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White Paper Report

“Sometimes, an Impression doesn’t make any Impression”

Analysis of actual online ad impressions that appear within the viewable computer screen area vs. non-viewable per recently MRC-accredited viewable impression technology, which shows only 6% to 56% of campaign impressions are viewable.

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I. Executive Summary

Based on research conducted via recently MRC-accredited technology, the online media industry is now able to know with certainty which online advertisements actually appear in a viewable area of a consumer's computer screen. And conversely, which ads are never viewable, due to a variety of reasons.

Based on an analysis of three different campaigns by three separate advertisers, it appears that **viewable impressions were never more than 56% and could be as low as a shocking 6% on an individual campaign basis** versus ad requests.

Obviously, an impression that doesn't appear in the viewable area of the screen will not leave any impression with consumers. Therefore, those un-viewable impressions have no value. Additionally, it appears from the data that each site has a different percentage of viewable ads. Even each site section is different, and each ad unit has a different ratio of viewability, therefore making it impossible to predict or generalize how many CPM impressions will be visible for any given campaign.

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III. Study Methodology

Three separate campaigns were analyzed for this white paper using recently MRC (Media Rating Council¹)-accredited viewable impression technology to assess the degree, and the accompanying dynamics, by which online advertisements appear or don't appear in a viewable area on consumers' computer screens and some of the reasons that contribute to this situation. ²

¹ See the appendix for background on the Media Rating Council.

² For clarification on the technical definition of a viewable impression, see the section below.

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The three advertisers ran campaigns across a number of sites and networks as follows.

The first was a campaign run **on a premium OPA member site** through **Universal McCann** for a major liquor brand. Five days of data collected.

The second campaign was run by the agency **Media Experts** in Canada on a number of websites and networks for a European luxury auto brand. The media buy included Web properties such as sites, portals and networks in Canada. Three weeks of data collected.

The third campaign was with a media buy done through the **Fuor Digital** agency in Chicago on an unnamed network for a major retailer. Two weeks of data collected.

Each of the three campaigns consisted of two ad sizes: a 300X250 rectangle and a 728X90 leader board.

The results in this white paper are based on RealVu technology, which at this time is the only viewable impression technology that has received MRC accreditation, based on an audit by a big-four auditor.

IV. The Results: Viewable Impression Analysis

The chart below shows the percentage of viewable impressions for each of the campaigns, demonstrating wide variance among the campaigns.

| Ratio of Viewable Impressions to Ad Requests by Campaign | | | |
|--|-----------------------------|-------------------------------|---------------------------|
| | Campaign #1 Premium Site | Campaign #2 Multi-Site Buy | Campaign #3 Ad Network |
| Total Ad Requests ³ | 479,827 | 740,316 | 2,377,140 |
| Total Viewable Ad Impressions | 269,660 | 264,465 | 154,105 |
| Percent Viewable Impressions to Ad Requests: | 56.20% | 35.72% (1) | 6.49% |

Note 1-The range by sites within this buy with common creative units was from 12.1% to 60.1%, which demonstrates there is no consistency in the ratio of viewable impressions to ad requests.

Based on other testing, the highest percentage of viewable ads seen to date for any campaign on a site is near 70%. Therefore, 70% is the new 100%.

It might go without saying, but the increase in ad effectiveness and thus campaign performance by switching to viewable impressions (assumed without a change in pricing) would provide a big increase in ad performance.

³ Total ad requests are measured by RealVu as the request by a browser for an ad from the ad server. It does not include spider and bot filtering or cache busting, as is required in conventional impression measurement, but it has been confirmed that it is close to the measure produced by a traditional, audited ad server such as DoubleClick or Atlas.

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Obviously, the industry's movement to viewable impressions should increase online CPMs.

It is important to note that publishers have a fair amount of control over viewable impressions, but what they need to do is not usually obvious until the assessment with viewable measuring technology is conducted. Publishers should not be criticized for past performance, as awareness of this issue—let alone measurement technology—did not exist.

Assessing what was viewable on a user's screen is not possible by conventional means, which to date have been using server log analysis to count impressions. Server logs have been the state-of-the-art tool for impression counting since the inception of the Internet and have been the industry's standard.

RealVu, working with the industry, has set the current standard for a viewable impression to be when 60% of an ad is viewable for at least one second. These parameters can be re-evaluated over time, but suffice to say there appears to be a large percentage of ads never being shown to consumers. There are a number of factors that affect this, and it is not as simple as the conventional wisdom that an ad might be "below the fold."

It would appear that with the introduction of the viewable impression, RealVu not only provides Web publishers and advertisers never-before-possible insight into the placements that get the most visibility, but it improves measurement downstream in other media measured, such as reach and frequency, and really impacts the point of currency for the medium. It should be noted too that knowing an ad space is viewable is not enough of a measure. Rather, knowing the actual ad was fully rendered in that ad space is most important.

The viewable impression dramatically improves on the IAB Ad Impression Guidelines, which were established back in November 2004 and endorsed by the global advertiser, agency, media and research communities. Those guidelines, based on a comprehensive industry effort, identified online advertising's "opportunity to see"⁴ moment as "measurement as late in the process of measurement as possible," which at the time was widely agreed to be the confirmation that an ad had been delivered to the consumer's browser. At the time, this was a major step forward, in that these guidelines for the first time ever measured an actual ad and not just content, as every other medium measurement does today.

The conventional wisdom at the time the guidelines were developed was that ads that were confirmed received by a browser had been seen, because generally, the only way an impression was shown was after the active action by the consumer (i.e., the click on a page link that led to a new page). Therefore, the belief at the time was that ads didn't occur without a consumer present.

⁴ "Opportunity to see" is advertising industry vernacular for what constitutes the moment of impression measurement and, ultimately, the currency of a medium. All media use OTS as the language that broadly defines a medium's measurement.

The whole notion of a viewable area of a screen never came up, nor was there any technology made aware to the industry at that time that could provide any insight into this issue. However, in today's world, with multiple-tabbed browsers, longer pages (like in blogs), the variety of screen dimensions, growth of mobile Internet, and many other factors, impression alone as measured by server logs doesn't provide anywhere near the quality picture of what is happening to ads on a consumer's computer.

Obviously, too, changing the measurement of an impression affects all measurement elements' pricing and value measures, such as click-through rates, reach and frequency, and even CPM.

V. How a Viewable Impression Is Measured

A "viewable impression" is when the ad content is loaded and rendered and at least 60% of the ad surface area is within the visible area of a viewer's browser window on an in-focus⁵ Web page for at least one second.

Here is more on how a viewable impression is measured:

- With viewing technology, the complete viewer's environment is gathered by a client-side technology for every viewable impression reported and transmitted back to a server-side database.
- Data for each view include the viewer's display resolution, the viewer's browser window dimensions, the dimensions of the Web page the ad appeared on, the location of the ad on the page and the scroll position at the time the viewable impression was recorded.
- These data result in a visual representation of the viewer's environment of each viewable impression reported.⁶
- Then the position of the ad is calculated, as is the area of the ad shown on the screen.
- Also, the view time of that ad is collected by the technology's client (viewer)-side engine.

One aspect of this new measure that has become very clear is that the accepted notions of "above the fold" and "below the fold" and the value attached to each doesn't even begin to get at the complexity of whether an ad becomes valuable. In many cases, ads at the top of the page demonstrate a lower viewable ratio than those supposedly below the fold, or lower on a page. Whereas many advertisers may have discounted some ads on the page,

⁵ "In-focus" is defined as when a Web page is the primary window open on a user's screen, unobstructed by any other application window. Web page focus can be affected by: minimizing the browser, opening or switching to another browser window or application, opening or switching to another browser window tab, or placing the cursor on the browser address bar or other browser button.

⁶ Note: These data open a window to the user experience, which has discounted many assumptions about ad placement. It appears that there are infinite combinations of viewer display resolutions and browser window dimensions, making the concept of "the fold" amorphous at best.

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in too many cases, that misses the challenge of consumers' screens, the consumption of content on a page and the Internet overall. There simply is no consistency here, and there is no real value in trying to plan around the perception of a fold.

Lastly, note that, due to the vagaries in how ad servers make decisions on which ad to serve when, individual ad campaigns may perform below the average, leaving advertisers perplexed as to why a campaign may have not performed well—or at all, for that matter. There is simply no way other than conducting the census-based measure of serving just viewable impressions to know how many ads had the opportunity to be viewed.

VI. Why Ads Are Not Viewed

There are a number of reasons ads are not viewable. Sometimes, even quick scrolling down will cause a leader board ad to not be visible. Or there are issues with pages that are loaded in tabs, non-human activity by spiders and bots, ad-blocker software enabled or JavaScript disabled, missing plug-ins, slower computers or slower connections on which ads are viewed for less than one second, and on and on.

Given the many varied reasons ads are not seen—and an inconsistent distribution across those reasons—“projections” of viewable ads for any site are impossible.

Support for this is evident in the data below from campaign #2, the multi-site buy. The chart below shows the percentage viewable by property and by ad size. Note there is no consistency by site or by ad size as to which ads are viewable. For example, someone might guess that the 728 x 90 that usually sits at the top of a page might garner the highest percentage viewable, and yet, in three of the five properties below it does not. And the range is from 12% all the way to 63%.

| Percentage Viewable Impressions vs. Ad Requests by Site & Ad Size | | |
|---|--------------|-------------|
| | 300 x 250 Ad | 728 x 90 Ad |
| Content Site | 37.8% | 28.0% |
| Content Site | 41.9% | 52.8% |
| Portal #1 | 16.9% | 12.1% |
| Ad Network | 28.7% | 42.5% |
| Portal #2 | 62.9% | 41.8% |

Based on this and another analysis, there is little predictability as to what percentage viewable an advertiser might expect. That makes it difficult, if not impossible, to generalize about viewable impression ratios.

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In fact, working with the technology auditor, it is believed today there are nearly 20 reasons an impression may not appear to a viewer that can be overcome by viewable technology:

1. The viewer clicks to another Web page before the ad loads and renders.
2. The ad loads, but in an area of the Web page that is not within the viewer's browser window dimensions and scrolling position.
3. Requests are made by spiders, crawlers, Web directories, download managers, link checkers, proxy servers, Web filtering tools, harvesters, spambots or badbots. (This issue may be addressed in part already by a standard ad server following IAB guidelines, but more study needs to be done to assess whether all non-human technology is identified by the current approaches and whether viewable impression technology can improve on those measures. Current assessments suggest an improvement with viewable impression methodology).
4. The user has a particular type of ad blocker installed that could disrupt ad serving but still initiate the count of an impression. (Some ad blockers block the ad call, and some do not. Again, more study should be done in this area.)
5. The viewer has a browser set to block images and/or JavaScript.
6. The viewer does not have the proper plug-in to render rich media installed.
7. The viewer opens a page in a mobile device that is not configured to show the ad content.
8. The viewer minimizes the browser.
9. The viewer opens another browser window or another application.
10. The viewer opens another browser tab.
11. The viewer switches focus to another browser or application.
12. The viewer moves the browser window so the ad is outside the display screen area.
13. The viewer has multiple home pages set, so when the browser is opened, two pages open in two tabs, and an ad resides on the tab that is not in view.
14. In the case of pre-roll video and video advertising, the viewer minimizes the browser, tabs away from it, opens another application over the video while the advertisement is playing or moves the browser window so the video is outside the display screen area.
15. The request was made by an invisible-to-the-viewer Web page redirect.
16. The Web publisher places multiple ad displays in layers over one another. The viewer sees one ad, but impressions are reported for all layered ads.
17. The Web publisher places an image or shape on a layer overlapping an ad.
18. An ad or beacon is delivered in an invisible width="0" height="0" frame.
19. There is mutilated (http poisoning) packets Impression fraud.

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Unfortunately, some of the reasons above can be attributed to publishers' actions that would be considered counterproductive and possibly fraudulent. These actions would not be catchable using the current server log approach to counting impressions with an audit and MRC accreditation, which not all sites go through anyway. Even then, it would difficult to ensure these things are not happening unless an advertiser is employing census-based measurement. In the end, there are various reasons an online ad, though counted as an impression by conventional methods, the consumer might not have seen the ad. These reasons appear to vary dramatically from site to site and by ad size within site.

The impact each of these items above seems to have varies dramatically, and as a result, broad generalizations about view performance are not relevant and individual campaign and site analysis appears to be necessary.

Viewable impression methodology, by reporting an impression at the point of the view, definitively overcomes all of the reasons an impression may be counted even though the ad did not actually appear.

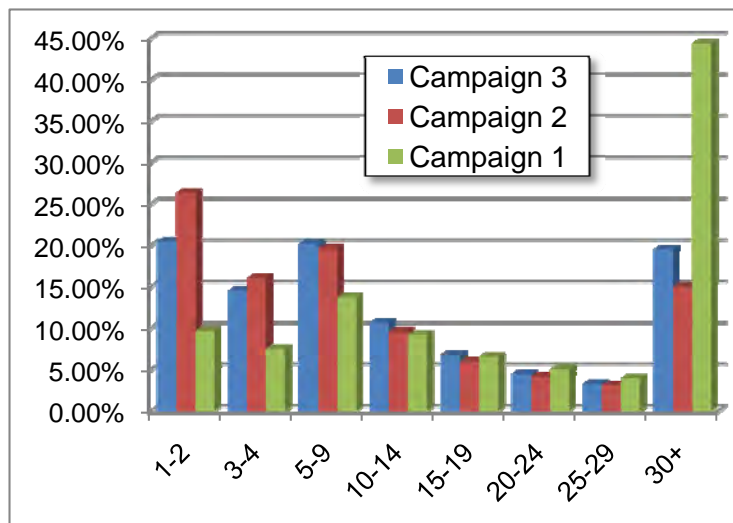
VII. Dynamics in Applying Viewable Measurement

Additionally, viewable impression data collection is also able to understand the actual view time for a particular ad campaign or campaign on a site. While the impact that time spent with an ad has in producing greater advertising effectiveness is unknown, suffice to say that a view for a longer period of time suggests there is a greater likelihood that it will be noticed and thus have an impact on the consumer. Additionally, view time permits advertisers the ability to know whether a rich media ad even appeared long enough for it to communicate its message.

When looking at view data, the chart below plots out the allocation of time viewable by the three campaigns.

This shows that for campaign #1, the premium content site, there was a median view time of 20 seconds, with a major percentage of view (44.34%) with a view time of over 30 seconds.

In campaign #2, the median view time was 5 seconds, with 19.52% of views with a view time of over 30 seconds.



And for the network campaign, while there was also a median view time of 5 seconds, only 15.01% of views had a view time of over 30 seconds.

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While more analysis should be done here, it appears that viewers tended to linger longer on the premium content pages and that ad placements lower on the page and closer to content tended to have longer view times. By extension, we assume they have higher value and impact on advertising effectiveness.

One other analysis that warrants further understanding is the obvious impact viewable impressions will have on CPM. In the example of the three campaigns, there is a marked difference in their cost effectiveness ranking when applying viewable impressions.

While the participants in this study did not release cost data, if we apply some conventional thinking to the campaigns by applying estimated relative CPMs and then rerun the CPM calculation against views, we see that the premium site, which we estimated would have charged the premium CPM, when measured against viewable impressions, has now become the #1 site for cost efficiency.

| Hypothetical CPM Analysis (actual CPM data not released) | | | |
|--|-----------------------------|-------------------------------|---------------------------|
| | Campaign #1 Premium Site | Campaign #2 Multi Site Buy | Campaign #3 Ad Network |
| Total Ad Requests | 479,827 | 740,316 | 2,377,140 |
| Guesstimated Buy CPM | \$10.00 | \$6.50 | \$2.00 |
| Guesstimated Buy Budget | \$4,798 | \$4,812 | \$4,754 |
| Viewable Impressions | 269,660 | 264,465 | 154,105 |
| Views CPM/ CPMV | \$17.79 | \$18.20 | \$30.85 |

Again, more work and analysis and industry thinking needs to be done on these areas.

VIII. Conclusion

Without question, an advertisement that never appears in the viewable area of a user's computer screen has zero value.

While more analysis still needs to be done about how publishers can work to ensure there is an improved chance ads are viewed, measurement of viewable ads provides a marked improvement in publishers' developing sites, which can have more impact for advertisers—and can give advertisers more insight as to where best to increase their ROI.

Server logs, on which the current IAB and industry guidelines are based, cannot provide for the capture of viewable impressions, and there is no apparent consistency to predict the percentage of viewable impressions without the technology specifically designed to assess those measures. And while ads will never be 100% viewable, understanding the percentage of viewable ads is not as simple as just looking at ad placement on a page.

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Also, not knowing the correct impression baseline affects measures downstream, such as reach, frequency and audience segmentation, thus rendering those measures basically worthless. And more analysis still needs to be done around view time's impact on affecting advertising effectiveness, which viewable measures capture.

In the end, the viewable impression provides one more major strategic advantage for the online medium relative to the other media channels and provides a stronger foundation. And the accreditation of viewable impression technology by the MRC provides increased confidence to publishers, agencies and advertisers in the validation of this measure.

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IX. Appendix

This appendix reviews the following:

- A. IAB Impression Guidelines, first launched in 2004, provided best-of-breed impression counting for the technology available at the time.
- B. MRC – Media Rating Council is mandated by Congress to oversee the media industry's currencies via ratings and impression counting.

a. IAB Impression Guidelines and Certification

In November 2004, the IAB and its board and members, with the support of major global organizations involved in the advertising and research disciplines, joined together to issue a global standard for counting online ad impressions.⁷

The initiative marked a number of significant firsts in the advertising industry. It was the first time that any advertising medium had developed a measurement standard that measures the ad itself, as delivered to a consumer, versus other media that measure the programming or content. It was also the first time a medium had launched a “global” measurement standard that has now been accepted by key industry stakeholder organizations in the U.S., Europe, Asia and Latin America. Other media (such as television, radio and magazines) use different measuring techniques depending on country and region. These firsts should be considered major strategic advantages for the interactive medium.



This landmark effort was intended to free the market from any existing confusion about how ad impressions should be counted and would provide industry transparency to the systems that measure ads. This last part is a critical indication to the maturing of a 10-plus-year-old industry.

Among other key points, the guidelines offer a detailed definition for counting an ad impression, which is a critical component in establishing consistent and accurate online advertising measurements across publishers and ad serving technologies.

⁷ This section was excerpted from the IAB Website.

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Furthermore, auditing and certification is a standard operating procedure for every advertising medium. Magazines, for example, use a circulation process that is conducted by ABC, for TV and radio it is an audit by Ernst & Young of Nielsen or Arbitron with oversight from the MRC (the Media Rating Council), and so on.

The process of auditing and certification is critical to ensuring consistency and trust in a medium. For years, advertisers and agencies have been concerned that the interactive medium did not have these essential components in place. This concern has been further exacerbated by the discrepancies that have resulted from different counting methods by the various ad serving technologies as well as the complexity of these technologies.

The Interactive industry's challenge is that there is no centralized measurement body as there is in the simple measurements of the other media. Interactive is further challenged by the fact that the guidelines cover both the technology and the processes for executing ad buys. Therefore, because all this is handled at the publisher or agency level, each of those entities needs to get audited.

Auditing: Third-party independent auditing is encouraged for all ad-serving applications used in the buying and selling process. This auditing is recommended to include both counting methods and processing/controls. Counting method procedures generally include a risk analysis to understand the measurement methods, analytical review, transaction authentication, validation of filtration procedures and measurement recalculations. Process auditing includes examination of the adequacy of site- or ad-server-applied filtration techniques and the entity's control procedures and policies.

US certification recommendation: All ad-serving applications used in the buying and selling process are recommended to be certified as compliant with the IAB Guidelines at minimum annually. This recommendation is strongly supported by the AAAA and other members of the buying community, for consideration of measurements as currency.

b. MRC - Media Rating Council

In March 2010, RealVu received MRC (Media Rating Council) accreditation based on both the year-long audit by Ernst & Young and industry oversight and review of that audit by the MRC Internet Committee.

History and Mission of the MRC

In the early 1960s a U.S. Congressional Committee held hearings on the purpose and accuracy of audience research and considered regulation related to the TV and radio industries. These public hearings are commonly referred to as the "Harris Committee Hearings on Broadcast Ratings." After investigation and extensive testimony, the committee determined that industry self-regulation, including independent audits of rating services, was preferable to government intervention. The Harris Committee hearings resulted in the formation of an

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Industry-funded organization to review and accredit audience rating services called the Broadcast Rating Council (now referred to as the MRC).

Aligned with the actions deemed necessary by the House Committee, the activities of the MRC include: the establishment and administration of minimum standards for rating operations; the accreditation of rating services on the basis of information submitted by such services; and auditing, through independent CPA firms, of the activities of the rating services.

The Council seeks to improve the quality of audience measurement by rating services and to provide a better understanding of the applications (and limitations) of rating information. The bylaws of the MRC document the organization's mission as: "to secure for the media industry and related users audience measurement services that are valid, reliable and effective; to evolve and determine minimum disclosure and ethical criteria for media audience measurement services; and to provide and administer an audit system designed to inform users as to whether such audience measurements are conducted in conformance with the criteria and procedures developed." This mission was established with the support of the House Committee.

The MRC Audit and Accreditation Process

The central element in the monitoring activity of the MRC is its system of annual external audits of rating service operations performed by a specialized team of independent CPA auditors. MRC audits serve these important functions:

They determine whether a rating service merits accreditation (or continued accreditation); they provide the MRC with the results of detailed examinations, which become the basis for quality improvements in the service, either by voluntary action or mandated by MRC as a condition for accreditation; and they provide a highly beneficial psychological effect on rating service performance. Knowledge that their work may be reviewed by CPA auditors is a powerful spur for quality work by all field and home-office personnel of the rating service.

Rating services awarded MRC accreditation are given permission to display the MRC's logo on the audited research product indicating compliance with our standards. MRC standards are publicly available; more importantly, the extensive methodological and survey performance disclosures mandated by the MRC are required to be available to all rating service customers.

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