com went to about 70 television Gross Rating Impression Points (GRPs) on national television using the experimentally tested targeting solution above. Art.com immediately began to measure a lift in sales, with a one week peak lift due to television of 60%. We will provide more details on the business impact below.

Web Response Measurement from Television Advertising

As a “pure play” web e-retailer, traffic to Art.com’s web site is its life blood. Yet television remains an elusive medium for the web, since the standard methods used in online advertising to measure ad effectiveness such as clickthroughs and conversions, just aren’t available for television.

However some new results were showing that it may be possible to detect TV effects on the web; specifically using a phenomenon reported in the *Journal of Advertising Research* (*JAR*) in 2010 by Zigmond and Stipp. These authors reported that viewers were increasingly watching TV with an internet connected device. When they saw an ad, many of them were then navigating to the website to check out the product. This behavior was producing robust, measurable spikes in web search queries precisely correlated to TV broadcasts (Zigmond and Stipp, 2010) – and is an effect that seemed to be growing.

Could this effect be used in a real television campaign for a more typical advertiser and on their own website activity? Art.com set out to harness this new effect. They were able to measure web responses within 30 seconds of their television advertisement, and effectively calculate lift immediately before and after TV broadcasts (Figure 27):

$$W_{NoTV}(T,G) = \begin{cases} \frac{1}{y}\sum_{t=1}^{y} W(T-t,G) : if \sum_{t=1}^{z} I(T-t,G) = 0 \\ UNDEF: otherwise \end{cases}$$

$$\Delta W(I(T)) = W(T,G) - W_{NoTV}(T-1,G)$$

Where *T* is a time bucket, and *G* is a geography, *I*(*T*) are impressions that occurred in time bucket *T*.

In order to tease out the TV activity that were lurking within the web traffic, it was necessary to clean up the web spike due to TV by applying some filters to the traffic (Figures 24, 25, 26a, 26b, 27). These filters included:

- New visitors: Visitors who have been assigned a cookie for the first time. This eliminates traffic that has visited the site before (Figure 25).
- Homepage requests: Visitors who are requesting the homepage are also more likely to be those who are navigating to the site for the first time in response to an advertisement.
- NULL Referrer or Direct-to-site requests: Requests with NULL Referrer are requests where the person is not known to have navigated from a search engine, deep link, or another method. This is often people who have directly typed the URL into their web browser to access the site for the first time.
- Mobile or Table useragents: Requests with a mobile or tablet user agent string have a much greater response to television ads.
- Robots and Spiders list filtration: Bot filtration, such as using the IAB Robots and spiders list, was also needed to remove bots from the web traffic (Figure 26a).

The result were very clean spikes that were able to be used to measure TV effectiveness (Figure 27) and attribute to television airings. As a result of this new kind of measurement, Art.com were able to optimize their television campaign in real-time based on live feedback:

1. **Media Impact**: Based on web spike analysis, Art.com shifted targeting to more daytime programming (Figure 28a).
2. **Real-time Creative:** Art.com also measured that “Re-decorating” performed about 8% better than “Anthem” per targeted impression and controlling for placement differences. This helped Art.com to verify that “Re-decorating” could be maintained in May and June as year over year lift started to really increase (Figure 28b).

Business Results

Art.com performed multiple measurements of the lift of their advertising campaign:

1. **In-Market measurement of treatment versus control:** In-market measurements (in Seattle and Detroit) in which sales lift was compared to matched control geographies, suggested 14.1% lift due to television ads (Figure 23).
2. **Homepage activity:** Art.com were also able to use homepage activity as a proxy for television referred traffic by filtering the traffic to new visitors, null referrers, and mobile user agents. This resulted in an estimate of 14.2% lift (Figure 22).
3. **Art.com vs AllPosters:** This is probably one of the clearest methods. Art.com also owns a property called "AllPosters". Both sites receive traffic, however Art.com decided to concentrate their marketing activities on Art.com. This presented a unique situation in which Art.com was able to use AllPosters as an A/B test web site which wasn't being advertised using television commercials, versus Art.com which was being called out in TV ads. There was a 14% spread between the performance of Art and AllPosters which is right in line with the other estimates for the effect of the TV campaign.

Based on the multiple methods above, Art.com estimated about 13.6% lift per week due to advertising from March 11 through June 24 2013. In addition, residual lift was measured through to the end of year of approximately another 13% per week.

Year-over-year business metrics for the same months of March to June also revealed major increases for Art.com:

- Net Sales increased by about 20% due to TV.
- New Customers increased by 25% due to TV. Indeed this increase ramped up as the television campaign progressed, so that by the final month new customers were up 36% (Figure 32).
- All sales metrics including Orders with daily deals, Catalog orders, Non-refunded orders, increased by over 20% due to TV

Un-aided National Brand awareness increased by 29% at the conclusion of TV.

As a result of this work, Art.com were able to run an innovative national campaign with multiple creatives, significantly increase their customer base, measure profitability and exploit long-term effects of television that are otherwise impossible to see without well-controlled experimental designs.

Art.com is a pre-IPO company, and have requested that we not disclose their profitability numbers from this campaign, however they ran a superbly executed campaign, with beautiful creative, and designed to maximize lift and impact by hitting only Art.com customers in a completely new and virtually untapped population. This work has enabled Art.com to transition from being an innovative dot com that is primarily discovered on search engines, to a company that people know and talk about. In addition the company executed a television campaign which hit real revenue targets and did so using a variety of extremely new techniques: set top box targeting and web response measurement.

	eTailer	Pure-play dot com e-retailer, which uses a factory to build and ship art-work.
	Creative Agency	Developed the Art.com television commercials
	Research and Media Agency	Used STB data to target TV media, placed media buy, ran in-market ROI measurement, web-response measurement, and BPM measurement

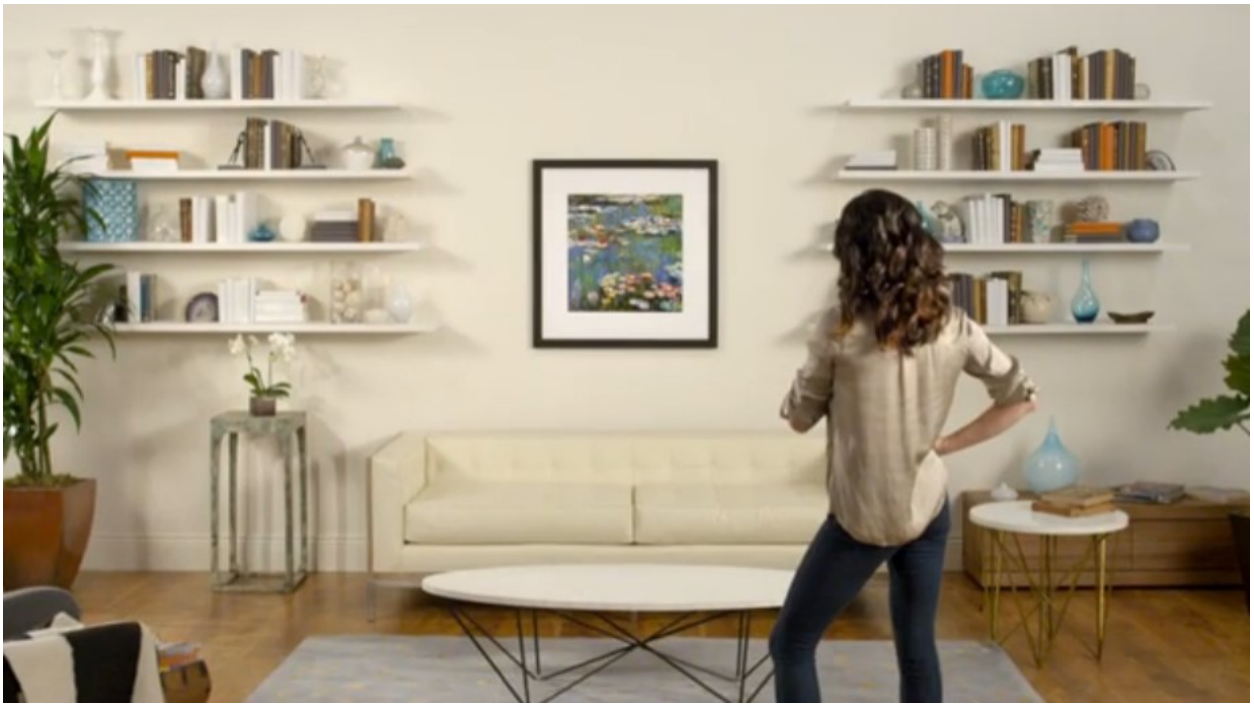

Figure 3: “Anthem” Art.com television commercial begins with a home owner contemplating a painting. The camera travels into the painting.

Figure 4: The painting which “Anthem” transports the viewer into is Claude Monet’s famous painting “Bridge over a Pond of Water Lilies”. The viewer moves three-dimensionally within and through the painting.

Figure 5: “Anthem” continues by transporting the viewer in three dimensions into the “The Singing Butler”, the lovely work by Jack Vettriano for which ballroom dancers and romantics everywhere appreciate.

Figure 6: We find ourselves inside the famous photograph “V-J Day in Times Square”, photographed by Alfred Eisenstaedt. Art.com’s brand logo is elegantly worked into each of the experiences.

Figure 8: “Moving In”, the second Art.com television commercial, starts with a lady searching for art work, explaining both the problem which Art.com solves, as well as providing a visual example of how the service works.

Figure 9: “Moving In” features famous paintings that come to life and fill the room. The little girl plays with Muybridge’s Cats, and is joyously swirled in the air with Magritte’s clouds and birds.

Figure 10: “Re-decorating” Art.com’s third television commercial, focused on a story of a couple re-decorating and was associated with cluster NC-3C which was identified in Art.com’s population as people with the time and interest to improve their homes. Sanchez’s bright colors and Klimt’s trees fill the room.

Figure 11: “Re-decorate” Art.com television commercial.

Figure 12a: Art.com television commercials end with the above screen showing the brand.

Figure 12b: Snippets from Art.com's web page. Art.com designed its website in coordination with its television advertisements to capture the experience of great art, and to also instill a brand appreciation and affinity with Art.com.

Figure 13a: Images from Art.com's web page

Figure 13b: Art.com video showing its factory and craftsmen. Several videos were produced emphasizing the quality of Art.com's made-to-order product, and explaining how it is created and shipped to customers.

Cluster NC-3A

Key	% of population	lift vs population	count
Gender=Female	100%	1.1	163,669
Age=26-35	47%	3.1	76,904
Age=36-45	39%	1.2	63,550
Estimated Household Income=$75-125K	38%	0.5	53,742
Estimated Household Income=$50-75K	33%	0.2	46,396
Home Purchase Year=Home Purchased Between 2010-2014	13%	3.6	12,706
Marital Status=Single	46%	0.4	69,509
Arts and Antiques=True	69%	3.6	113,427
Antique Collectibles=TRUE	71%	2.4	116,275
Arts=True	71%	1.9	117,329
New Parent - Child Less than 6 Months=New Parent - 6 Months or Less	1%	0.8	2,132
Occupation=Student	5%	4.5	5,177
Newlywed=True	1%	3.4	1,926

Cluster NC-3C

Key	% of population	lift vs population	count
Gender=Female	100.0%	1.05	148,810
Age=56-65	46.8%	1.08	61,299
Age=46-55	31.3%	0.33	40,961
Estimated Household Income=$75-125K	39.4%	0.56	50,761
Home Purchase Year=Home Purchased Between 2010-2014	8.6%	1.99	8,417
Education=Completed Graduate School	22.5%	0.32	24,227
Arts and Antiques=TRUE	63.1%	3.24	114,112
Antique Collectibles=TRUE	65.8%	2.12	118,979
Arts=TRUE	66.7%	1.71	120,599
Number of Children=No Children	74.3%	0.17	134,154
Newlywed=True	0.1%	-0.62	184

Figure 14: Two principal clusters identified in Art.com's population as identified by the K-Means algorithm (MacQueen, 1967)

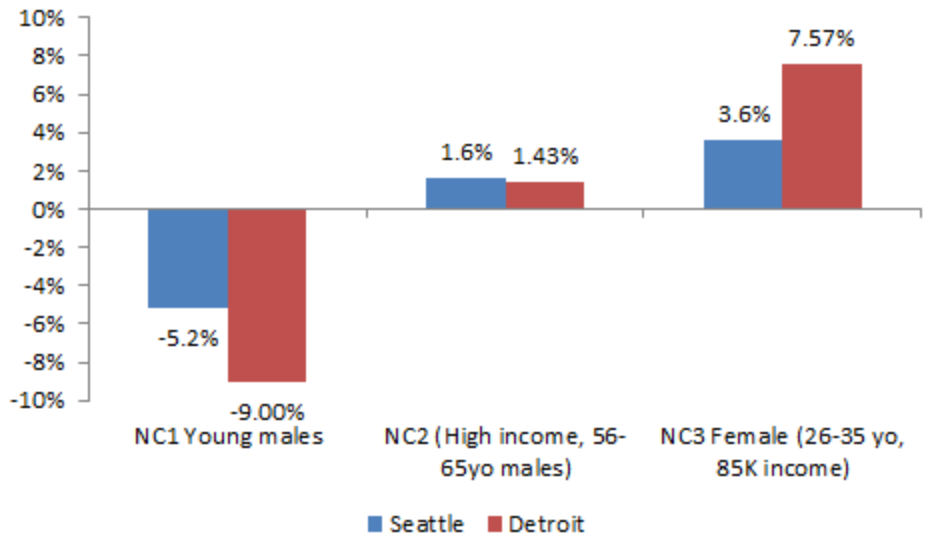

Figure 14b: Cluster 3 has highest response rate to advertising. In order to better target, we had to break Cluster 3 into sub-clusters. Those are shown in figure 15.

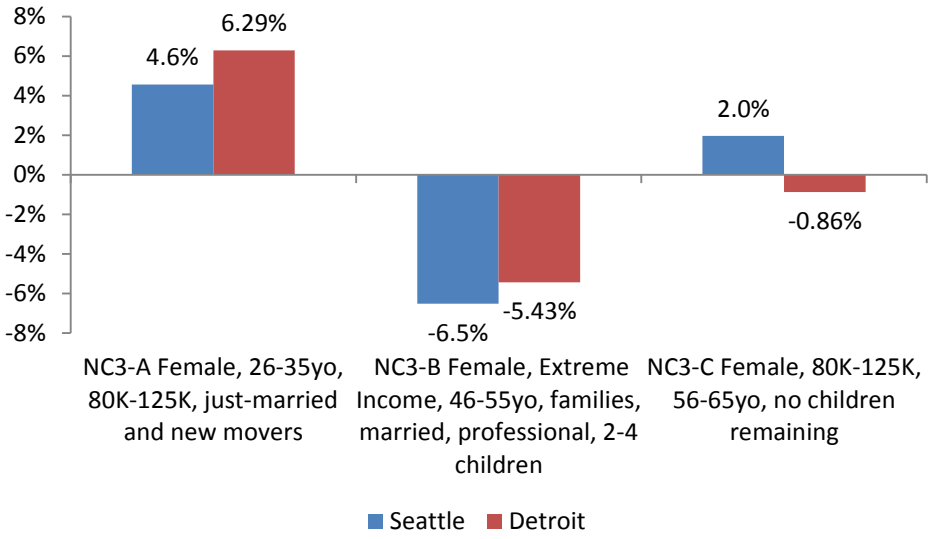

Figure 15: Cluster response to television ads. Highest response was noted in NC3A (young females) and NC3C (post-family females). Working professionals tended not to respond to the television ads.

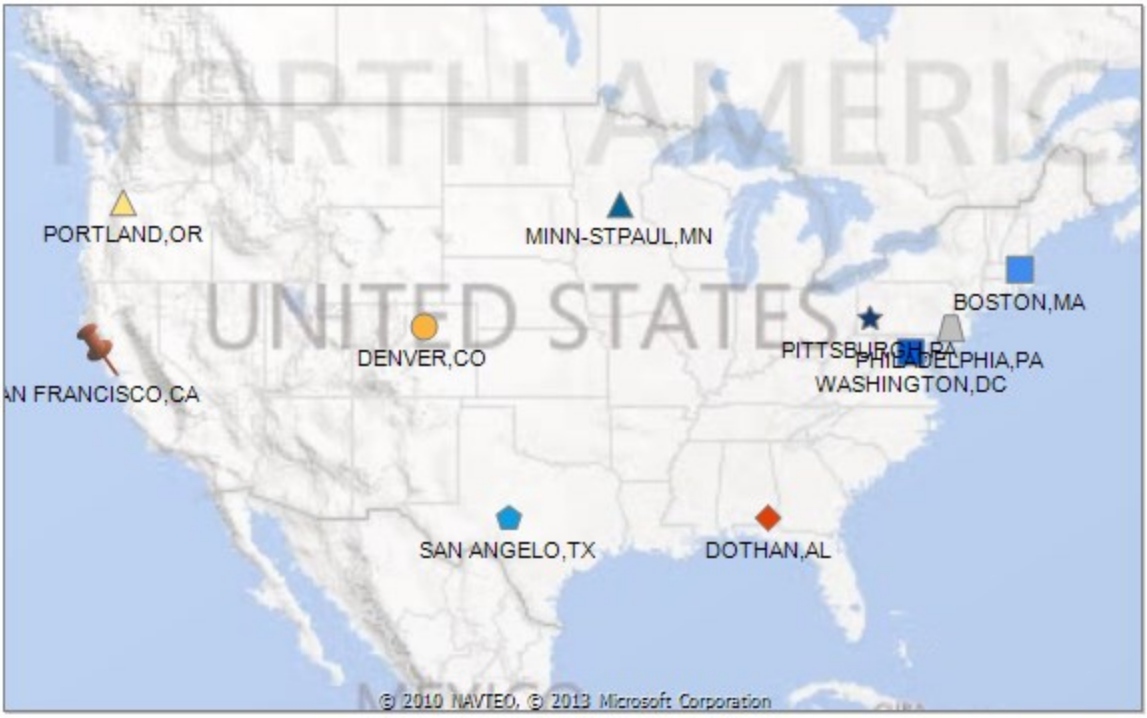

Figure: Treatment geographic markets for July 2012 experimental cells used for television testing

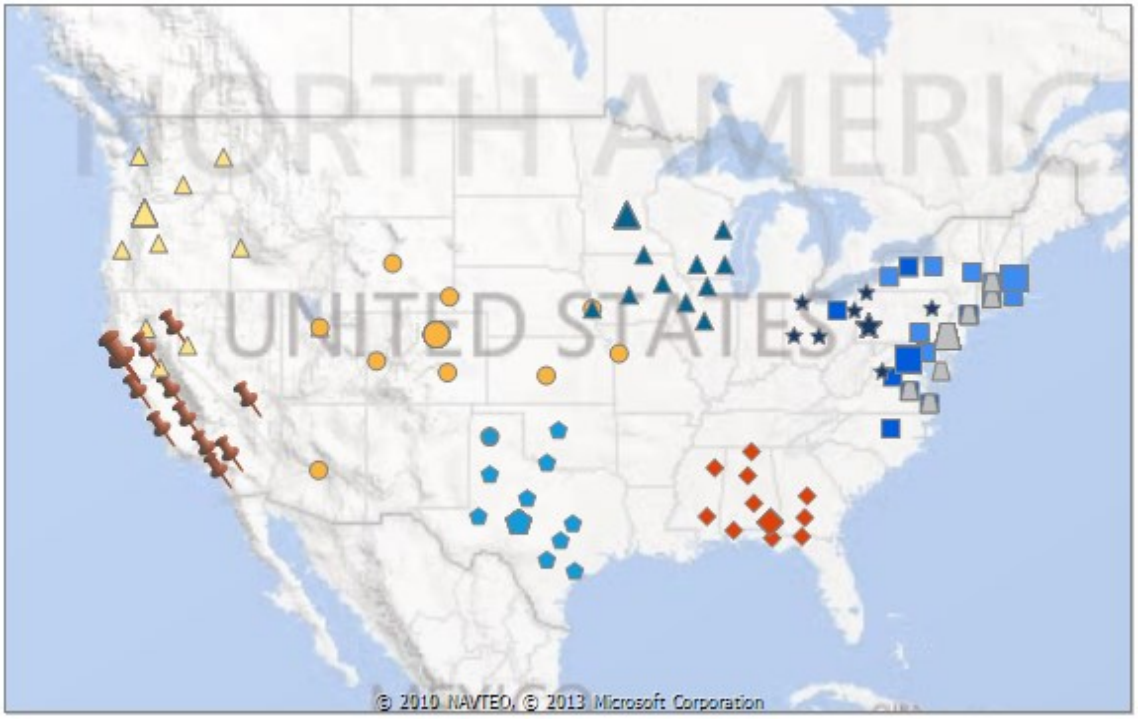

Figure: Matched Control markets for July 2012 Experimental cells

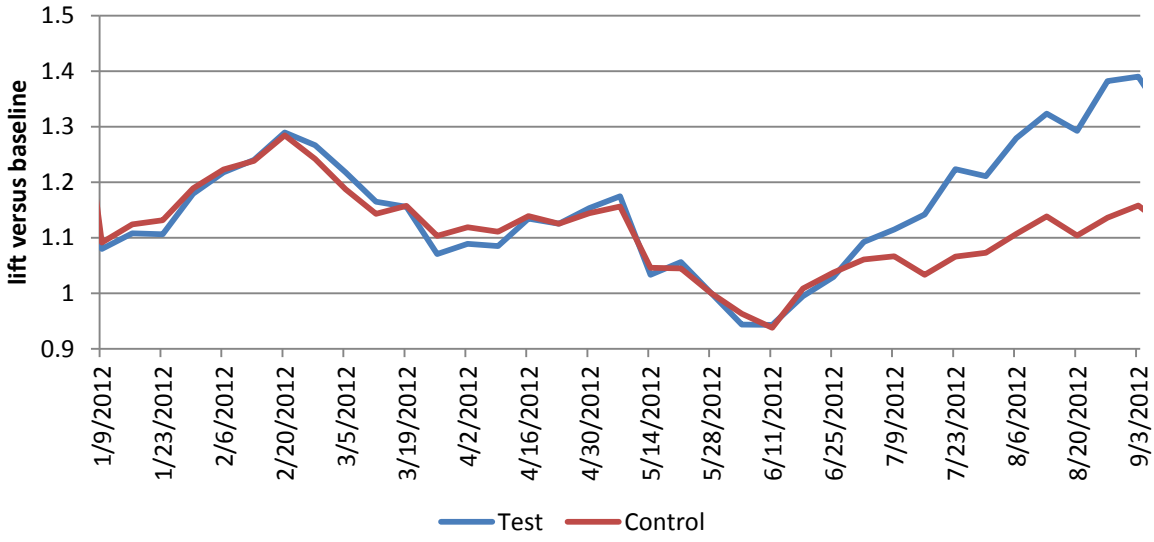

Figure 18: In-Market Television experiment in July 2012 enabled Art.com to measure the lift from television on orders along with interactions with print and digital. One of the major findings was that television produced a prolonged lift in sales in treated areas (Figure 19).

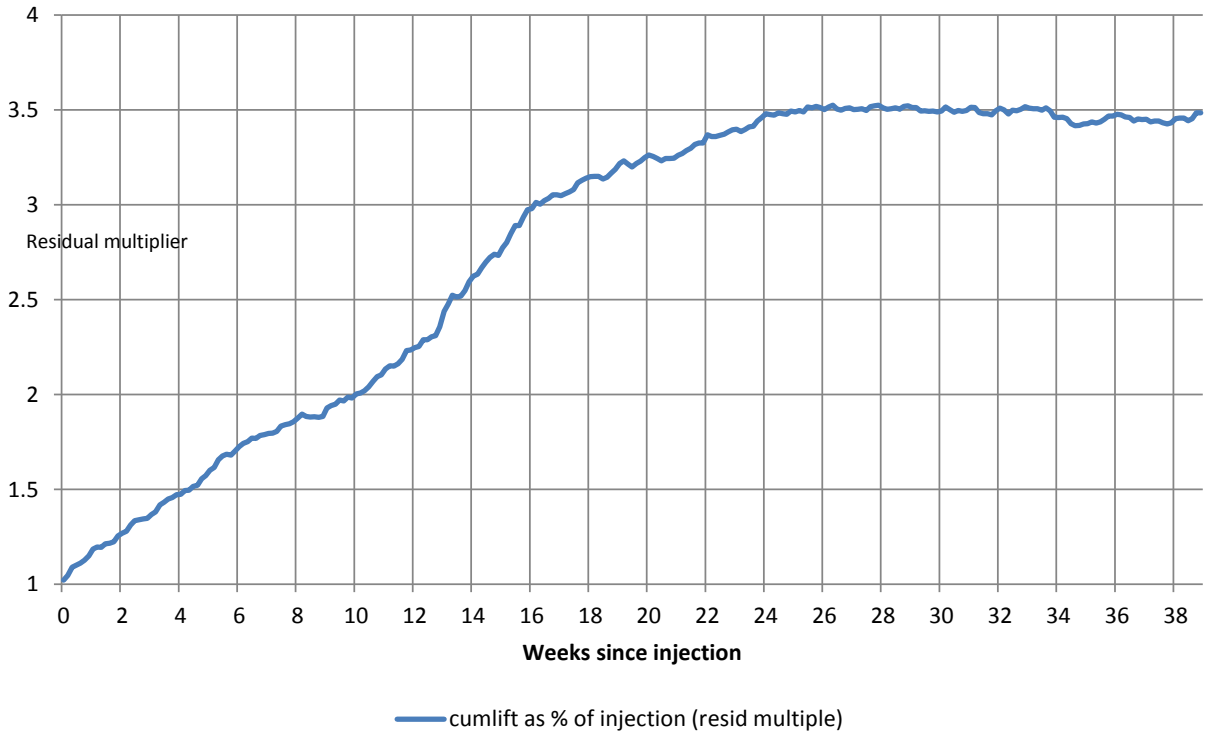

Figure 19: Cumulative lift from television campaign after the cessation of the television campaign. A lift of 2 after 10 weeks means that the lift initially generated during the TV campaign needs to be doubled to reach the total lift generated by week 10. In general, Art.com was able to observe a 3.5x multiple in sales after 6 months, as measured by in-market experiments after the cessation of TV ads.

User Agent	Mean days to convert from first visit
Desktop	29.71
Mobile	25.19
Tablet	41.40

Figure 20: On average it took customers 30 days to convert after reaching the art.com website for the first time. This was more evidence that conversions were significantly delayed, and in fact much of the effect of TV was observed weeks and months after advertising. These delays were causing very long "residual lift" from television campaigns.

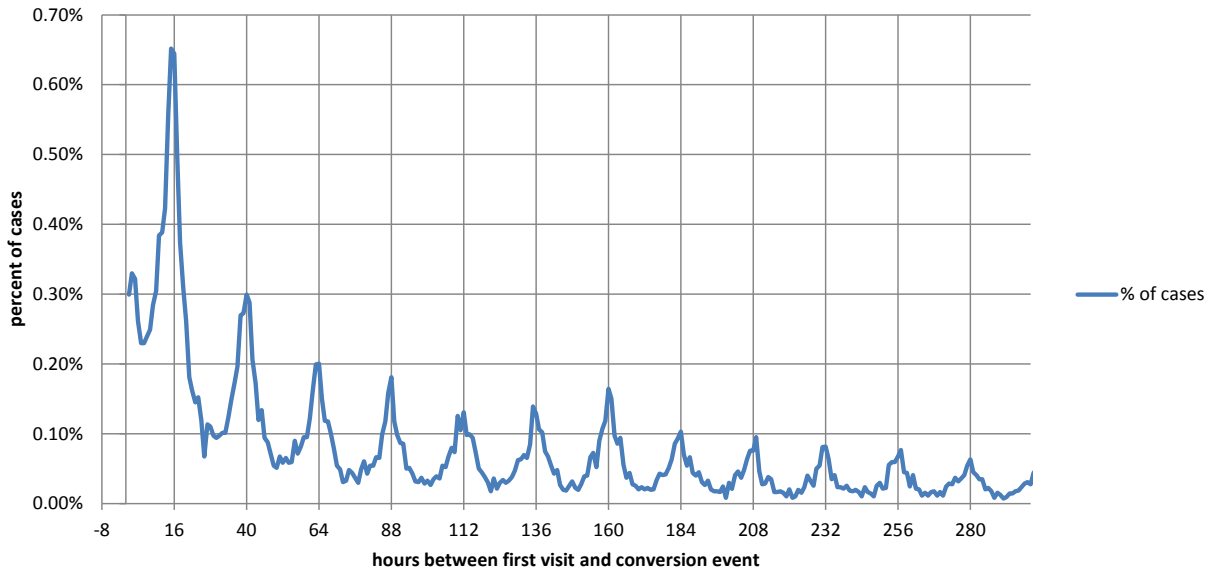

Figure 21: Hours between first visit and conversion. There is (a) a peak 0-4 hours after encountering the website, and again (b) a peak in conversions exactly 16 hours after the first encounter with the website, which may indicate converting after a good night's sleep (perhaps!). Then there is a peak at 24 hours shifted from the 16 hour peak each day, with peak again on the same day they initially searched.

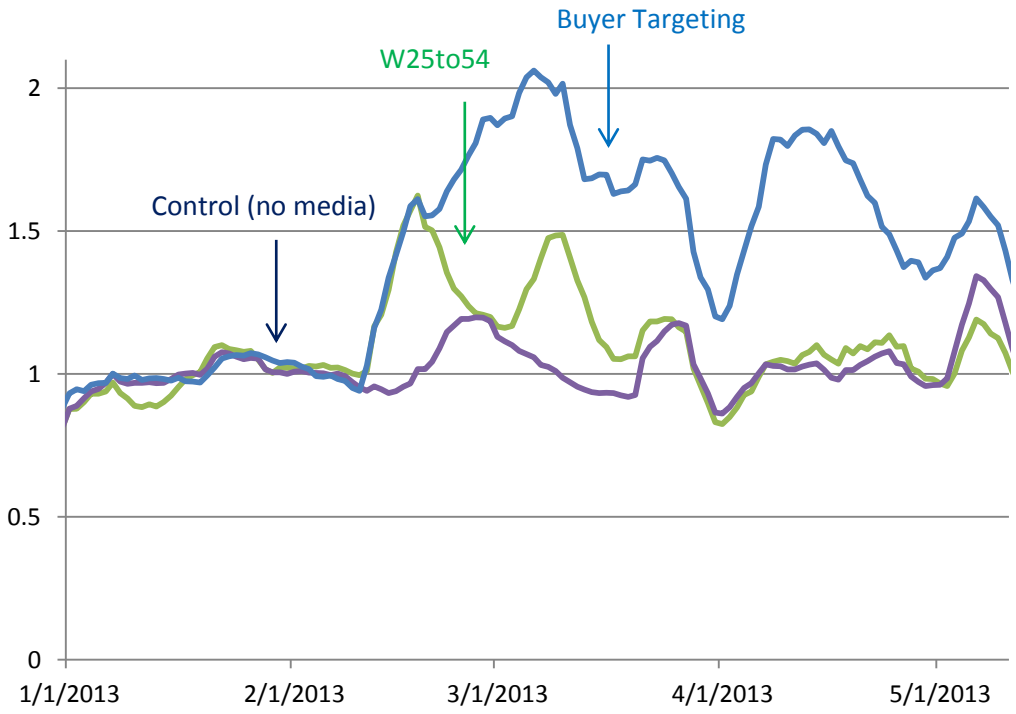

Figure 22: In-Market Experiment performed in 2013. The timeseries shows lift in homepage visits for areas that were exposed to (a) set top box-targeted media, (b) W25to54 media, and (c) control (no media). Targeted media produced much stronger web activity than the W25to54 media.

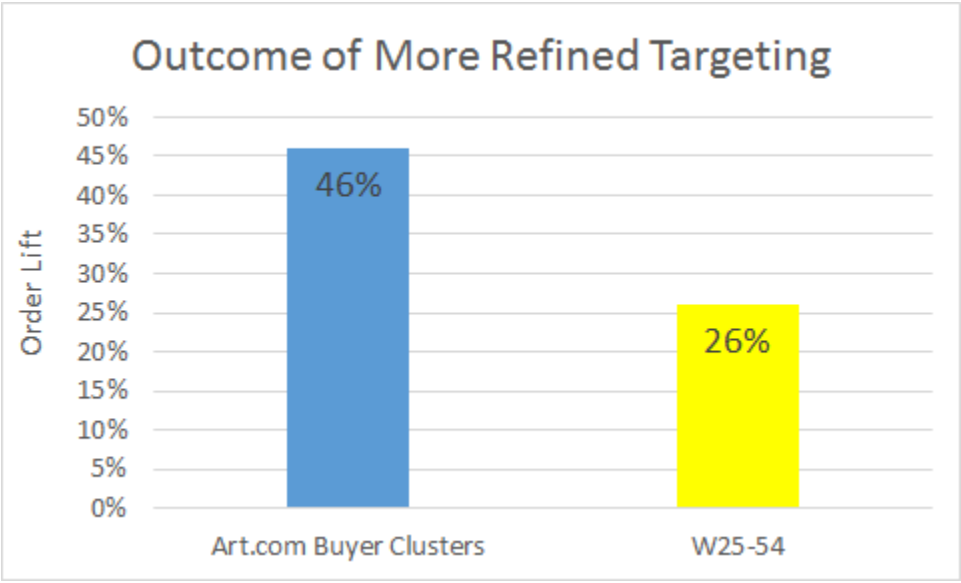

Figure 23: In-Market test showing impact on orders. Targeting Art.com buyers using set top box targeting methods resulted in a lift of 46% compared to 26% for women 25 to 54. This enabled Art.com to increase the effectiveness of their television campaign by going after programming that had heavy concentrations of their target buyers (eg. women who had just gotten married or were high income empty nesters), rather than just programs that had female viewers.

Web Metric combination	R^2	% of web traffic meeting criteria
new visitors	0.00065	100%
new visitors + home page	0.00323	35%
new visitors + home page + DirectToSite	0.02973	20%
new visitors + home page + directtosite + mobileortablet	0.1316	5%

Figure 25: Filters needed to clean up the web traffic, and be able to measure web response due to television broadcasts.

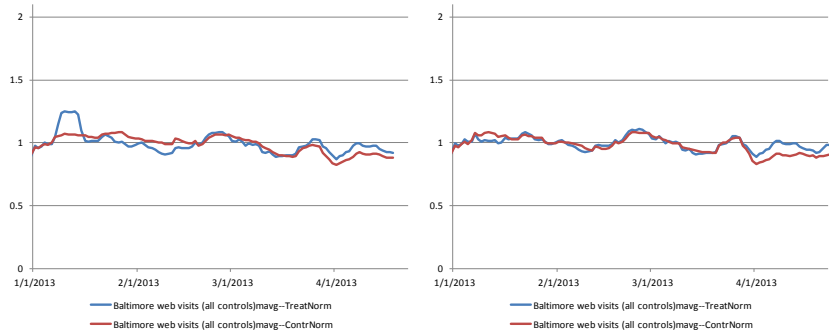

Figure 26a: Bot removal was one of the main difficulties of the web-spike analysis. (Left) shows data prior to bot removal. (Right) shows after.

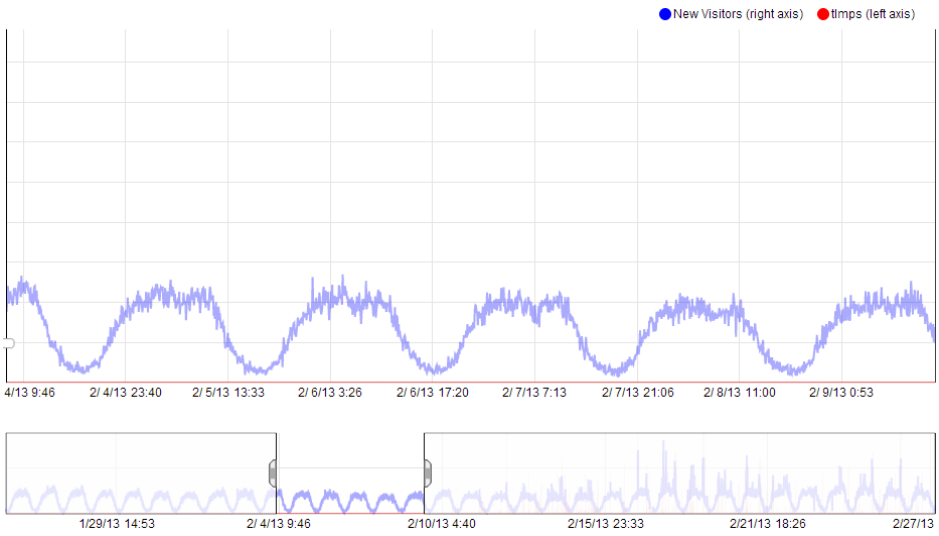

Figure 26b: Art.com web activity prior to the start of television commercials. Note that looking ahead, one can observe a lot of large spikes.

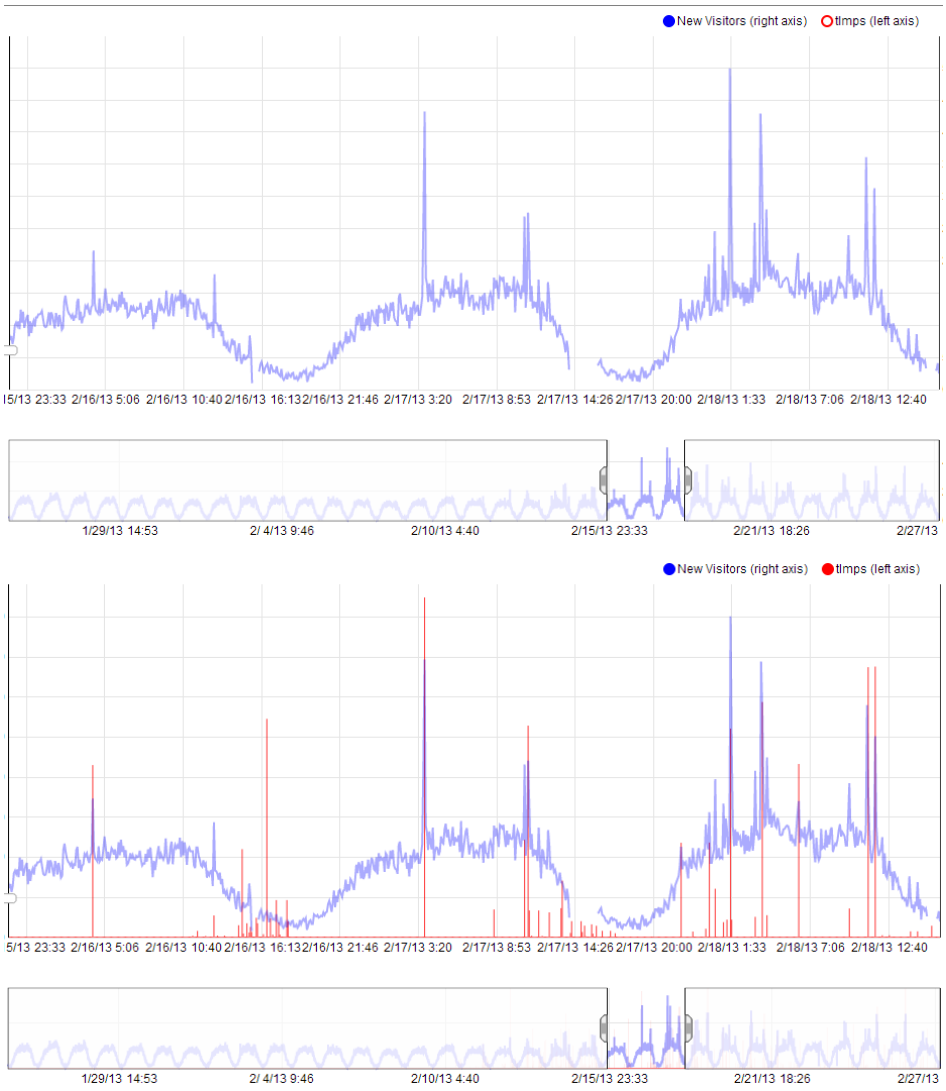

Figure 27: Web Response due to TV ads (above) web activity (bottom) web activity + targeted television impressions. TV impressions line up with the web spikes.

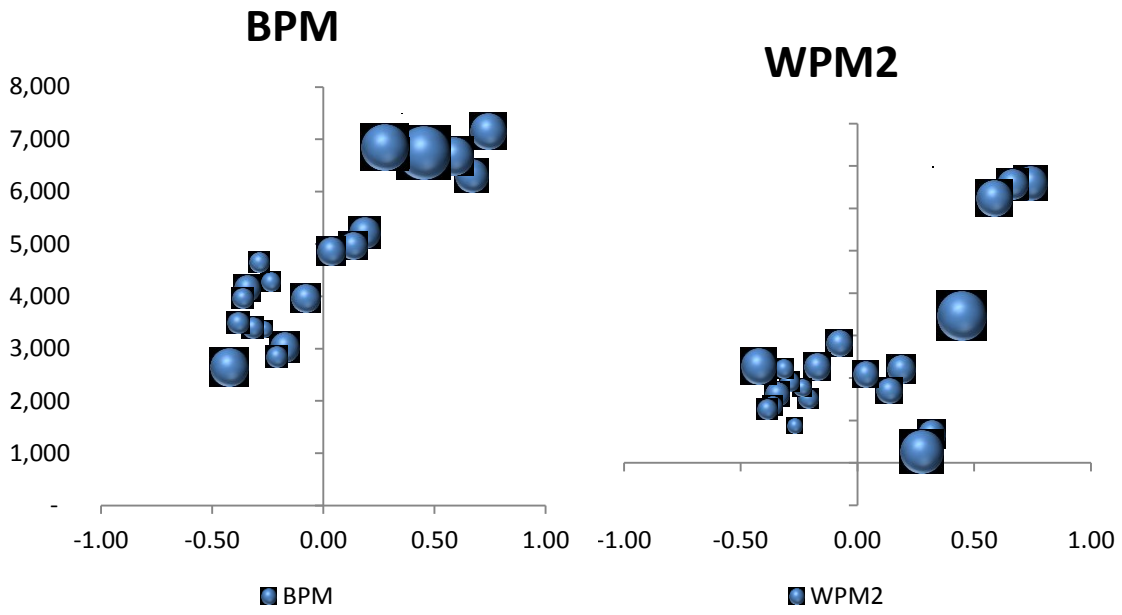

Figure 28a: x-axis is targeting score, (left) y-axis is Buyers Per Million (BPM) who viewed the Art.com advertisement. (right) y-axis is the change in web measure per million impressions observed after the broadcast. The web response to TV is correlated with BPM.

Row Labels	Web measure per MM timps	Web measure per MM imps
Creative A	2,290	373.8848046
Creative B	2,120	333.7251657
Grand Total	8.02%	12.03%

Figure 28b: We were able to measure “Redecorate” versus “Anthem” by finding the same station-day-hour of the ad airing, and then measuring the difference in web spike response (visits per million targeted impressions). This enabled us to adjust the creative mix to better effect.

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