THE POWER OF COLOR IN COMMUNICATION

By Richard Romano
THE POWER OF COLOR IN COMMUNICATION

Abstract
We all intuitively know that using color in printed promotional materials like direct mail, transactional, and transpromotional documents is effective, but how effective is it? What impact does color have on response rates? How can color be used such that its impact is maximized? How can the power of color be communicated to print customers? In this white paper, we'll look at some industry statistics and discuss some of the best practices for using color effectively. We'll also look at some of the economics of using color, and how that can impact your customers' decisions on whether or not to print in color.

Introduction: Coloring Our World
Sometime in the early 1990s, print newspapers made their own headlines when they began printing in color. Even the New York Times—the old “Gray Lady” herself—began adding splashes of color here and there until the paper went all out and started featuring color photos on page one. This was a trend happening throughout the newspaper industry—except for one: the Wall Street Journal remained a holdout.

It’s hard to imagine, but this was actually a controversial move back then. There was the belief at the time that adding color to news stories somehow made them less serious and more frivolous. This seems quaint to think about now, but you may remember the backlash in 1984 when USA Today was launched. It was almost immediately given the derogatory nickname “McPaper” for its “chicken nugget” approach to journalism, and, later, its colorful charts and graphs, which soon became the paper’s hallmark. Longtime journos bemoaned the thought of their own vaunted papers going down what would surely be the road to ruin. (Was that a simpler time, or what?)

What drove newspapers to grudgingly add color? A combination of demand from advertisers, who wanted color adverts, and reader statistics:

• In a Newspaper Advertising Bureau study in 1986, 74% of newspaper readers said they wanted color. And more persuasive, to an industry worried about its future, the younger the readers, the more they wanted color: 90% of readers who were 18 to 25 said they wanted it¹.

Mind you, that was 30 years ago; that age cohort is now in the 48 to 55-year-old range. Newspapers have different problems these days, but in direct mail, transactional, and transpromotional, and other kinds of marketing-oriented printing, color use has long been seen as an essential way to attract a respondent’s attention.

The conversation regarding the use of color in these kinds of documents has changed slightly in the past 20 or so years. It’s not just a question of psychology; color is simply now what people expect. Since the advent of the digital age, where using color has been built into the fabric of communications since the beginning—it was never more expensive to have web, PDF, or email graphics in color—we have simply become used to the idea that everything will be in color. This is especially true of younger people and, believe it or not, there are people who won’t even watch a black-and-white movie or TV show.

In this white paper, we will look at some of the research that has been done on the use of color—and other elements—and response rates. We will then look at some best practices and design considerations so that you are using color effectively. We will also look at some of the economics of color printing.

**01 Color By Numbers**

What does research say about the use of color and response rates? Even though it’s become expected that things will be printed in color, there has never been any doubt that color attracts a reader’s attention more than basic black-and-white.

**A WHOLE BRAIN AFFAIR**

Research done by the Pantone Institute has found that people are 78% more likely to remember words and phrases if they are displayed in color vs. black-and-white, the time spent reading a document is 80% higher in color, and even basic understanding of the content itself is 80% higher when it is in color vs. black-and-white. Brand identification is 70% higher thanks to color.

The theory behind this is that the content of the text appeals to the logical and analytical left side of the brain, while the addition of color appeals to the more artistically inclined right side of the brain, so text and color presented in combination is a whole-brain affair.

Other studies that have been conducted over the years have confirmed the salutary effect of color on response rates:

- Color printing is 55% more likely to be read than black-and-white.
- Response time has been found to be 30% faster.
- Color can even drive actual purchasing—promotions in full color increased the likelihood of a purchase by 80%.

At the same time, new ink sets and new printing systems can allow marketers and their print providers to add new colors and color effects that had never been possible before.

As we’ll see later in this white paper, though, it’s not enough just to “use color” It’s important to be smart about how you use it. It’s also important to keep in mind that color printing is more effective when it is combined with other elements, such as personalization.

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² First-generation ebooks are the exception. The electrophoretic E Ink technology used by the original Amazon Kindle was (and still is) unable to display color.

³ There is some anecdotal evidence that younger Millennials are rediscovering black-and-white movies and photography.

⁴ Actually, brain function is far more complicated than this, and the “logical left/artistic right” lateralization doesn’t quite gibe with a modern understanding of brain function. That said, there are parts of the brain that are strictly the purview of logic and language and others that are the purview of art and aesthetics. See, for example, http://www.npr.org/sections/13.7/2013/12/03/248689436/the-truth-about-the-left-brain-right-brain-relationship.
Even the most ardent of love letters don’t use one’s paramour’s name in every single sentence, which was not uncommon in some personalized letters back in the day.

THE ROMANO/BROUDY STUDY
Studies have found that color in combination with other elements is even more powerful than color alone. A landmark study conducted in 2010 by RIT’s Frank Romano and David Broudy gauged the effects of three variables—color, simple personalization (adding the recipient’s name), and personalized database information—on the response rate of a direct mail campaign. They used five separate mailings that featured these three elements in isolation and in various combinations.

The “control” mailing was basic black-and-white with no personalization, and it yielded a response rate of 0.46%, which was actually lower than the industry average of 1%. As the table below shows, adding the other elements increased the response rate to varying degrees. Adding full color increased the response rate by 44%—about the same as adding basic personalization such as the recipient’s name. However, when full-color printing was combined with basic personalization, the response rate increased by 135%. When more sophisticated database information was added to the mix, the response rate shot up by 500%.

As a result, it’s important for marketers and mailers—and their print providers—to be aware that simply adding color for color’s sake will help, yes; but to maximize impact, it is best used in combination with other elements, such as some kind of personalization.

THE PERSONALIZATION ARMS RACE
It should be noted that response rates to direct mail and other promotional mailing can be to some extent a function of novelty. As I said earlier, people expect images and other graphics to be in color, and as such color per se may not be much of a differentiator of one document from another. It then becomes a question of how that color is used. The evolution of variable-data printing (VDP) can provide a valuable lesson that can be applied to color.

Once upon a time, variable-data printing was very primitive, consisting of little more than a basic mail merge. We used to receive pitch letters that had our names inserted into the text of a letter (often an unnaturally large number of times5) and back then—this was the 1970s and 80s—this was novel enough to catch our attention. These messages had relevance to the recipients by virtue of using their names, and thus was likely to get read more closely (or at all) than something that said simply “Dear Sir or Madam.”

Soon everyone got wise to this and realized that it was just a computer talking, so personalization had to go to the next level. This coincided with the advent of digital printing and

<table>
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</tr>
<tr>
<td>Full Color</td>
<td>+45%</td>
</tr>
<tr>
<td>Name and Full Color</td>
<td>+135%</td>
</tr>
<tr>
<td>Name, Full Color, Database Info</td>
<td>+500%</td>
</tr>
</tbody>
</table>

5 Even the most ardent of love letters don’t use one’s paramour’s name in every single sentence, which was not uncommon in some personalized letters back in the day.
true variable-data printing. Marketers now had a whole new array of tools at their disposal, such as the ability to vary images, special fonts that could spell out people’s names in snowflakes or Alpha-Bits, the ability to make every impression 100-percent unique to a recipient, and so on. Depending on the data the marketer had, entire documents or publications could be completely personalized in a way that, again, made them relevant to the recipients.

If a marketer—say, an insurance company—knows that John Smith is an avid runner, then customized mailings like insurance plan welcome or renewal packets can include pictures of races and runners (in color, of course). If that same marketer knows that Jane Jones is a chessmaster, then that same packet would instead have pictures of chess boards and pieces.

However, recipients again started to become hip to these kinds of strategies, and variable-data printing has had to continue to evolve to take personalization to the next level. Seemingly handwritten Post-It Notes—with personalized content—also started to become common on promotional mailings. Again, it was something recipients had not seen before, but as with anything, we became inured to it. It becomes almost a kind of “arms race.”

This is not to say that earlier forms of personalization had become ineffective; rather, they just lost a lot of their novelty and gradually achieved less bang for the buck.®

THE COLOR ARMS RACE
What does this have to do with color? Again, we have become so used to seeing color in documents and, even though it’s better than black-and-white, new forms of color usage are starting to appear to push the envelope (quite literally). Metallic inks and other specialty colors are becoming a great way for, say, a direct mail piece to stand out from others in the mailbox, and digital presses now feature extended gamut ink sets that can increase the number of shades that can be printed, as well as make colors more vibrant than ever.

“This has become more important since we’ve had the flood of email,” says Mark Greeves, director of sales and marketing for Color-Logic, a developer of color communication systems and software tools for special effect printing applications. “Now a direct mail piece has more value than perhaps it ever had. I was at a conference recently and heard the statement, ‘We have so much print that’s forgettable.’” If you look at your average transactional document, it is pretty forgettable—except when you notice erroneous charges on your credit card statement. In terms of the printing, though, it doesn’t stand out in any significant way—but it can. “Digital engines with extended color gamuts can do more,” adds Greeves. “We’re in metallics, and they can do more. It’s more viable today.”

Savvy marketers and designers are also combining creative color usage with other techniques like UV coatings, foil stamping, and adding textures and other digital embellishments such as those being popularized by the likes of MGI and Scodix.

® Another consideration that can impact the effectiveness of personalization is the quality of the database being used. This has traditionally been the number one challenge for variable-data printing producers. Names spelled wrong, using the names of companies that recipients haven’t worked at in a decade, and other bits of bad data negate the effectiveness of VDP.
Greeves concurs that color usage is somewhat of an arms race. “Novelty is a part of it,” he says. “We’re now not only looking at color, but also texture and feel. Many things are aimed at not just one sense, but multiple senses.” We can add audio to print, as you know if you have been to a card store, and perhaps we may see the next-generation “scratch’n’sniff” hit the market before too long.

**IT’S ALL ABOUT THE DOCUMENT**

The extent of the embellishment or the use of specialty inks will largely be a function of the document that is being produced. Adding digital foil stamping is great for a direct mail piece for a higher-end retailer or other marketer, but would be drastic overkill on, say, a credit card statement⁷. It would also be prohibitively expensive given the press run of many transactional/transpromotional documents, and the response would likely not be sufficient for such an approach to be cost-effective—at least, for now.

So for these kinds of documents, using color in creative ways can be the most cost-effective way of achieving high response rates.

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02 Using Color In Documents

When we say “use color in documents,” what is it we really mean?

Color often goes hand in hand with imagery. If a document—say, a book—is all text, no one is likely to think about how color could improve it.

For marketing and promotional documents, though, color can be added in a number of ways:

- Photos
- Spot-color accents
- Colored text

Even more important than color images is using images in general.

“Using a photograph is more useful than not having a photograph,” says Jim Raffel, color management consultant and CEO of ColorMetrix, a provider of color management consulting services and software. And the keys to using that photograph effectively are color as well as relevance. “The next thing that becomes important is the variable data component,” says Raffel. “If you’re using four-color process and you’re a retirement planning or asset management firm, if somehow in your database you know that Jim Raffel likes sailboats, the image you use on promotional materials for him is going to be a sailboat. If you like fast cars, yours is going to be a fast car.”

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⁷ Although it’s not inconceivable that, say, an American Express Gold Card statement could have the card image overlaid with gold foil.
IT'S NOT JUST IMAGES
Naturally, color images are the first things that come to mind when we’re deciding to use color, but not all documents lend themselves to images. Transactional documents, for example, even those of the transpromotional kind, don't often feature photographs or illustrations much beyond the logo of the sender, such as American Express or your bank, or the logo(s) of any promotional partners.

This doesn't mean that you’re stuck with black-and-white. Even a text-only document lends itself perfectly well to splashes of color. Consider:

Highlighting — Remember the schooldays of yore when you would use a yellow marker to highlight passages in textbooks? You did this to call attention to them, so that when you studied for an exam, you could quickly scan the material that was important. Likewise, in direct mail or transpromotional documents, don't be afraid to highlight important messages, such as a call to action or some kind of prize or reward. Just remember, as when you were marking up a textbook, to use highlighting sparingly. If everything is highlighted, then nothing is.

Backgrounds — Another simple way of adding touches of color to a document is using backgrounds. This can be especially handy if your document is broken into panels, such as sidebars, voucher panels, or coupons. If you look at printed magazines, you find that sidebars to a feature story often use a colored background to set it apart from the main story. You don't want the background color to be too dark to make the text illegible, of course, but a tint in the 20% to 50% range can both be aesthetically pleasing and draw the eye to important messages or content. If you do want to use a dark color as a background, such as a ruby red or a navy blue, consider reversing the text (i.e., making it white). However, be careful when reversing small type, especially serif typefaces, as some of the finer strokes may get lost or plug up when reversed.

Tabular Material — Does a document use any tables? Tabular content can lend itself very well to splashes of color, especially in header rows. Tints can also be applied to rows and/or columns, and you can use alternating white and color rows and/or columns instead of strokes which will still allow the tabular material to be scanned easily. It makes tables look a bit more elegant.

Borders — Adding a colored border or frame either to specific content sections (like a sidebar or box with contact information) or even to an entire page can also serve to make the page more aesthetically appealing, as well as draw attention to specific content areas and messages.

Type — Using colored text both makes it stand out and improves page aesthetics. This is best employed on headlines, subheads, or other short bits of “spot text,” such as drop caps. However, you don't want body copy to be overly colorful. In other words, do not do this.

Brand Colors — While you can choose any color you like for the kinds of backgrounds mentioned above, using specific brand colors can serve multiple purposes, from enhancing the aesthetic appeal of a document, to highlighting specific content, as well as reinforcing the brand sending out the message. Be careful if you use a tint of a brand color; that may be forbidden, depending on how strict the brand is about the use of its color.

Don't Forget the Envelope — Adding color to documents such as statements and other transactional materials as described above can be highly effective, but don't forget that you can use color on the envelope, too. Special messages on the front or back flap can be rendered in colored text or given a background to make the message stand out. “Special offer inside!” “Renew now!” “Get three weeks free!” — these kinds of messages lend themselves to being printed in color on an envelope. Also don't forget, if you are using a printer or press that supports white ink or toner, you can use a colored envelope. A dark blue or deep red envelope will certainly stand out in someone’s mailbox.

HUE AND CRY: SOME COLOR CAUTIONS
There is a joke variant of the old proverb “nothing succeeds like success” that goes “nothing exceeds like excess,” and this could easily be applied to color. That is, you don't want to go overboard on your use of color. You want to intelligently apply it to discrete elements, not slather different and clashing colors all over a page—unless you're going for a 1960s retro psychedelic look.

Using color effectively is both an art and a science, and professional designers have spent hours in color theory classes learning how colors go together—and how they don't. You may know people who lack basic fashion sense trying to dress themselves and end up as walking “fashion don'ts.” (This writer would be included in this category.) The same goes for graphic design.

Therefore, it’s important to understand how colors go together, and in a way that communicates what you want it to.

Different colors, as we all know, convey certain emotions or feelings. Reds and oranges tend to evoke warmth, while cyans and blues tend to convey coolness. You want to be certain that the colors you use in your mailing are appropriate to the message. If you're sending out a promotion for air conditioners, you want to convey coolness and may want to use some “icy blues.” A coupon for hot sauce may call for a fiery orange.
“COMPLEMENTS” TO THE CHEF
Complementary colors are colors that, when they are combined, will cancel each other out. Essentially, these are colors at opposite ends of a color wheel, such as blue and yellow. Complementary colors, thought of as being “opposite” colors, are sometimes called “clashing colors,” as very often they will create an aesthetically displeasing contrast when used in close proximity to each other. Two adjacent clashing colors can be visually jarring, can give the illusion that the page is vibrating, or just look garish. In fashion, this is what we mean when we use the term “loud,” as in “turn down the volume on that loud sports jacket;” which was a common thing to hear in the 1970s.

That said, color contrast and clashing aren’t always bad things. Designers often use complementary colors specifically because of their contrast, and this contrast can improve legibility or make certain page items stand out. (That’s what contrast is, after all, one thing standing out from another.) Often the clash can be mitigated by using tints of the colors rather than 100 percent, or placing those colors some distance from each other.

The use of color in design can be (and has been) the subject of entire books and dissertations, so a thorough discussion is beyond the scope of this white paper. A lot of the marketing, promotional, or transactional jobs you’re likely to get are produced by professional designers or agencies, but when you are consulting with customers who may not be using professional designers, or if you are doing the design yourself, keep these ideas in mind.

Suffice it to say, it never hurts to get a professional opinion when you’re using color in a document. It can be very easy to let the use of color work at cross purposes to your message—or drive down response rates.

Pretty Green: The Color of Money
Perhaps the biggest reason that more mailers stick to black-and-white is that color has traditionally been more expensive to print, especially process color. This is certainly true in analog processes such as offset lithography, where you have to make color separations and individual plates, as well as use process color inks. Even if you’re using spot colors, that’s still an extra plate and ink.

Digital printing, be it toner or inkjet, doesn’t use plates, of course, so that’s a lot of the consumables cost that is saved right there. On a digital press, it’s all about ink usage and costs, and it may be only marginally more expensive to print full color than black-only. There may actually be no significant difference in price.

One variable is how much color you are using. If you’re adding colored backgrounds all over a three-page bank statement, printing lots of solids, or a lot of color photos, it will use far more ink than a small color logo or photograph on a single page. If you’re printing via offset, if you’re using too little color, is it worth it to make extra plates?

Here’s the conundrum. Color costs more than black-and-white—and, as we saw, how much more is a function of the printing processes used—but color improves response rates, which can mean more sales are generated. More sales equals more money made. Less or no color means less response, fewer sales, and less money, but less spent on printing. How do we balance these two considerations? We can look at it in terms of return on investment (ROI). Marketers and mailers always (well, most of the time) want to know what the ROI of a particular print mailing is likely to be. ROI is a set of calculations that compare the cost of printing with expected revenue based on a given response rate.
You probably have your own way of calculating and communicating ROI to your customers—and they may have their own—but if not, here is a handy formula for getting a sense of the balance between printing costs and ROI based on response rates. ROI has a lot of variables, but let's compare two hypothetical scenarios.

**BASIC BLACK-AND-WHITE MAILING**

Let’s assume we’re a marketer printing and mailing 5,000 copies of a simple one-page statement in an envelope. Let’s assume that the total print and mailing cost is $1.00 per piece (that’s probably low-balling it but it makes the math a little easier), or $5,000 total printing and mailing costs. Let’s assume we get a 2% response rate, or 100 responses. Let’s also be charitable and assume that 25% of those responses turn into actual sales, so that’s 25 new sales.

Here’s the real variable: what is the gross margin per sale? That depends on what we’re selling. Let’s assume (we’re doing a lot of assuming, but in this kind of general-purpose model, that’s all we really can do) that works out to $250. Based on 25 sales, we made $6,250 on the mailing. Our profit then is $1,250 and our return on investment is 25%.

**TO SUM UP:**

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<tr>
<td>ROI</td>
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</table>

**ONCE MORE, WITH COLOR**

Now, let’s add color, but keep the other variables the same. We assumed $1.00 per piece for black-and-white, so let’s assume that running the statement in full color goes to $3.00 per piece (that’s probably high-balling it—color may only add another 10 or 20 cents per page, but again, it depends on the process). But, let’s assume that the response rate was five times that of the black-and-white mailing. That’s a bit optimistic (it’s what the Romano/Broudy study found was the boost in ROI by using color and sophisticated personalization), but let’s see how the numbers shake out.

On paper, that’s pretty good! You can play with the numbers based on whatever assumptions you want to work with. If you think the response rate will only be 5%, your profit (assuming the same 25% of sales conversions) is only $500 and your ROI is 3%. But a profit’s a profit, right? And those 125 new customers may come back to buy things in the future, so a low ROI on a single mailing may not give you a true picture of the overall value of that mailing. Sometimes we get direct mail pieces for businesses we never knew existed, and then become return customers.

This basic ROI calculator is a good thing to have handy to show your customers, and allows them to make their own assumptions when planning mail campaigns. Maybe what they’re selling only yields about $50 per sale. That’s probably going to be a money loser, even with a 10% response rate.

We’ve seen that using color is far more effective than not, but the important thing is to go into these kinds of calculations with realistic expectations, and not promise the moon.

So, to reiterate the theme of this white paper, it’s important to be smart about using color.
Wrapping It Up

We have seen that adding color to print can boost response rates, as well as yield a host of additional benefits. The trick is to use color intelligently, paying attention to best practices and the principles of good design. It is also important to understand that color doesn't exist in a vacuum; when combined with personalization as well as other advanced variable-data and database printing, the results are even more dramatic.

At heart, though, generating effective promotional materials all comes down to the message. All the color and all the data in the world won’t make a campaign a success if the message isn’t relevant. But when the message is relevant, color and personalization can help strongly reinforce it.

Understanding all of these things can make you better able to help your customers communicate with color, boost their business, and make everyone more successful in the long run.

ABOUT THE AUTHOR

Richard Romano is Senior Analyst for WhatTheyThink.com, the news and information portal for the graphic arts industry, for which he curates the Wide Format topic page, and contributes other news and feature stories, as well as market research and technology reports. He also cohosts, with Dr. Joe Webb, WhatTheyThink’s monthly economics webinar. He also contributes to other industry publications, such as Wide Format & Signage, Printing News, Inkjet’s Age, the SGIA Journal, PrintPlanet.com, and more.

He is the author or co-author of more than a half dozen books, including This Point Forward: The New Start the Marketplace Demands; The Home Office That Works! Make Working at Home a Success—A Guide for Entrepreneurs and Telecommuters; “Does a Plumber Need a Web Site?”; and Disrupting the Future. He is currently at work, with Dr. Joe Webb, on a new book called The Third Wave, which will be published at PRINT 17. Many moons ago, Romano was the co-editor of The GATF Encyclopedia of Graphic Communications.

This analysis was commissioned by Canon Solutions America and NAPCO Media to help printers better understand how today’s technology can optimize their production and how they can benefit by adopting these solutions.

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