



Neuroscience

May Explain Why Magazine
Advertising Succeeds

A look at how the
mind works in driving print
advertising efficacy



“...Print and digital advertising are better suited to reaching different demographic groups than other forms of advertising. Digital advertising helps cast a wider geographic net toward a specific kind of customer, whereas traditional print advertising is often more effective at driving business at a local level.”





INTRODUCTION

Print magazines are more effective advertising vehicles than digital media—even when the target audience has viewed the message on multiple digital platforms. This may surprise some, especially advertisers who have shifted dollars away from print to digital media, but **it's a fact.**

In addition, studies show that magazine readership across all platforms and formats, in print and digitally, and through myriad forms of delivery—the web, apps, video streaming services, and podcasts—is strong. Taken together, magazine readership appears to be healthier than it ever was.

Consumers continue to read magazines in print as well as on various digital platforms and devices. According to Scott McDonald, President of Nomos Research, a media research consultancy, and former Senior Vice President for Research at Condé Nast Publications, “Even when attention is focused solely on younger consumers and only on the traditional printed format, the audience trend statistics show greater aggregate consumer demand for many categories of print magazines now than in past decades.” In fact, except for declining newsstand sales, **print magazine sales have been steady and, in several areas—fashion, celebrity, and men’s magazines—growing.**

IN A NUTSHELL:

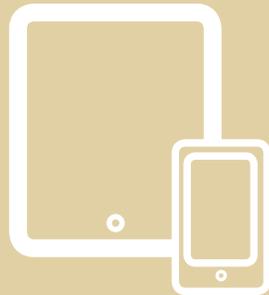


Demand is stable and in some areas increasing



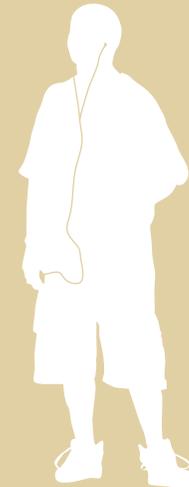
Demand increases as the number of channels increase

Magazines are read across all formats, platforms, and devices



Demand for many categories seems healthier than ever

Younger consumers' demand for print magazines is trending upwards



WHAT THE DATA DEMONSTRATES

Despite these facts, some advertisers are reluctant to spend their ad dollars on print versions of magazines. This is true even though quantitative data such as those based on market mix models demonstrate that print magazines deliver the key performance indicators—such as ad recall, persuasion, brand consideration, purchase intention, and actual purchase—advertisers are looking for as well as a robust return on their investment.

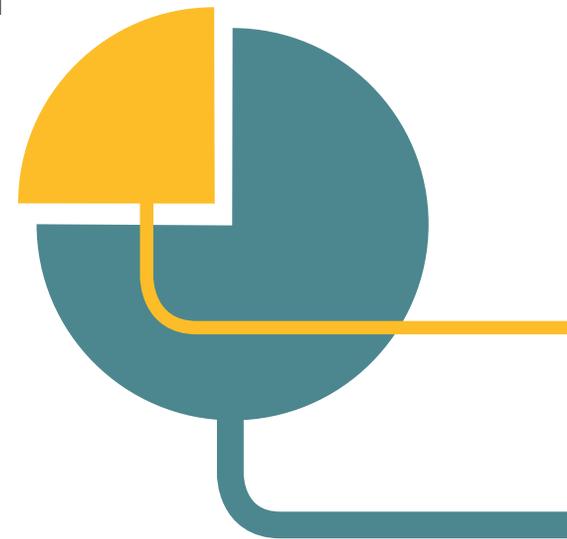
In fact, Millward Brown Digital, a leading marketing and analytic consultancy, recently reported that **print advertising results in “the greatest increases in persuasion metrics—brand favorability and purchase intent compared to other platforms.”**

What’s more, the study, which was based on advertisers’ own data, found that “when advertisers used print in combination with other platforms, they were most

successful in raising outcome metrics.” In essence, Millward Brown concluded that “digital platforms work best when they are connected to powerful traditional media, such as print magazines.” As might be expected, print + online + TV produced the best results.

Campaigns combining print + online also achieved significant lifts in ad effectiveness, beyond what a single platform would achieve. The least effective campaigns used online alone. Adding print helped consumers recall what they had seen.

So, why has advertising in print magazines declined in the face of increased spending on other media when the data says it shouldn’t?



“When advertisers used print in combination with other platforms, they were most successful in raising outcome metrics.”

WHAT'S BEHIND THE DATA: NEUROSCIENCE MAY PROVIDE THE ANSWER

In their search for the next bright shiny object, advertisers have lost interest in the tried and true and put their dollars behind TV and digital media, but as these empirical studies demonstrate, print magazines deliver real results.

Why is this so? What makes advertising in old-fashioned, print-on-paper magazines so effective? Could it have something to do with the way it is delivered; that is, print on paper? It turns out there may be good scientific data that explains this phenomenon, that demonstrates why the print format is so very successful as an advertising vehicle despite the stiff competition from other formats.

That evidence comes from recent neuroscientific studies that indicate advertisers may get more “bang for their buck” via print advertising because of the differences in how our mind works when we read print on paper compared with how it reacts when we read online. It turns out that for a variety of reasons, which we'll now explore, print affects the brain in ways that digital does not.



Accordingly, most studies find that, except when time is limited, **comprehension and recall are improved when reading is done on paper as opposed to on-screen.**

One study found that when there were no time limitations, comprehension of those reading on paper was about ten points higher than those reading on screen. **On a scale that ranged from 40 to 80, on-screen readers scored approximately 63.2 percent while those reading on paper scored 72.3 %.**

The researchers did statistical analysis and determined that the differences “point to specific metacognitive* deficits in on-screen learning.” It is a truism that reading online is “noisier”—comes with more disruptions—than reading on paper. One study, for example, demonstrated that unlike reading on paper, reading hypertext required decision-making (should I follow a link or continue reading, for example) and visual processing, which negatively affected reading comprehension and retention.

HOW WE READ: ON-SCREEN VS. PAPER READING

Studies show that reading online rather than on paper:



Is faster and more superficial



Negatively affects note-taking and other forms of reinforcement, such as highlighting



Leads to more skimming and scanning



Is characterized by less prolonged concentration



Results in less time spent on detailed, rigorous reading

This was especially true when the subject matter was unfamiliar. In the view of these researchers the medium itself is not to blame; the culprit is the extra mental tasks required when reading hypertext, which may create an added burden for some readers.

Other researchers disagree. They believe the culprit is the medium itself. Controlling for the “noise,” these researchers gave two groups identical linear (no hypertext) texts—one group received the paper version, the other the online version. Reading comprehension scores of those reading the print version were considerably higher than those of the on-screen readers.

Still other studies point to the myriad disruptive multitasking opportunities that intrude on online readers—multiple windows, email, RSS feeds, breaking news, stock quotes, social media, ads, etc.— that conflict with the on-screen reader’s ability to comprehend and retain what they read. For example, one study showed that those who typically were heavy multitaskers were more

readily distracted by outside stimuli when trying to learn complex material than non-multitaskers. They not only remembered less well but also performed worse on task-switching activities. As of 2014, twenty studies have concluded that the distraction caused by hyperlinks resulted in lower comprehension and recall.

Other research suggests we read with more than our eyes and our brains; these studies indicate that we read with our other senses as well. From a neuroscientific perspective, this means that we use different parts of our brains to incorporate information received from the different senses—sight, sound, smell, touch and taste.

This research seems to indicate that when people obtain information (including advertising) via different sources using a variety of senses, they understand and remember it better than when the information comes in only one form; that is, through one sense alone. They posit that the greater number of sources reinforce understanding and activate memory.



“ Print ads can be read more leisurely, and be more evocative; they can encourage readers to fantasize, to put themselves in the picture.”



Thus, our senses and motor skills enhance how we perceive what we read. Consequently, since online text is perceived predominantly through one sense—sight—our ability to retain what we read is limited, and is vastly different from our ability to retain information gained from reading print on paper where in addition to sight, there is touch, sound (pages turning), and occasionally even smell.

On the other hand, some studies have focused solely on the sense of touch—the sensation readers get from

physically touching paper as they read—and connect this sensation to the earliest development of language. These researchers believe this connection accounts for the greater emotional engagement readers have to the paper-based reading experience and therefore their ability to retain more of what they read.

Neuroscientific analyses of direct mail campaigns, for example, demonstrate that ads on paper evoke a greater emotional response than on-screen ads and that readers are more likely to remember the ad on paper one week later. This result correlated with increased activation of the hippocampus—the part of the brain associated with long-term memory—and the parahippocampal place area, associated with memory retrieval, on the part of the print-exposed group when compared with the digital-exposed group. They also exhibited more activity in the ventral striatum, which, according to Sameer Sheth, MD, PhD, “plays an important role in the circuitry of reward-oriented behavior...[and] has extensive interconnections with both the limbic lobe of the brain, which processes emotions such as pleasure and fear, and the basal ganglia, which is involved in learning and motor control.” Other studies link it to reward processing and desirability; all in all these findings are good news for print-on-paper publications and their advertisers.

It is not surprising therefore that people, even younger people, choose print on paper for reading. In the case of magazine reading, **studies find that readers choose the print version even when digital versions are readily available.**

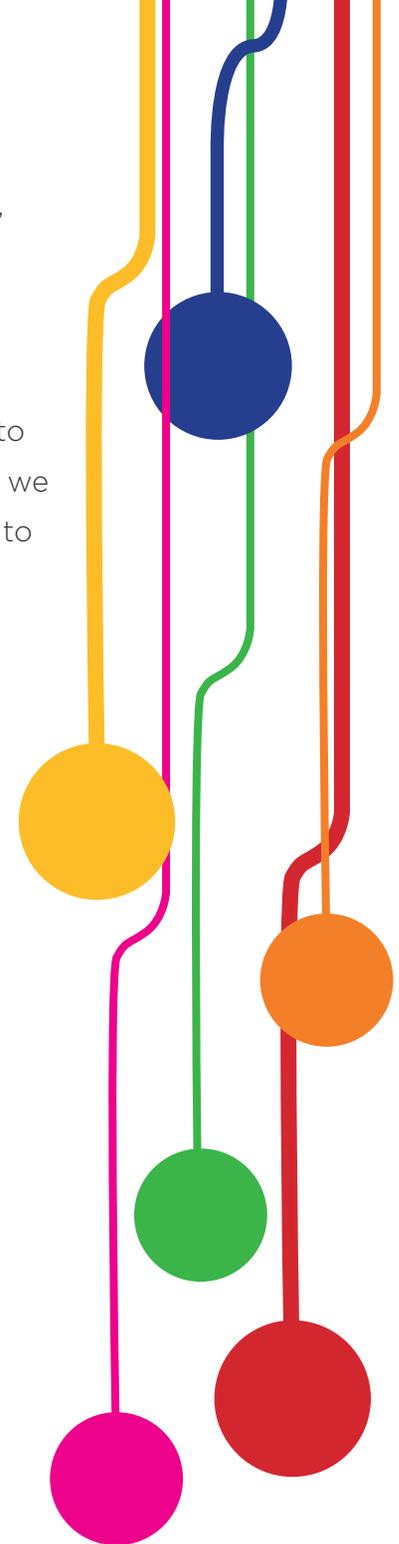
CONCLUSION AND EXECUTIVE SUMMARY

Although all the evidence is still not in and more research is needed, thus far neuroscientific research appears to validate other more traditional research (surveys, eye-tracking, question-and-answer testing) into reading preferences as well as what we intuitively know: reading on paper is a more comfortable, more enjoyable experience, and offers the added benefit of greater understanding and retention. This is in part because we read more slowly and deeply and are more focused when we read print on paper than when we read digitally, but also, neuroscientists say, because of the various ways in which our brains acquire information.

Based on the differences between how readers interact with on-screen and print information, we can conclude that to be remembered digital ads should be concise and designed to make an immediate impact whereas

print ads can be read more leisurely, and be more evocative; they can encourage readers to fantasize, to put themselves in the picture.

If further neuroscientific research into how we read and its impact on how we respond to what we read continues to corroborate these early findings, it suggests advertisers will need to reevaluate where they are placing their advertising dollars and what type of advertising is suitable to the way in which readers interact with the different media. This is not to say they should abandon digital advertising, rather it implies that they **need to place greater emphasis on print and that the two will ultimately reinforce one another.**■



¹"Digital Advertising vs. Print Advertising," Daniel R. Mueller, Demand Media <http://smallbusiness.chron.com/digital-advertising-vs-print-advertising-22836.html>

²McDonald, S. (2012). "Do Young People Read Magazines?" www.nomosresearch.com

³MPA—Association of Magazine Media (2015). Magazine Media Factbook 2015. Available at: <http://www.magazine.org/magazine-media-360/magazine-media-360-percentC2percentBO-factbook>.

⁴McDonald, S. (2011). "Do Young People Read Magazines?" www.nomosresearch.com

⁵"Magazine Media Launches Industry-Wide Print Magazine Advertising Sales Guarantee," October 13, 2015, <http://www.magazine.org/industry-news/press-releases/mpa-press-releases/mpa/magazine-media-launches-industry-wide-print>

⁶"Print Campaign Analysis Key Findings," prepared for MPA by Millward Brown Digital, October 2015, <http://www.magazine.org/print-campaign-analysis-key-findings>

⁷Ackerman, R. and Goldsmith, M. (2011). "Metacognitive Regulation of Text Learning: On Screen Versus on Paper." *Journal of Experimental Psychology: Applied* 17 (1): 18-32

⁸DeStefano, D. and LeFevre, J. (2007). "Cognitive Load in Hypertext Reading: A Review." *Computers in Human Behavior* 23: 1616-1641

⁹Mangen, A., Walgermo, B.R., and Bronnick, K. (2012). "Reading Linear Texts on Paper Versus Computer Screen: Effects on Reading Comprehension." *International Journal of Educational Research* 58: 61-68.

¹⁰Ophir, E., Nass, C., and Wagner, A.D. (2009). "Cognitive Control in Media Multi-Taskers." *PNAS* 106 (37): 15,583-15,587.

¹¹Konnikova, M. (2014). Being a better online reader. *The New Yorker*, July 16, 2014.

¹²DeStefano, D. and LeFevre, J. (2007).

¹³Mangen, A., and Kuiken, D. (2014). "Lost in an iPad: Narrative Engagement on Paper and Tablet." *Scientific Study of Literature* 4: 2: 150-177.

¹⁴Millward Brown (2009). Using Neuroscience to Understand the Role of Direct Mail. United Kingdom

¹⁵Dimoka, A., Vo, D., Venkatraman, V., and Pavlou, P. (2015). "Understanding the Effectiveness of Physical Mail Communication Through Neuroscience." Temple University Center for Neural Decision Making, Fox School of Business.

¹⁶Sheth, Sameer in News-Medical, "Ventral striatum plays important role in circuitry of reward-oriented behavior: Researchers" (May 5, 2010). Dr Sheth is one of the authors of Human Ventral Striatum Neurons Encode Reward Expectation 78th Annual Meeting of the American Association of Neurological Surgeons, May 3, 2010.

¹⁷Grigorios-Pippas, L., Tobler, P.N., and Schultz, W. (March 2009). "Short-Term Temporal Discounting of Reward Value in Human Ventral Striatum." *Journal of Neurophysiology*, 101 (3): 1507-23.; Berns, G.S. & Moore, S.E. (2012). "A Neural Predictor of Cultural Popularity." *Journal of Consumer Psychology*, 22 (1) 154-160.; Venkatraman, V., Dimoka, A., Pavlou, P., Vo, K., Hampton, W., Bollinger, B., Hershfield, H., Ishihara, M., and Winer, R. (2015). "Predicting Advertising Success: New Insights from Neuroscience and Market Response Modeling." *Journal of Marketing Research*; Linder, N. S., Uhl, G., Fliessbach, K., Trautner, P., Elger, C. E., & Weber, B. (2010). Organic labeling influences food valuation and choice. *NeuroImage*, 53 (1): 215-220.; Knutson, B., Rick, S., Wimmer, G.E., Prelec, D., and Loewenstein, G. (2007). "Neural Predictors of Purchases." *Neuron*, 53 (1): 147-156.