



NEW RESEARCH METHODS TO STRENGTHEN THE IMPACT OF ADVERTISING CREATIVE

A White Paper from the ARF Creative Council



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INTRODUCTION

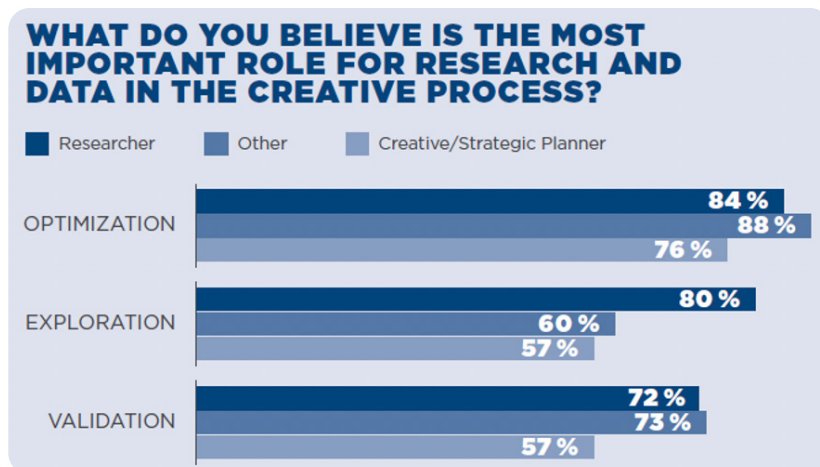
Over the past decade, several studies have documented the importance of advertising creative in driving business growth and positive business outcomes for brands. Conducting research to improve creative is therefore critical to the efficiency and success of the advertising ecosystem and to the ability of brands to reach their marketing goals.

The purpose of this Creative Council white paper is to highlight new methods and approaches to measuring creative content that offer more powerful insights during the creative development process and spur greater communication between researchers and creative professionals.

BACKGROUND

This white paper builds on the learning from [the Council's first white paper](#) published in 2019, which was based on a survey of industry professionals and 16 in-depth interviews (IDI) with creative professionals and strategists. The conclusions revealed broad agreement

across all constituencies on the importance of applying research and data to the creative process. However, there were notable differences regarding which research methodologies should be used, when they should be used and how the resulting insights are communicated and applied.



Source: ARF Creative Council. (2019, December). How to get better creative from better insights. Retrieved from [PowerSearch](#).

¹See studies by IPA (The Gunn Report & IPA, 2011), Analytic Partners (2017) and CBS and NCS (Poggi, Poltrack, & Wood, 2017). According to McKinsey & Company, "You may think brand success is all about the media budget, but it isn't. Message beats media" (Roberts & Stein, 2021). McKinsey concluded that what you say is more important than where you say it.

The Council recommended that the insights and creative teams begin collaborating as early in the process as possible and that they work together to build systems and relationships that integrate the two disciplines in the service of creative excellence.

This white paper focuses on tools that can be leveraged in the early stages of creative development, particularly those that foster stronger communication between creatives and researchers and take advantage of state-of-the-art technology. Examples:

- Social media scraping to gauge consumer sentiment about a brand
- Mobile ethnography
- Quick turnaround eye-tracking and other neuro tools
- Artificial intelligence and machine learning.

What follows are descriptions of some of these new research tools, as well as case studies to illustrate how they have been applied.

This white paper represents a concrete step in the effort to bridge the creative and research divide. By exploring new approaches that have been used by brands to help spur creative excellence, this report seeks to optimize the best creative in the light of new technological capabilities that were not available 10 or 15 years ago and to help overcome any challenges or shortcomings of traditional research approaches. It addresses research performed throughout the creative process but stops short of validation.

Many of the techniques described here can be conducted more quickly (and at lower cost) than traditional in-person qualitative research and, therefore, can help minimize friction between the data insights and creative teams. Moreover, the innovation underlying many of these techniques could help to generate improved dialogue between these teams and enable insights-based creative dynamism.

RESEARCH ON CREATIVE HAS EVOLVED AND ACCELERATED THE USE OF ADVANCED TOOLS

Developments over the course of the past several years, both technological and sociological, have presented challenges to traditional research methods:

- Because of the capability of some platforms to shift campaign messaging in real time, turnaround speed is an important consideration. The speed needed for the development of new campaigns and messaging has accelerated the pace of creative development, squeezing the timeline for conducting careful, insightful research.
- As consumers have grown more resistant to participating in research studies, incentives for inducing them to participate have risen, pushing up the cost of traditional qualitative and quantitative research.
- As a result of technological advancement in online polling and recent COVID restrictions and lockdowns, consumer behavior has evolved, and in-person focus group and ethnographic research are now less practical and less essential. Moreover, high transportation costs to attend in-person focus groups are sometimes regarded as a barrier to inclusion of all segments in the respondent pool.

With these developments in mind, the Council's key objective is to shed light on how research in the service of creative development has evolved to meet the needs of the current landscape. This white paper focuses particularly on **pre-deployment** stages of creative development – strategy, ideas and optimization. The evolution of these approaches has been bolstered by recent technological and scientific advances, including:

- **Advances in neuroscience and neuroscience tools:** Within the last two decades, greater understanding of non-conscious signals from the human body has enabled the development of neuroscience techniques at scale that seek to reveal a consumer's actual response to a stimulus rather than the ones he or she reports in an answer to a question.
- **Advances in AI technology:** Although artificial intelligence as applied to advertising is still in the early stages, it is already being applied in a variety of useful ways.
- **Availability of Big Data:** The availability of first-party, second-party and third-party data sets covering large numbers of consumers has had an impact on creative development, providing additional information about intended advertising targets.
- **Advances in computing power:** Greater processing speed and increased storage capacity have enabled the development of data-driven research techniques powered by the processing of masses of data and rapid calculations that would not have been previously possible.
- **Ubiquity of smartphones:** The indispensability of a powerful device in the hands of most consumers has spurred new research methods that open windows into consumers' worlds. Some of these methods are being used in creative development, including "mobile ethnography" in which a phone can replace a human being as an observer of consumer behavior.

These developments in the business landscape have resulted in the increased diversity of research practices as reported in the [GreenBook's \(2021\) annual GRIT report](#).

GOAL OF THIS WHITE PAPER

In response to the evolution of creative research, the Council sought to better understand these innovative new approaches by seeking answers to the following questions:

- How can these approaches be harnessed to enable quicker turnaround to meet the needs of the fast-paced consumer marketplace?
- How can they be used to reinforce the value of starting research early in the creative process?
- How can they help strengthen the ties between insights and creative teams to advance the goal of bringing successful creative to market?

In order to address these questions, the ARF Creative Council's Research Working Group embarked on a multi-pronged research program which incorporated questionnaires sent to a number of research vendors (See [Appendix](#), page 28).

The result is an overview of many of the alternative research approaches for brands and creative teams. The goal: to increase awareness of new methodologies and encourage creative exploration and tool kit expansion.

While several case studies are presented here, this white paper aims to highlight approaches rather than the services of a particular company. The Working Group does **not intend for this paper to be an exhaustive, all-inclusive review** of the many companies and methods that conduct research in support of creative development. Further, because the group's focus was on newer, less-familiar solutions, more established and recognizable products and tools are not covered here. There are a number of companies performing services like those described here, and the Council recommends both exploring new vendors and reaching out to one's current suppliers to learn whether they offer similar approaches.

It should also be noted that the Working Group did not test any of the products described in this document and so cannot attest to the effectiveness of these approaches in improving sales or reaching marketing objectives. The descriptions of the approaches here are based on the group's careful look at the companies' responses to the Working Group's questionnaire and the supporting materials they submitted, as well as some ARF David Ogilvy Award submissions.

CHAPTER 1

THE NEW CREATIVE DEVELOPMENT LANDSCAPE

In its investigation of new tools and techniques to aid in creative development, the Creative Council uncovered a broad swath of solutions, some of which build on methodologies that have been used for decades, some that have emerged in the last decade or so and others that are just now emerging. Technology has enhanced traditional solutions and, at the same time, has led to new solutions that did not exist at the turn of the millennium.

At the same time, emerging new behavioral measurement techniques are already

delivering greater accuracy, fidelity, coverage and speed often at less cost than traditional research methods. Advertisers committed to boosting creative efficiency while reducing waste have multiple ways of receiving quick, robust intelligence to inform creative selection, cuts and enhancements that result in better campaign outcomes.

In addition, advanced tools such as AI and machine learning are accelerating our ability to process large amounts of data quickly, accurately and predictively.

THE ROLE OF RESEARCH IN CREATIVE DEVELOPMENT

In the formative stage of creative development, the marketing research function is expected to shoulder a good amount of the responsibility for delivering insights to inform the communications strategy.

When it comes to communications strategy, the junction point between the brand owner

and the creative partner is the creative brief. Too often, due to cost and time pressures, the provision of insights in the formative stage of marketing communications is cut short or, worse, not undertaken. Without rigorously developed insights, the big idea arising from the creative brief is likely to be based on judgement alone.

In this early stage of creative development, marketing research seeks to identify what drives behavior. The underpinnings of behavioral change are the rational and emotional drivers of consumer choice.

- The question for brand owners and creatives is what do we wish to teach our prospective buyers? This is often referred to as the rational choice drivers or colloquially as the “reasons to believe.”
- Emotion in marketing communications is fundamental. Damasio (1994) declared that we cannot decide without an emotion, and emotional arousal attracts attention, which enhances memory formation (Mather, 2007). Research is undertaken to determine which discrete, primary emotion should be attached to the brand (Roberts, Roberts, Danaher, & Raghavan, 2015).

Both attention and emotion are essential to marketing communications if the target is to lay down an enduring memory. The task for marketing communications is to “make them feel” (the emotion) and “teach them that” (the cognitive reasons-to-believe), based on rigorously selected drivers which are then embodied in the creative brief.

Acar, Tarakci, and van Knippenberg (2019) found that creativity thrives under constraints. In the context of marketing communications, the fundamental constraints relate to the rational and emotional motivators that marketing research has determined are likely to bring about behavioral change.

PASSIVE MEASUREMENT OF EMOTION

We have long known the importance of emotion in advertising and its role in developing memory structures. When it comes to strategy and communication, the past decade has seen a progression from the physiological measurement of emotion at a valence level to the identification of discrete emotions that are predictive of consumer choice. Econometric modeling has taken the implicit measurement of emotions and revealed the predictive links between a discrete emotion, such as pride or love, and category choice. In setting a communications strategy, organizations are now requiring that creative briefs include elements that elicit discrete emotions alongside cognitive choice drivers, such as price and quality dimensions.

Many researchers believe that real feelings are hidden in the subconscious. To uncover the true picture of consumers’ perception of brands requires adding non-conscious, behavioral research tools to dig deeper into the subconscious. Passive measurement techniques which enable the

researcher to collect data from a device rather than through a verbal or written response from a research subject have arisen over the last two decades to address marketers’ interest in tapping consumers’ emotional states.

Passive response research techniques involve generating insights by leveraging consumers’ non-verbal responses to stimuli in addition to or in place of their verbal responses. In the recent past, passive response was limited to the world of anthropologists, ethnographers and rudimentary eye-tracking techniques. Now, however, advancements in technology and the adoption of behavioral science practices have amplified and greatly improved the use and efficacy of passive measurement. Many of these passive techniques can be used across the advertising development spectrum, from strategy identification to uncovering communication ideas to optimizing creative prior to production.

Specific advantages of passive measurement during the creative development process include:

1. Bridging the “Say vs. Do” Gap

We have long known that there’s a substantial gap between what consumers tell us and how they actually behave. These gaps are amplified when researching sensitive topics, such as brand purpose, sustainability or eating habits. Many explicit-response methods, such as survey responses and group interviews, are subject to social desirability bias, biases that favor aspirations over strong intentions, uncertainty, confusion or hazy memories. The use of passive measurement removes many of these potential distortions.

2. Survey Panel Issues

Many of the issues associated with panels, such as response quality, straight-lining, gibberish, and profanity, can be overcome through passive measurement.

3. Measuring Attention

More recently, attention is increasingly seen as crucial for driving advertising success. Attention is difficult to measure with traditional research tools. Eye tracking, augmented by machine learning, is being used to collect gaze data on ads to measure visual engagement and attention.

NEUROSCIENCE TOOLS

Passive measurement often involves the use of neuroscience tools. These tools include, but are not limited to, fMRI (functional Magnetic Resonance Imaging), EEG (electroencephalogram – a recording of brain activity), facial coding, GSR (Galvanic Skin Response) and pupillometry. While these tools run the spectrum on cost and timing,

their adoption in the creative development process continues to increase.

Combining neuroscience tools or using them in conjunction with traditional methods has been shown to improve the overall accuracy of these tools (Stipp, 2017).

OTHER TECHNOLOGICAL ADVANCES

Today marketers can receive instantaneous insights about their creative through several mechanisms, thanks to digital connectivity across all platforms:

- Sentiment analysis of social media posts can provide a window into perceptions of brands and consumer behavior that can inform creative development.
- Instant signals through social media are captured by releasing creative assets on social media, generating likes, comments and shares, which provide valuable insights about reactions to creative messages.
- AI-based facial coding captures visual attention and emotional reactions to unlock deeper measurement of actual campaign audiences in order to improve model predictions.
- Creative tags based on AI analysis use AI to predict the success potential of ads before their in-market launch.

OVERVIEW OF THESE TECHNIQUES

The next three chapters describe the tools and techniques explored by the Creative Council. Chapter 2 discusses tools which are rooted in familiar methods that have been enhanced by new technologies or advances in behavioral

knowledge. Chapter 3 discusses tools that have been developed relatively recently to understand consumers at a non-conscious or emotional level. Chapter 4 provides glimpses of some emerging tools.

PRIMARY INPUTS, METHODS AND TOOLS

This classification can also be viewed through the lens of the methods' primary inputs. Primary Inputs refer to the type of data used as well as the methodological approaches applied to the generation and aggregation of the data. Primary inputs often, but not always, are driven by the role of respondents in the research and fall into the following categories:

- 1. Extensions of Familiar Tools** – On one end of the spectrum are the more traditional sources, including survey data and focus groups. However, a number of companies are leveraging these self-reporting methods in new ways.
- 2. New tools to tap non-conscious motivations** – The second type of primary input is passively-collected data that does not require respondents to answer any questions. These methods seek to inspire new creative strategy and ideation from a deeper understanding of the drivers of unstated consumer preferences and behavior.
- 3. Emerging Tools** – The primary input for these tools does not require respondents at all. These include purchase data, social media posts, other historical data and synthetic modeling fueled by AI-powered technologies.

PRIMARY OUTPUTS (QUESTIONS TO BE ANSWERED)

The questions that marketers and agencies want answered to enhance their creative efforts are as consistent, fundamental and essential as they were 10, 20, even 50 years ago. In fact, the overarching questions remain:

- Within a category, what are the rational and emotional drivers of choice?
- How can a brand best distinguish itself through communications?

Notably, the transformative changes in research that can now be applied to the early stages of creative development have touched every element of the process, from strategy formation to idea development and optimization of creative content. And, while the advancements in technology and data science have afforded us new tools to address these questions, the essential questions themselves are the same as they have always been.

KEY CATEGORIES OF OUTPUT QUESTIONS

The Creative Council's investigation focused on three key categories of questions that marketers and agencies rely upon advertising research to address:

- **Approaches to help formulate creative strategy:** Marketers and agencies continue to seek ways to better understand consumers, in order to identify strategies that fuel effective creative.
- **Approaches to spur new creative ideas and foster communication between stakeholders:** Researchers are often asked by agencies and marketers, "How can we speed up the creative development process while still including the voice of the consumer?" As outlined in this white paper, researchers have developed solutions using technology that accelerates the process of identifying new ideas, simultaneously involving the brand team, creatives, researchers and consumers.
- **Approaches to optimize creative:** These seek to answer the question: "Which of three concepts would perform best?" Previously, concept tests served to help marketers and agencies identify winning concepts based on performance across multiple dimensions.

The combinations of input and output can be mapped in the chart below.

	Strategy	Ideas	Optimization
Extensions of Familiar Tools			
New Tools to Tap Unconscious Motivations			
Emerging Tools			

The chapters that follow offer descriptions and some case studies of each approach.



CHAPTER 2

EXTENSIONS OF TRADITIONAL METHODS

The techniques described in this chapter build on traditional self-report research methods by incorporating new elements or combinations of elements. The innovative methods described here are not a replacement for the traditional

methods (e.g., face-to-face or online focus groups). Rather they are complementary, providing color to the tapestry of the customer viewpoint and giving a holistic understanding of reactions to the advertising concept.

RESEARCH TECHNIQUES FOR UNDERSTANDING A TARGET CUSTOMER AND A BRAND'S IDENTITY:

To develop a creative strategy, brand teams must first understand their customer and current position in the competitive landscape. This helps to determine unique messaging opportunities for the brand and to more fully understand how consumers perceive the brand. These approaches can be used help develop creative strategy.

1. MIND MODELING WITH BENEFIT LADDERING²

This methodology combines Qualitative, Quantitative and Implicit Association exercises.

STEP 1: Qualitative 25–30-minute interviews conducted by an AI-driven software moderator, carefully designed to engage participants and activate their perceptions about the category, the brand and competitive brands.

STEP 2: An implicit association exercise to help unlock additional language and perceptions. This helps respondents move beyond top-of-mind, more easily identified emotions (happy, sad, feel good) to articulate language that occurs at a deeper emotional level (nurturing, freedom, optimism).

STEP 3: Linguistic analysts using proprietary analysis tools to help brand teams identify patterns and dig into the language and nuance uncovered in the interviews.

Mind Modeling with Benefit Laddering Use Case:



CHALLENGE

Kellogg's was stuck in a rut trying to identify a new and compelling way to talk about "100% real cheese" for the Cheez-It brand. Kellogg's goal was to shift away from product-centric claim to one that was consumer centric.

SOLUTION

Hybrid qualitative/quantitative design with AI moderator.

RESULT

The "Cheesy Crunchy Satisfaction," which substantially improved TV and Digital Display ROI.

For more detail, [see case studies](#).

Source: Response from Quester to ARF Creative Council questionnaire.

²Source: Response from Quester to ARF Creative Council questionnaire.

2. VISUAL BRAND DIARIES³

This methodology focuses on intensive probing of visual stimuli:

STEP 1: Consumers collect pictures that visually represent their thoughts and feelings about a research topic.

STEP 2: Each consumer participates in a 90 minute, one-on-one interview conducted by an analyst. The interviews use the consumer's pictures to activate different dimensions of their mental model of the research topic. As each image is discussed, psychoanalytic techniques are used to identify the meaning and relative importance of each elicited idea. The result of the interview is a detailed mapping of each respondent's mindset of the focal topic.

STEP 3: Trends analysis is conducted to identify the shared thought patterns that define the mindset of each segment selected for study (e.g., men vs. women; frequent brand users vs. nonusers).

STEP 4: The thought patterns that define each segment's mindset are then compared to identify the similarities and differences in their thinking about the topic.

Visual Brand Diaries Use Case:



CHALLENGE

The Kit Kat brand was struggling with declining sales and share loss in a growing category. The brand desired to identify a fresh positioning strategy to drive brand relevance.

SOLUTION

Mind Modeling was used to identify how Frequent, Infrequent and Lapsed Users think about the Kit Kat brand.

RESULT

Kit Kat Brand developed the “break away” campaign from these types of insights, lifting sales by 18%.

For more detail, [see case studies](#).

Source: Response from Theory to ARF Creative Council questionnaire.

3. MEASURING EMOTIONS WITH AN AVATAR AND MOVEMENTS OF A FINGER (OR MOUSE)⁴

This methodology's objective is to ensure that any communication strategy is based on the scientifically derived category drivers of consumer choice – both cognitive and precognitive. This method is aimed at identifying the distinctive and notable attributes of the brand that can enable it to gain relative market share or raise margins.

STEP 1: A survey design that incorporates a comprehensive list of hypothetical rational drivers of consumer choice along with nine primary emotions known to be associated with consumption behavior.

STEP 2: A survey where brands are rated based on both perception and experience. Emotions are measured using a non-verbal, gamified, metaphor-based scale. This implicit scale is considered precognitive or at the very least, minimizes cognitive interference.

The Feelings scale involves animated avatars. The respondent moves their finger or mouse on their screen to reveal the emotion they are experiencing in response to a stimulus such as a logo, storyboard, animatic or finished art. The average response time for a respondent using the Feelings scale is less than one second.

³Source: Response from Theory to ARF Creative Council questionnaire.

⁴Source: Response by Forethought to ARF Creative Council questionnaire.

STEP 3: Multivariate analysis that provides the hierarchy of importance for each of the rational and emotional drivers of category consumer choice. A brand health score is calculated for each brand based on the importance of each of the rational and emotional drivers. Survey-based measures of brand health are strongly correlated (usually at around 0.8) with changes in market share.

Acquisition drivers are distilled down to a brand communication proposition that includes one emotional, behavioral trigger (an emotion elicited by a brand that initiates consumers to choose it) and two rational attributes, one involving price and one other that does not involve price.

APPLYING RESEARCH TO FORMULATE CREATIVE IDEAS

Once the customer has been profiled and the brand identity established, the process for developing creative concepts begins. The following techniques help determine the health of the ad concept prior to being placed.

4. ENHANCED IMPLICIT ASSOCIATION TESTING (IAT)

- **IAT** is used to uncover implicit biases and associations between concepts in a consumer's memory — in other words, measuring “gut” reactions to a specific stimulus. There are various executable subsets of IAT. The original methodology directs respondents to group words or images into categories by using two responses on a keyboard as quickly as possible. For example, participants are told to press the “A” key for words that belong to the category on the right and the “Z” key for words that belong to the category on the left. One word at a time is then displayed on the screen and the participant decides in which category the word best fits. A new variation is using the time it takes a participant to make a choice as a key indicator: The longer it takes for an exposure, the less committed the respondent is to the choice.
- **Implicit Sensory Association Testing** uncovers the effects of taste, smell, sight, sound and touch on overall product perception. Participants are instructed, depending on the type of tablet or desktop being used, to press either a spacebar or a button on the screen if the descriptor and the concept or sensory input (smell, taste, sound, sight) should be categorized together.



5. FOCUS GROUPS (HUMAN- MODERATED, ONLINE OR AI ENHANCED)⁵

- **Enhanced Online Focus Groups:**

Respondents are invited into a private and secure online study space where the experience is customized to the respondents' segments or roles. Participants are directed to engage in activities and questions specifically designed for their customer segment or group. Researchers have a variety of tools to help with moderation and analysis, and client observers have their own dedicated backroom to follow along and engage with the research team. This method also allows for controlled exposure to the creative and targeted activities to specific segments, thereby enabling greater flexibility and customization when gathering insight.

- **Message Sorting:** This message testing tool consists of a message prioritization exercise and a story optimization exercise. In the message prioritization exercise, respondents physically sort messages within topic areas. In the story optimization exercise, the tool enables respondents to create a compelling story flow by focusing not only on which messages are most compelling overall, but also by identifying the optimal message sequence. During both exercises, moderator and client viewers observe how respondents prioritize messages in real-time to facilitate probing on key questions and exploration of opportunities for optimization.

These activities are executed as part of a three-to-four-week iterative sprint which allows a team that is comprised of marketing, insights and creative professionals, as well as the research supplier, to optimize creative quickly and efficiently.

- **AI Enhanced Groups:** This is a methodology that creates a live conversation with up to 1,000 people at one time. Researchers send stimuli to the group. Participants answer questions in their own words, and the AI algorithm analyzes and organizes their responses in real time. This methodology also offers the ability to ask tailored follow-up questions as part of the dedicated "backroom."
- Real-time synthesis allows for findings to be presented, and clarifying questions to be posed, instantaneously and iteratively. The platform also enables the data collection and AI synthesis to be witnessed by the creative partners, thus heightening the prospect of collaboration between researchers and creative professionals. This approach is considered to be particularly relevant during the formative stage of advertising development. However, the discussion guide can range from soliciting usage and attitudes to reviewing story boards and other communications stimulus.

A.I.- Enabled Focus Group Use Case:



CHALLENGE

The brand team wanted to gather feedback on three ad campaign ideas from their target consumer segments early in the ad development process.

SOLUTION

An AI-powered digital conversation platform where participants enter responses and vote on what other contributors are saying in real time.

RESULT

"Feed Your Best Life" ad saw a great base sales lift following the ad release.

For more detail, [see case studies](#).

Source: Response from Remesh to ARF Creative Council questionnaire.

⁵Source: Responses from HawkPartners & Remesh to ARF Creative Council questionnaire.

RESEARCH TOOLS TO HELP OPTIMIZE CREATIVE

These tools can be used to help optimize advertising creative:

6. AI QUANTITATIVE AD TESTING⁶

The methodology uses a library of more than 500 images that were selected to enable respondents to fully express their deep-seated thoughts and feelings through visual metaphors. This test uncovers non-conscious thoughts and feelings that consumers are unable to articulate in a conventional survey using standard Likert scale questions. This is a quantitative ad test solution using a behavioral science approach with AI powered text analytics

AI Quantitative
Use Case:



CHALLENGE

How do two market share leaders in ketchup sales differentiate themselves and carve out unique marketing positions?

SOLUTION

A combination of metaphor elicitation visual exercises, response latency tests and traditional cognitive survey questions.

RESULT

Common descriptors of each of the brands were discovered.

For more detail, [see case studies](#).

Source: Response from Protobrand to ARF Creative Council questionnaire

7. LIVE IN-CONTEXT AD CONCEPT RESEARCH⁷

This methodology involves testing advertising concepts on live websites, TV, print and out-of-home. The technology measures consumer behavior on a product or an advertisement in a live environment.

In the first cell of respondents, test ads are inserted on social media platforms. Respondents are asked to browse the social media site (FB, Twitter, YouTube, Instagram). Then, after a fixed time of browsing, they are taken to a commerce site like Amazon (Target, Walmart, etc.) and asked to type in the category of the ad they were exposed to and place a product in the cart. Consumers are not told about any ad exposure prior to the test and so are unaware of what is being tested. When they type in the category and go to the search results page (SRP), a pack/image of the product promoted in the ad to which they were exposed is inserted in the third or fourth position. All behavior is measured through the purchase funnel, including time with said product in screen, possible click activity on the product, the SRP, advancement to the product detail page (PDP), time spent on the PDP, and the percent of respondents who then put the product in the cart.

The second cell goes through the same process as the first cell, but the respondents are not shown an advertisement on a social media site. Lift is then measured by comparing this cell to the first cell on time spent on the product on the e-commerce site (demonstrating attention), the percent clicking on the image, time on the SRP, the percent going to the PDP (demonstrating interest), and the percent putting product in cart (demonstrating purchase intent). All of these behavioral metrics capture what consumers would actually do and not just what they say they would do.

⁶ Response from Protobrand to ARF Creative Council questionnaire.

⁷ Response from Eyesquare to ARF Creative Council questionnaire.

CHAPTER 3

MORE RECENTLY ADOPTED APPROACHES

The methods described in this chapter are based on relatively recent techniques for capturing

non-conscious reactions and emotions. All involve some form of passive measurement, as described in Chapter 1.

These techniques can help to develop creative strategy and/or ideas:

1. COMBINATION OF PASSIVE MEASUREMENT WITH OBSERVATIONAL RESEARCH

In order to understand consumers' unconscious biases, it can be helpful to combine passive measurement techniques like eye tracking with other techniques in which respondents are observed or asked for input. These two sources of data can complement each other to help fuel creative strategy by, for example, helping to probe unconscious biases.

Passive and Observational Use Case:



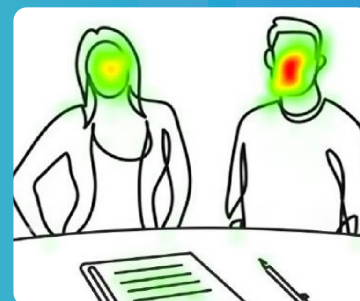
2021 Brand Purpose Ogilvy Award “Gold” Winner

CHALLENGE

Merrill sought to learn whether gender bias still exists between male advisors and female clients and how to address it in the marketing.

SOLUTION

Webcam-enabled Investment Advisor interviews with eye tracking via webcams, plus lexical analysis (i.e. analysis of word choices).



RESULT

Brand favorability perception that Merrill “is a place for women,” and registration for their women’s email newsletter increased.

For more detail, see [case studies](#).

Source: ARF David Ogilvy Awards. (2021). Gold, Brand Purpose: Merrill. Retrieved from [PowerSearch](#).

2. UNCONSCIOUS PERCEPTIONS⁸

This method seeks to understand what is really on respondents' minds that they are unable to articulate beyond top-of-mind emotions.

The methodology includes an electroencephalogram (EEG) which is applied by placing electrodes on the scalp according to different brain regions or lobes. Algorithms and imaging techniques are then used to infer information from the brain (Kirschstein & Köhling, 2009). The electrodes notice electrical charges in the brain and amplify the charges to be depicted graphically (Biasiucci, Franceschiello, & Murray, 2019). The input is then gathered from EEG and has the potential to give a direct and valid measure of global activity in the brain, thus providing a global idea of what was occurring passively on an electrical level during the presentation of stimuli in real-time. This technique can help to develop or optimize a creative asset.

3. COMBINATION OF NEUROSCIENCE AND EYE TRACKING⁹

The primary inputs in this approach are applied neuroscience featuring the combination of EEG (electroencephalograph) headsets, and eye-tracking technology. To classify responses, the EEG brain monitoring headsets implicitly measure emotional arousal (intensity) and motivation (valence). Eye tracking reports on what consumers are seeing and how much time they spend looking at the stimulus. This approach assists in developing early-stage advertising creative by providing second by second diagnostics of attention, approach vs. avoidance, memory encoding and cognitive load.

Solutions with these behavioral methods are best suited for pre and post testing the performance of different options for a creative asset (*i.e.*, creative optimization).

4. EYE TRACKING AND FACIAL CODING IN A SIMULATED ENVIRONMENT¹⁰

This approach involves behavioral methods that include eye tracking and facial coding which can be combined with virtual shopping, reaction time measurement and survey data to test creative assets in different stages of development. Tests can be conducted in-context by using tech-enabled platforms which simulate and provide full control over different environments (e.g., online stores, YouTube, Instagram, Facebook, Snapchat, etc.). This testing is done online in respondents' homes with different creative formats (TVCs, direct mails, social media ads, print ads, outdoor). Proprietary behavioral methods, coupled with end-to-end project management and experimental designs, assure greater flexibility, control and predictability of the results.

⁸ Response from HCD Research to ARF Creative Council questionnaire.

⁹ Response from Neurons to ARF Creative Council questionnaire.

¹⁰ Response from EyeSee to ARF Creative Council questionnaire.

5. AI POWERED FACIAL CODING TECHNOLOGY¹¹

This approach involves A.I.-powered facial coding technology and emotion recognition technology to measure how strongly a video drives emotional resonance, consumer behavior and key performance indicators.

- Clients upload video advertisements ranging from animatics to the finished creative asset. Participants are then asked for access to their webcams. Once they grant access through a double opt-in process, participants are guided through a quick calibration exercise. Participants then watch the advertisement as they would see it in the real world — on their own devices, in their own daily routines. As they do so, the camera on their device measures their precise eye-gaze locations and their micro-facial movements. By leveraging the data gathered through the participant experience, proprietary algorithms can identify complex emotion and attention data patterns, which are measured and scored to determine the unconscious and conscious impact of key creative elements.
- After the viewing experience, participants are asked to answer a series of psychological segmentation questions. Performance scoring is then segmented by specific traits in order to offer actionable targeting insights for reaching those most responsive to the video ads.
- Emotion recognition technology identifies viewers' moment-by-moment emotional responses to the ad and plots the moments on a timeline graph, thus creating a graphical depiction of the emotional shape of an ad's story. This identifies the most effective moments of the ad. Layering eye gaze data on top of emotion data helps to understand exactly which branding elements (e.g., logo, product packaging, etc.) are effectively linking the brand to positive emotions and encoding the resulting associations into memory.

Neuroscience and AI Combination Use Case: **Mortgage Lender in Superbowl**

CHALLENGE

Largest mortgage lender in the U.S. sought to test six animatic advertising concepts with the goal of determining which of the ad concepts would air during Super Bowl LV.

SOLUTION

Deploying a mixed-method approach that combines facial coding, eye gaze tracking, and survey data to examine highly nuanced emotional response patterns.

RESULT

The brand's two spots were voted the top two Super Bowl commercials by USA Today's Super Bowl Ad Meter.

For more detail, [see case studies](#).

Source: Response from Dumbstruck to ARF Creative Council questionnaire.

Moment-by-Moment Creative Analysis



¹¹ Source: Response from Dumbstruck to ARF Creative Council questionnaire.

6. IN SITU FACIAL CODING¹²

- This methodology uses front-facing cameras, in a privacy-safe manner, that measure naturally occurring human response while opt-in viewers watch videos from their own devices. Consumers who opt in are passively recorded by a webcam while watching a video and are then asked pre- and post-viewing questions about brand favorability, purchase intent and brand recall.
- Key measures include the ability to capture audience attention in the first seconds, the ability to retain the audience throughout the ad and the ability to encode the brand message into the brain through emotional engagement.
- A content intelligence tool predicts and manages attention in advertising, enabling advertisers to reduce media waste by predicting and eliminating low-performing video creative and boosting strong attentive-generating creative.

Facial Coding Use Case:

Iterative Testing Drives Sales Effectiveness

CHALLENGE

A marketer of fresh bakery goods wanted to ensure it launched the right creative for its “fairy tale”-themed campaign to drive maximum performance as measured by marketing mix analysis.

SOLUTION

Leveraging facial coding to measure moment-by-moment emotional response and attention, from story boards to finished ads, to drive top performance.

RESULT

Brand saw increases in brand health measures and lift and ROI in mix modelling.

For more detail, [see case studies](#).

Source: Response from Realeyes to ARF Creative Council questionnaire.

¹² Source: Response from Realeyes to ARF Creative Council questionnaire.

CHAPTER 4

NEWLY EMERGING TOOLS

This section describes techniques that have recently emerged and which may well point to the future direction of research on advertising creative. These techniques do not involve human respondents at all. They arise from synthetic predictions, sometimes

from in-market data. Synthetic predictions are those insights arising wholly from AI and unsupervised or semi-supervised machine-learning algorithms and real-time analytics. From these emerging techniques come additional outputs such as:

- Real-time synthesis of scalable qualitative data to optimize early-stage creative development and facilitate better collaboration among creative professionals, insights teams and brand owner.
- Big Data that enable creative professionals to tap into the brand's neurobiological codes and to mobilize the target's primary motives.
- AI-identified triggers of purchase behavior requiring a creative asset that thematically aligns with the event triggers.
- Machine learning technology that examines video assets, frame-by-frame, to identify the creative elements that are maintaining audiences' engagement and integrates problem identification with problem resolution to optimize early-stage mobile first, video ads.
- AI assisted social imaging tools that are designed to provide cultural optimization of brands in the marketplace.

The arrival of Big Data-driven synthetic market predictions has been long anticipated.¹³ The question is, in the formative stage of marketing communications, can synthetic methods assist creative professionals and researchers to

identify the optimum rational and emotional behavioral drivers?

Methods that leverage these techniques are described below.

¹³ Chris Anderson (2008) noted that, "This is a world where massive amounts of data and applied mathematics replace every other tool that might be brought to bear. Out the door with every theory of human behavior from linguistics to sociology. Forget taxonomy, ontology, and psychology. Who knows why people do what they do? The point is they do it, and we can track and measure it with unprecedented fidelity. With enough data, the numbers speak for themselves."

1. UNDERSTANDING BRANDS THROUGH AI ANALYSIS OF VISUAL CULTURE¹⁴

For many societies and demographics, social platforms have become a window into contemporary life. How does a brand show up in a specific culture and fit into people's lives? One approach seeks to understand the signs and symbols present in visual-based consumer-generated content as they relate to brands by using social imaging tools designed to enable cultural optimization of brands in the market.

During the development of a communications strategy, brands explore the visual landscape of their consumer and identify the most compelling and relevant ways to communicate within it. The core questions that can be addressed are: What can be learned about the consumer or brand in its cultural setting, looking specifically at the kind of visual content consumers share? And how can the marketing communication embrace and connect with that visual language?

This tool assembles and de-spams user-generated content against a specific hashtag or collection of hashtags and then clusters tens of thousands of images by applying AI-driven image recognition technology. Expert human semiotic analysis then launches the “decoding” process to better understand how the identified visual codes relate to broader cultural themes and shifts, as well as to discover their meanings as they relate to any available brand opportunities.

This methodology enables brand owners to understand how people interact with a category or brand by identifying the connection points they have with it in their everyday lives, uncovering key consumer insights that help drive creative strategy.

2. AI-DRIVEN PROJECTIONS OF CREATIVE TESTING SCORES¹⁵

Two AI solutions currently in the market include AI for testing television commercials and AI for testing digital video. Both offer unsupervised, synthetic predictions of how consumers would rate an advertisement, had a traditional survey-based test been applied. The algorithm has been trained on a normative database of panel-based survey results. This solution can be applied for any video ad, especially when rapid results are required from animatics to finished film, or when isolating the impact of alternative creative elements, such as music tracks or alternative endings. It can also be used to test batches of ads with the purpose of analyzing creative data for category trends, competitive intelligence and campaign performance across markets.

Once a video is uploaded, the AI part of the solution breaks it down second-by-second and extracts as many as 20,000 features from it. The machine-learning part of the solution, trained on historical survey-based tests, predicts the ad's score on creative effectiveness metrics, such as impact, short-term sales, long-term brand contribution, branding and enjoyment. The digital AI solution also scores each video on behavioral and brand lift measures.

The employment of AI in this system has been able to mimic survey-based results without the cost or delays associated with survey-based approaches. Designed for speed and scale within 15 minutes, this system predicts effectiveness measures previously derived from survey-based tests. This system is designed for the formative stage of creative development, such as pre-screening ads early in the development process. It can also be used iteratively through revision stages and for evaluating large volumes of assets associated with digital campaigns. This approach does not necessarily replace surveys, but it opens up new ways to efficiently gain creative insights at a greater scale than was previously possible.

^{14, 15} Response from Kantar to ARF Creative Council questionnaire.

3. AI-DRIVEN PROJECTIONS OF VISUAL FOCUS¹⁶

Another AI-driven solution can be used to predict visual attention within an image or video. It is based on a machine-learning model built on neuroscience data and a database of eye-tracking recordings. This solution can provide heat maps that predict where people will automatically look. Images can be analyzed in a few seconds, and a 30-second video can be analyzed in a few minutes.

4. WEATHER TARGETING¹⁷

Using AI and unsupervised or semi-supervised machine learning in marketing analytics, this approach applies real-time weather data and AI to produce synthetic predictions of consumer behavior to drive action and deliver ads as weather-related opportunities arise. This is essentially a media planning tool, although it does also play a role in the development of creative strategy and ideas to match the predetermined weather events with advertising creative.

Weather targeting triggers messaging only when and where specified weather conditions are present. A weather event matches with a library of more than 500 weather-related triggers that can be activated across 42,000 ZIP codes.

AI-determined triggers suggest that media schedules could increasingly give way to opportunistic placement. Brand owners could demand creative that thematically aligns with the event triggers. Identification of events could be complemented with creative content ideal for programmatic display platforms, search, social media, video, connected TV, and digital out-of-home.

5. FRAME-BY-FRAME ANALYSIS, PLUS TALENT CROWD-SOURCING¹⁸

Brand owners struggle to keep up with the asset-related demands of digital marketing. The continuing growth in mobile-first video ads has led to the need to efficiently optimize assets, particularly in the formative stage of development.

In the digital world, it is relatively easy to know which ads are performing better or worse. The challenge is to understand why. This AI platform enables the identification of under-performing elements within the creative assets across digital channels. AI and machine learning technology examine video assets frame-by-frame to pinpoint which creative elements are maintaining audiences' engagement and which may be causing drop-off.

Specifically, the platform applies machine learning and computer vision technology to extract all of the creative elements that make up an asset, frame by frame. Statistical methods are used to correlate elements within the video back to performance metrics (for example, purchase rate and view through).

Access to human expert analysis is also included to offer recommendations for how the composition of the video can be optimized. The method vertically integrates with a global network of creative talent — freelance editors, animators, motion designers and creative directors — who can provide guidance and solutions to address any identified problems or deficiencies. The platform includes workflow and collaboration tools to enable advertisers to leverage the global network. From brief to final outputs, all work takes place within the platform, allowing creative agencies to have creators they choose to join and access the platform.

¹⁶ Response from Neurons to ARF Creative Council questionnaire.

¹⁷ Response by IBM Watson to ARF Creative Council questionnaire.

¹⁸ Response by VidMob to ARF Creative Council questionnaire.

LOOKING AHEAD

As much as using behavioral research to track creative efficiency and attention is a valuable solution today, it is poised to increase in importance as adoption rises and AI improves. Here are three ways AI-driven behavioral technologies could improve advertising creative beyond the status quo in the future:

- AI-generated content can help to solve key creative production bottlenecks by near-automatically adjusting them to insights and market feedback.
- Real-time passive in-market measurement can provide more opportunities to refine and reconsider creative as a whole and in terms of the media and the content in which the ad is running. This can aid in in-context testing of advertisements to ascertain the success of media placements and possible wear-out and fatigue.
- Unlocking techniques like object recognition to better understand creative elements combined with biometric responses at scale will eventually enable AI-driven instant predictions to map creative assets to outcomes like attention or other campaign KPIs without the need for a field test or live campaign.

Some industry experts believe these new approaches and tools provide creative professionals with the freedom to make informed and empowered decisions and produce their best work. They also offer an always-on platform to promote a culture of learning throughout campaigns by studying advertising creative to achieve a near-term business result while using insights to improve all future campaigns. The ARF is planning to further explore the value of AI in informing creative development in 2023.



CHAPTER 5

CONCLUSIONS AND AREAS FOR FURTHER EXPLORATION

In this white paper, the ARF Creative Council sought to answer these key questions:

- Have recent global events, in conjunction with accelerated technology advancements, spurred the use of new techniques and methods, and if so, how?
- What new and innovative technologies and processes are successful advertisers adopting to overcome challenges (partially due to the pandemic) in creative measurement and to generate insights that drive creative performance?

The methods described in the prior chapters offer a range of options that could help open the lines of communication between creative professionals, researchers and planners. These methods can also be conducted remotely and can often be done at a lower cost than traditional methods. Some might be inviting to non-researchers and possibly raise their level of involvement in the research. The remote self-reporting and passive methods might also help to expand the potential pool of research subjects beyond those who live in the vicinity of a testing center, focus group facility or mall.

When choosing a company to meet creative research needs, it is important to take into account the stage of the creative process in which their engagement is sought. As noted here, some of the techniques are better suited for certain stages -- creative strategy, creative ideas or creative optimization.

While external events can force companies to forgo in-person research, the speed, accuracy, and deeper insights that these new advanced tools can provide ensure they will only grow in importance and adoption even as consumer behavior continues to evolve.



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APPENDIX

ARF Creative Council Research to Explore Innovative Methods

These are the steps taken by the ARF Creative Council Research Working Group to prepare this white paper:

- Creating a list of research companies that were using innovative approaches to creative research drawn from the knowledge and experiences of the group's members.
- Commissioning the ARF Knowledge Center to produce a report on new technologies or approaches being used for upfront creative development. This report drew on publicly available sources, presentations and papers in the ARF's archives, uncovering a number of other companies of which group members were not aware.
- Canvassing the broader ARF Creative Council Community for suggestions of additional innovative companies to explore.
- Crafting an in-depth questionnaire for these companies about their products and services which was then sent to the companies on the list for which there was contact information.
- Reviewing submissions to the 2020 ARF David Ogilvy Awards and identifying those with novel approaches to conducting campaign research for award consideration. The Council then followed up with the teams behind the selected campaigns to learn more about their methods.

The Working Group's final list consisted of 40 companies and products. The Group was able to reach out to executives at 35 of them, either with an email address or through LinkedIn. Of those contacted, 21 submitted responses including PDFs, presentations and videos about their methods. Those companies and products and the companies contacted about their ARF Ogilvy submissions are shown below.

Companies consulted in the preparation of this white paper:

Brand Aviators
www.brandaviators.com

Dumbstruck
dumbstruck.com

Escalent
escalent.co

EyeSee Research
eyesee-research.com

Eye Square
<https://www.eye-square.com/en>

Forethought*
www.forethought.com.au

Goodby Silverstein
goodbysilverstein.com

HawkPartners*
hawkpartners.com

Ipsos*
www.ipsos.com/en-us

HCD Research
<https://www.hcdi.net>

IBM Watson*
www.ibm.com/products/weather-targeting

Infillion
infillion.com

Indeemo
indeemo.com

Kantar*
www.kantar.com/marketplace

MESH
www.meshexperience.com

Neurons
www.neuronsinc.com

Nonfiction Research
www.nonfiction.co

Protobrand
protobrand.com

Quester
www.quester.com

RealEyes*
www.realeyesit.com

Remesh
www.remesh.ai

Sentient Decision Science
www.sentientdecisionscience.com

Talk Shoppe
www.letstalkshoppe.com

Theory Research
www.theoryresearch.com

Twitter*
business.twitter.com/en.html

VidMob*
www.vidmob.com

Zappi
www.zappi.io/web

* ARF Member company