How Brands Can Make Smarter Decisions in Mobile Marketing

Strategies for Improved Media-Mix Effectiveness And Questions for Future Research

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Editors' Note:
In 2014, the Mobile Marketing Association launched a research initiative to help individual brands improve the efficacy of their mobile-marketing efforts. Each case study addresses marketers' core questions in a unique way: What share of their overall advertising spend should be allocated to mobile marketing? How should they use mobile formats and targeting methods more efficiently to maximize the performance of their media investments? Although the authors acknowledge that their findings "might not provide definitive answers of long-term effect for all marketers," they do offer insight into how mobile marketing can be optimized on a case-by-case basis. In 2017, campaign case studies with Allstate Insurance and a major U.S. fast-food, or quick service restaurant (QSR), chain were the latest additions to a body of work with AT&T, the Coca-Cola Company, MasterCard, Walmart, and Unilever. The most striking results came from the QSR study, which estimated an optimal allocation to mobile for that campaign at 33 percent of the total media mix—the highest allocation ever recommended in this research program. In the pages that follow, the authors describe their methods and findings, and propose best practices and questions for future research.

INTRODUCTION

Since the arrival of the smartphone in 2008, consumers have embraced mobile technology faster than any previous technology.[1] Smartphones have become the most important device to access the Internet.[2] Consumers increasingly use these mobile devices to make purchases; mobile usage accounts for at least half the traffic and one-third of the revenue of e-commerce.[3] Mobile's share of total advertising spending has increased rapidly and is projected to reach 36 percent by 2020, surpassing television's share of spending, according to eMarketer.[4]

The rapid pace of change has left many marketers unprepared for the new environment; two-thirds do not have a formal mobile strategy for their brand, and only one out of three say they are ready for mobile adoption.[5] Marketers, moreover, are unclear about the degree to which mobile drives revenue and profitability[6] and its impact within the context of their overall advertising mix. Understanding the value of mobile is part of a much bigger challenge of accurate attribution across all marketing channels—the process of assigning value to a set of events or touch points that contribute in some manner to a desired outcome.

Traditional top-down, aggregated approaches, such as marketing-mix modeling, have addressed the topic of budget allocation for decades. About 80 percent of marketers currently use this approach, according to Mobile Marketing Association (MMA) data.[7] More recently, some marketers

[1] *Benedict Evans for Andreesen Horowitz. (2016, March 29). "Presentation: Mobile is eating the world." Retrieved May 3, 2017, from http://benevans.com/benedictevans/2016/3/29/presentation-mobile-ate-the-world.*

[2] *Office of Communications, United Kingdom. (2016, February). "Ofcom Nations & Regions Tracker: Main set." Retrieved October 4, 2017, from https://www.ofcom.org.uk/__data/assets/pdf_file/0030/68358/ofcom_technology_tracker_h1_2016.pdf.*

[3] *Benedict Evans for Andreesen Horowitz. (2016, March 29). "Presentation."*

[4] *eMarketer. (2016, November 1). "US Ad Spending: eMarketer's Updated Estimates and Forecast for 2015–2020." Retrieved May 3, 2017, from https://www.emarketer.com/Report/US-Ad-Spending-eMarketers-Updated-Estimates-Forecast-20152020/2001915.*

[5] *WARC. (2017, May 17). "State of Industry: Mobile Marketing in North America." Retrieved May 18, 2017, from http://bit.ly/2rx3hsY.*

[6] *CMO Survey. (2016, August). "CMO survey report: Highlights and Insights." Retrieved May 3, 2017, from https://cmosurvey.org/wp-content/uploads/sites/11/2016/08/The_CMO_Survey-Highlights_and_Insights-Aug-2016.pdf*

[7] *Mobile Marketing Association. (2016, October). "Marketer Research Study: Marketing Productivity Assessment Attitudes." Retrieved May 3, 2017, from http://www.mmaglobal.com/files/documents/marketing_productivity_assessment_marketer_study_july_2016.pdf.*

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have striven to measure media effectiveness at a more granular level,[8] favoring multi-touch attribution approaches that appear more relevant in a cross-platform context. Although these multi-touch attribution methods show some promise, they have their own limitations of validation, data quality, transparency, and the ability to unify data across channels.[9] Adding to the attribution problem is the downside of mobile innovation. The increasing number of formats, platforms, and targeting methods has made it extremely difficult for marketers to decide where to focus.

Mobile's key opportunity for marketers—data that can tell them when, where, and how to communicate with consumers in order to maximize the impact on their decision making—has made budgeting that much more complex. The "when," "where," and "how" represent different dimensions of advertising delivery, and each comes with a price (for media, data, production, technology, etc.) that often is difficult to justify. Marketers thus ask:

- What share of our overall advertising spend should be allocated to mobile marketing?
- How should we use these formats and targeting methods more efficiently to maximize the performance of our media investments?
- How should we plan and execute for mobile in the context of an integrated campaign?
- Should we use mobile for branding, direct response, or both?
- Are there mobile tactics that are more suitable for the upper funnel versus the lower funnel?
- Which specific key performance indicators (KPIs) should we measure and optimize against, and how?

Questions about measurement, attribution, and mobile fragmentation might have different answers, depending on the type of campaign or even the industry and product type:

Acknowledging these knowledge gaps, the MMA in 2014 initiated an industry-wide research program called Smart Cross-Marketing Effectiveness Research (SMoX), a series of individual-brand case studies. In total, 11 have been conducted in four countries, including AT&T, MasterCard, the Coca-Cola Company (four studies), Walmart (two studies), and Unilever. Studies with Allstate Insurance (both auto and home) and a major U.S. fast-food or quick service restaurant (QSR)[10] followed in 2017. Ford Motor Co. and MillerCoors studies are in progress for 2018, and future work is earmarked with a major U.S. bank and a leading fashion retailer.

Each study measures the effectiveness of a real cross-marketing campaign against its own marketing goals and media approach. The current article focuses on results from the Allstate and QSR studies. References to some of the earlier SMoX studies provide context and comparison.

BACKGROUND

What We Know

Mobile still is considered an emerging channel within a growing body of research. Researchers have explored, among other themes, how this channel influences the purchase-decision processes (Shankar and Balasubramanian, 2009), and there is increasing evidence about the effectiveness of various mobile tactics. An extensive review of published research (Grewal, Bart, Spann, and Zubcsek, 2016) provides an overall framework to better understand the role of mobile in the mix and the key factors that influence it, including the following:

- specific tactics, such as mobile promotions (Andrews, Luo, Zheng, and Ghose, 2015), mobile gaming (Hofacker, Manchanda, Ruyter, Donaldson, and Lurie, 2016), mobile-shopper marketing (Shankar *et al.*, 2016), mobile coupons in different contexts (Ghose, Han, and Park, 2013), and mobile-display advertisements (Bart, Stephen, and Sarvary, 2014);
- the importance of context (environmental, technological, or consumer), and how location, time, and weather influence consumers' reactions to mobile advertising (Molitor, Reichhart, and Spann, 2014). Research that preexisted the mobile "revolution" has examined the impact of other variables, such as weather, on consumer behavior (Hirshleifer and Shumway, 2003);
- how mobile-display advertisements work in different industries (high versus low involvement), yet with conflicting results (Bart *et al.*, 2014; Shankar and Balasubramanian, 2009);
- the impact of mobile on conversion goals, mainly in the context of promotional campaigns (Grewal *et al.*, 2016).

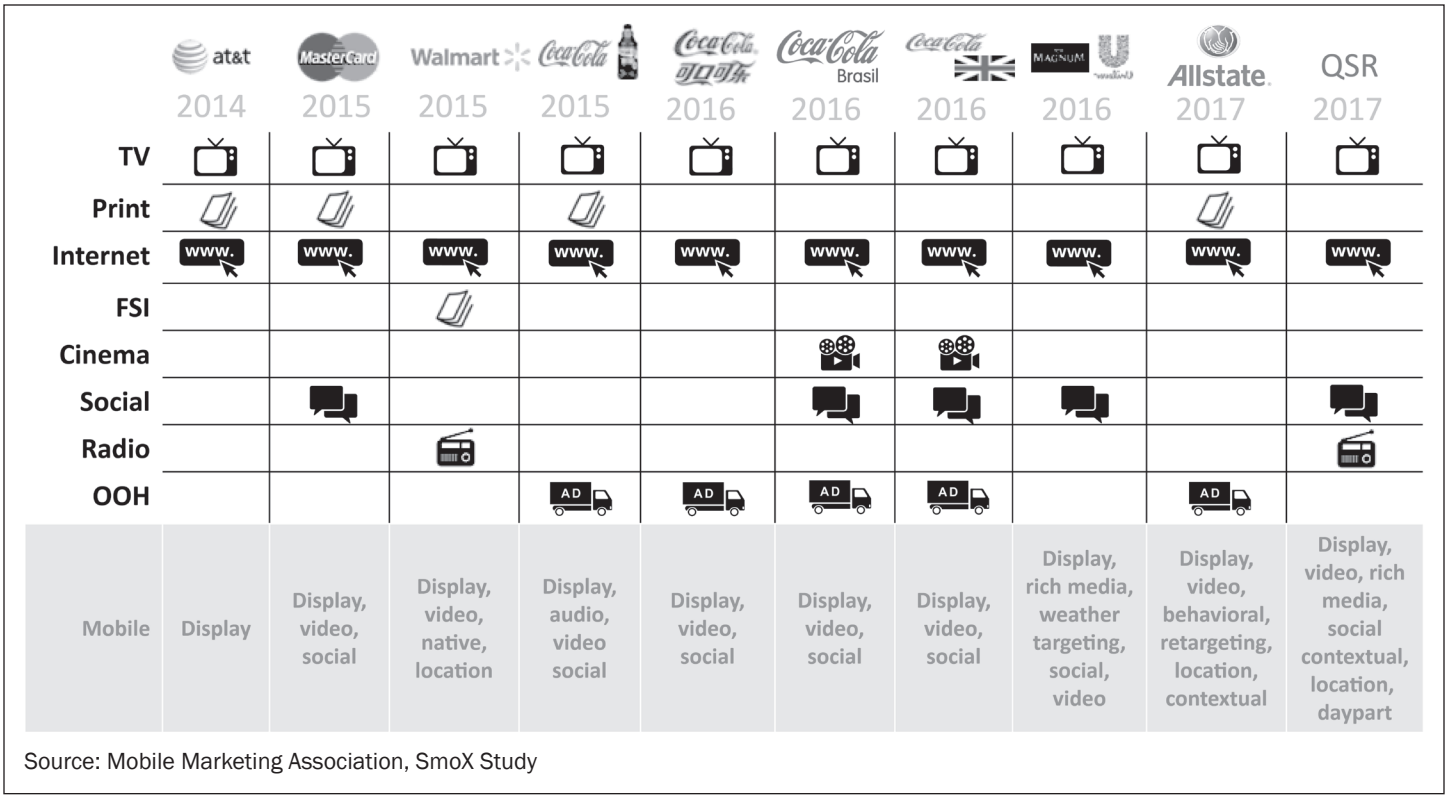
There also is some evidence about the role that mobile can play as part of the overall advertising mix, and the multiple benefits of advertising across multiple platforms (with or without mobile) versus a single platform. A recap of such benefits (Neijens and Voorveld, 2015) includes the ability to

- increase reach (*e.g.*, Briggs, Krishnan, and Borin, 2005; Enoch and Johnson, 2010; Fulgoni and Lipsman, 2014; Taylor,

[8] *Coalition of Innovative Media Measurement. (2017, February). "Current Practices in Attribution and ROI Analysis" (white paper). Retrieved May 3, 2017, from http://cimm-us.org/wp-content/uploads/2012/07/CIMM-4As-Whitepaper_Current-Practices-in-Attribution-and-ROI-Analysis_February-2017.pdf*

[9] *Mobile Marketing Association. (2016, October). "Marketer Research Study."*

[10] *The QSR company requested its name not be disclosed.*



Source: Mobile Marketing Association, SmoX Study

Figure 1 Overview of Campaigns and Media Tested in the Smart Cross-Marketing Effectiveness Research Program (SMoX)

Kennedy, McDonald, Larguinat, *et al.*, 2013);

- take advantage of unique strengths of individual media (*e.g.*, Dijkstra, Buijtels, and van Raaij, 2005; Okazaki and Hirose, 2009; Tsao and Sibley, 2004);
- facilitate information encoding in a more complex way (Laroche, Kiani, and Economakis, 2013; Stammerjohan, Wood, Chang, and Thorson, 2005; Tavassoli, 1998; Vandeberg, Murre, Voorveld, and Smit, 2015; Voorveld, Neijens, and Smit, 2011; Voorveld and Valkenburg, 2015);
- reduce wearout (*e.g.*, Navarro-Bailon, 2012; Stammerjohan *et al.*, 2005);
- create synergy, in terms of recall due to exposure to multiple media (*e.g.*, Chang and Thorson, 2004; Dijkstra, 2002; Edell and Keller, 1989; Voorveld *et al.*, 2011).

Further evidence about the benefits of advertising across multiple platforms has emphasized the role of mobile (Snyder and Garcia-Garcia, 2016):

- Mobile particularly is effective for established brands, which consumers have less need to research or validate. This aligns with previous work (Steele, Jacobs, Siefert, Rule, *et al.*, 2013) suggesting that online environments are less able to invoke nonconscious emotional connections, which are important components of media-delivered brand equity.
- Advertising in multiple platforms is more effective than advertising on a single platform. These findings specifically emphasize the impact of the order of exposure, with stronger results when television came before mobile.
- Different types of digital advertising (*i.e.*, desktop, mobile) and formats (*i.e.*, banner, video) deliver different levels of return on investment (ROI), with mobile video advertising being more effective in driving ROI than desktop video (with some exceptions, *e.g.*, financial services) and mobile video delivering higher ROI compared with mobile banners.
- Mobile banners, although less effective than video, can benefit when placed in contextually relevant environments (*e.g.*, related magazine or newspaper article).

What We Don't Know

There has been far less research answering the question of optimal media allocation derived from analysis at the individual user level. When marketers try to build a zero-based budget, what should they do with specific mobile tactics in the context of the overall media mix to optimize their business results? What percentage of their total advertising budget should go into mobile, and which advertising

formats, targeting methods, and other tactics should they use? Marketers need more empirical evidence to address these questions for their own campaigns, but attribution across marketing channels remains a big challenge,[11] and its solution becomes even more difficult with the increased proliferation of advertising channels.

The MMA's case-study work with individual brands has filled some of this knowledge gap. One could argue that there are limitations to making broad empirical statements, given that these studies span three years and a number of product categories. The state of the market and how marketers approach mobile also continue to evolve (See Figure 1), changing the nature of the questions and the context of some of these tests.

The previous studies conducted as part of this series reached the following conclusions (with limitations; for deeper discussion on AT&T, Walmart, and Unilever, see pages 455–458):

- AT&T (2014): Mobile display advertising can be a very efficient driver of brand awareness for a new product launch. The findings justified a 16 percent allocation to mobile in the total mix of that campaign.
- MasterCard (2015): A combination of mobile display, mobile video, and mobile social advertising can be very efficient in terms of driving brand image, even among an older demographic of nesters and empty nesters.
- Walmart (2015): Mobile advertising can be a very efficient driver of sales; in this study, it was twice as efficient as the average of that campaign. Proximity location targeting, when matched with expandable mobile display units, also improves the impact of advertising in terms of driving foot traffic.
- The Coca-Cola Company (2015–16): Mobile video and social advertising are very efficient drivers of purchase intent, a finding validated in multiple studies (four video-related, two social media-related) conducted in North America, Brazil, the United Kingdom, and China.
- Unilever Magnum Ice Cream (2016): Mobile social video advertising can be a strong driver of ROI. In this case, it was much more efficient than video in other screens, including desktop and television.

Research Questions

The researchers posed three key questions:

RQ1 Path to purchase: How can a brand most effectively use mobile advertising tactics to engage consumers across the funnel?

RQ2 Size, depth, and repetition: How can a brand most effectively communicate a message on a mobile platform?

RQ3 Targeting: What is the value of different data signals—digital or physical—for improving targeting in mobile?

Path to purchase. Marketers have two goals: strengthen consideration for the brand by reinforcing image perceptions (top of the purchase funnel), and drive sales (lower funnel). There are different options provided by mobile in order to support these goals, often with trade-offs. Simple, lower-cost mobile banners are limited in their ability to communicate a compelling message, yet richer experiences, such as mobile video, are priced at a premium. How can marketers use these tactics to drive different KPIs? Should the tactics vary by product category?

Findings from previous tests with Coca-Cola and Walmart demonstrated that richer advertising experiences, such as mobile audio and video, usually more than justified their price premium in relation to mobile display when it comes to shifting perceptions and driving purchase intent. Yet, in some instances, simple banners were more efficient in terms of driving awareness (new awareness or top-of-mind awareness, in the sense of reminding consumers of a brand message).

Findings in 2017 from two companies in very different categories—Allstate auto and home insurance (high-involvement, infrequent purchase) and the fast-food (QSR) chain (lower-involvement, frequent impulse purchase)—offered additional insight into the path-to-purchase question. The goal was to provide an even more granular read into how these formats affect attitudinal (upper funnel) or actual behavioral (lower funnel) metrics—namely sales and, in the QSR's case, foot traffic.

Size, depth, and repetition. Conventional wisdom suggests that attention span in mobile advertising is shorter, yet the screen also is smaller. The size, depth, and repetition question aimed to reveal the implications for the advertising units that marketers use in mobile video and display while trying to communicate their advertising message. Should they design their mobile video to be shorter and their mobile display to be more "visible"? What does that mean in terms of frequency of exposure and consumer experience?

The AT&T study provided early evidence that larger banners were more efficient for driving awareness, compared with the smaller "pencil" mobile banners. Findings from AT&T, Coca-Cola, and Walmart also illustrated that banners tended to have a "linear" relationship with frequency, which meant that each additional exposure continued to build impact,

[11] *Mobile Marketing Association. (2016, October). "Marketer Research Study."*

even at a higher frequency, especially in relation to awareness. For the Allstate and QSRs studies, the goal was to measure and assess more advertising formats and subformats, especially richer formats (*e.g.*, video lengths of 15 seconds versus 30 seconds), and to gain perspective from different product categories.

Targeting. Mobile advertising exemplifies what is possible in targeting, given that people carry their phones with them most of the time. With that in mind, in addition to considering traditional demographic, income, or other consumer characteristics, marketers increasingly think in terms of "need states," occasions, and "key moments" in the customer journey (Moran, Muzellec, and Nolan, 2014). Identifying those moments and understanding the "customer journey" is an important first step, yet marketers need evidence about these moments' impact on ROI.

By investigating targeting at individual brands, the current researchers could assess a variety of different "data signals" used in mobile. The Walmart study in 2015 shed light on the value of location targeting, and in 2016 Unilever's Magnum study assessed the impact of weather targeting for an ice cream brand. In 2017, the Allstate and QSR studies have built on that knowledge covering a combination of data signals —some of them digital (*i.e.*, online search behavior, genre of content in which the advertisement appears), and some physical (*i.e.*, location history and movement patterns)—and their impact on marketing KPIs in relation to their premium.

CASE-STUDY METHODOLOGY

The MMA research team evaluated a wide range of vendors in search of a method that would best address the goals of the current case-study research program. In particular, the method needed to

- measure mobile and other media down to the individual tactic and message;
- analyze the interactions among different media of very different individual brands;
- be applied across a wide range of product categories, each of them bringing its own complexity and data availability.

To have a meaningful degree of certainty about the causality, the method needed to

- link a person's activities across devices (*e.g.*, a consumer who is exposed to a message on a mobile device, who subsequently calls an insurance agent, and uses a desktop computer to request a quote);
- incorporate the design of experiments to control and isolate the impact of exposure to mobile media.

The Allstate Insurance study focused on understanding the path to purchase, which required measuring both attitudinal survey-based metrics (consideration) and behavioral metrics (sales).

There were other methodological considerations across the various brands:

- Because of the nature of mobile, the method needed to rely on something more permanent than cookies, because mobile users often delete cookies,[12] and, therefore, the connection between exposure and sales might be lost.
- To measure mobile in-app advertising (which comprises 90 percent of the mobile advertisements and does not accept cookies), it was important to connect a device ID to a person.
- Because the ultimate action from the measurement would be a detailed media optimization—including specific targeting using location, web behaviors, time of day, weather, and other variables—the analysis needed to connect directly to person-level media-planning and buying systems.
- Specifically for Allstate, given that the purchase cycle for insurance can be long and the decision considered, the approach needed to include measurement of advertising's influence on consideration, as well as on behaviors.
- Because the product (insurance) can be sold through the physical location (in this case, a local agent), the analysis needed to incorporate location analysis and location-based media optimization.

The Limitations of Marketing-Mix Modeling

The MMA concluded that traditional marketing-mix modeling approaches could not address all the above goals. As Forrester noted in its Fall 2016 Measurement & Optimization Wave: "Marketing mix models aren't fast or detailed enough…These models can't provide campaign performance detail that drives media buying: the networks, programs, publishers, and sites that will optimize return on ad spend."

Moreover, as noted in a 2013 Council on Research Excellence report, given that mobile is still a relatively small part of the mix, marketing-mix modeling often suffers from what is referred to as the small-reach problem.[13] If, on the one hand, only a small fraction of people is reached and the impressions are fairly evenly spread across the country, a marketing-mix model unlikely will pick up the impact purely, because the impact occurs among a small percentage of the

[12] *Davis, W. (2013, January 23). "Study: 44% of Adults Opt Out of Targeted Ads, 66% Delete Cookies." From MediaPost website: https://www.mediapost.com/publications/article/191809/study-44of-adults-opt-out-of-targeted-ads-66-d.html.*

[13] *Sequent Partners. (2013, July). "Current State of Marketing Mix Models: A Report for the Council for Research Excellence." Retrieved May 30, 2017, from http://sequentpartners.com/wp-content/uploads/2016/11/CRE-Modeling-White-Paper-CRE-Branded.pdf.*

Table 1 Test Requirements and Methods' Capabilities Comparison

Requirement	Media-Mix Modeling	SMoX/Marketing Evolution Method
Measure detail down to the individual tactic and message	No	Yes
Measure at a speed at which insights could be acted on while the campaign was still live	No	Yes
Ability to link behaviors of individuals across devices (*e.g.*, exposure on mobile, sale via call center)	No	Yes
Ability to overcome the small-reach problem and use control–exposed measurement for clear read on causality or validation of models	No	Yes
Ability to measure the effect of advertising on consideration and other perceptions over a long purchase cycle	Possible, but not with the same precision as person-level analysis	Yes
Ability to measure the relationship between brand perceptions and purchase behavior	No	Yes
Method can track person exposures and behaviors over time, without losing data as a result of cookie deletion	N/A	Yes
Use of specific physical location data (spatiotemporal analysis)	No	Yes
Output of analysis directly connected to person-level targeting, digital buying segments, and other media implementation	No	Yes

Note: SMoX = Smart Cross-Marketing Effectiveness Research.

overall population. On the other hand, when it is possible to run an experiment in which those exposed and those given a control can be known, one can put a magnifying glass on the small percentage of people and see the impact that was missed with a mix model. Although any analytic technique can be adapted to deal with special cases, marketing-mix modeling was not an obvious fit for this study's requirements.

An Analytics-Driven Approach: People Data Focus

The MMA researchers selected Marketing Evolution's ROI Brain™ analytic platform to conduct the omnichannel attribution and optimization analysis for each case study. The person-level analysis allowed measurement of every message in every medium and included location analysis, brand-perception measurement, and sales measurement. An expanded measurement model, furthermore, integrated continuous use of design of experiments with logistic regression and elastic net regularization.

Specifically, the approach combines logistic regression statistical analysis—to isolate the contribution of media exposure as it applies to driving sales (or other KPIs)—with controls for behavioral and other demographic characteristics in the sample. The model's elastic net is applied to identify the advertising messages and the people influenced by those messages. This information is used to optimize message rotation, targeting, and, ultimately, media mix. Experiments are used to validate the model and to measure small-reach activities.

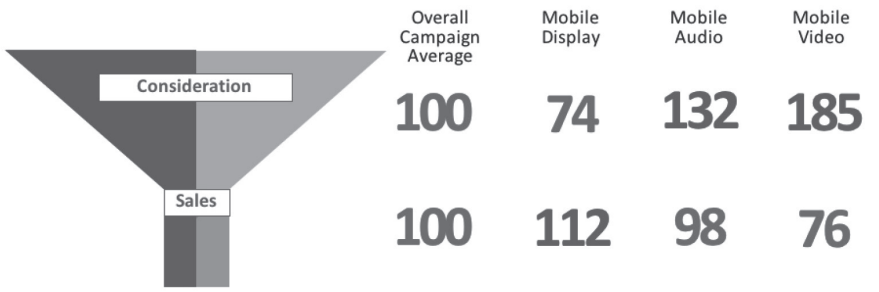
Addressing Small Reach

Although the method included many of the capabilities the researchers desired, the small-reach problem was a concern with respect to measuring certain tactics, especially in mobile. The vendor thus revived the technique of connecting with advertising servers to target people with known identities to run experiments. Working with personally identifiable information (PII) safe-harbor identity-matching firms (*e.g.*, LiveRamp and Neustar), Marketing Evolution and MMA enlisted mobile-advertising platforms to integrate identity data in a PII-protected way. This allowed the marketer to measure tactics for which the reach would have been too small to measure with other methodologies. The approach accordingly overcame the small-reach problem that would have plagued mix-modeling measurement with targeted exposed–control media delivery. This field experiment approach had the combined benefits of a laboratory experiment's test–control design and of real-world interactions with other media and marketing activity.

The role of individual-level data and the use of PII safe harbors simplifies the ability to merge data from different sources. This approach, moreover, can lead to the

creation of detailed datasets that include media-exposure inputs along with behavioral and attitudinal outcomes, including sales data or store visitation. Without this approach and the ability to integrate mobile media sellers, link device IDs to people, and target them with specific media, the researchers believe they could not have measured mobile in-app advertising accurately.

By using this analytics-driven, individual-level data approach, the researchers could overcome some of the limitations of traditional marketing-mix model methods. Additional adjustments were made to address some of the unique challenges of mobile (*e.g.,* cookies) and to measure tactics that typically have too small a reach to be measured in the field with other analytic techniques (See Table 1).



Note: An MMA-derived index measures the relative efficiency of each advertising medium as it drives consideration or sales per advertising dollar spent. Consideration measured respondents' answers to a survey question, while sales were measured by direct matching to Allstate data. Source: SMoX Allstate study.

Figure 2 Allstate: Relative Efficiency of Mobile Formats Versus Campaign Average (Index Measures)

RESULTS

In this section, the authors address their research questions by comparing results from case studies of three different advertisers (references to the earlier AT&T and Walmart studies add further context):

- Allstate, for which the product (insurance) requires high-involvement purchase decisions;
- QSR—fast food—a frequent, low-involvement purchase, for which driving consumers to physical locations is key;
- Unilever's Magnum Ice Cream, a low-involvement impulse brand.

RQ1 Path to purchase: How can a brand most effectively use mobile-platform options to engage consumers across the funnel?

Allstate Study Findings

The Allstate study methods were representative of the specific conditions and media approaches of marketing to consumers in a high-involvement, infrequent-purchase category—in this case, home and auto insurance. Given the high brand awareness of most established brands in the industry, the two main communication opportunities for Allstate were

- to reinforce brand image and build consideration among broader groups of consumers, who might not be in the market at this very moment but would be soon in the future;
- to identify consumers at the right moment—when they are in the market for auto insurance—and use media to trigger immediate response and drive acquisition.

Allstate's media approach combined high-impact messaging to drive consideration (at the top of the path-to-purchase funnel) and more direct, response-focused messaging for acquisition and sales (at the lower part of the funnel). Within that context, Allstate wanted to understand better how to utilize its existing mobile-platform options.

The current authors defined "media efficiency" not simply in relation to the number of people "reached" by each medium (as measured by cost per 1,000 impressions on a web page [CPM]) but in relation to how these media influenced the actual KPIs of each campaign. In that sense, the impact of advertising that was attributed to each medium was divided by the cost of these media. The authors measured impact by comparing the lift between the exposed group and the control group.

For the purposes of confidentiality, the authors agreed not to reveal actual cost and sales information for each brand. Instead, they calculated an efficiency index for each study, to illustrate how different tactics performed without releasing sensitive information (See Figure 2). The campaign average includes all the media—digital and traditional—in relation to the specific KPI (brand consideration versus sales).

The findings of the study validate the overall media approach used for Allstate (combining high-impact messaging with direct response) and suggest the following for mobile:

- At the top of the funnel (influencing consumers' perceptions and driving consideration for brand), the richer mobile formats (audio and video)

	Efficiency Index on Store Visitation
Targeted Mobile Display	357
Social Mobile	127
Mobile Video	62
Total Media (digital and traditional)	**100**

Note: Index measures the relative efficiency of each media's ability to drive foot traffic for QSR marketer per advertising dollar spent. Foot traffic was passively tracked and matched to ad exposures. Source: SMoX QSR study.

Figure 3 Fast-Food (QSR): Relative Efficiency of Media Compared with Campaign Average

resulted in greater ROI (See Figure 2). When the authors accounted for the number of people affected in "brand consideration" by each type of mobile format and factored in the cost of buying the specific media, they found the following:

- ✧ Mobile audio was about 30 percent more efficient than the campaign average (which included all media, including television) for driving consideration for Allstate.
- ✧ Mobile video was 85 percent more efficient than the campaign average, given its very high effectiveness and lower cost compared with television.

- At the bottom of the funnel (driving sales), targeted mobile banner units emerged as more efficient—by 12 percent, on average—compared with the campaign average. In this case, the analysis took into account the total sales that were attributed to each medium and the cost of buying the media. By contrast,
  - ✧ mobile video appeared less efficient compared with the campaign average (index of 76), and
  - ✧ mobile audio was close to the average (index of 98).

In other words, a simple, direct-response banner message, delivered to those consumers who already were in the market for auto insurance, was a more efficient approach for driving short-term sales. This was the case despite the proven effectiveness of mobile video (Snyder and Garcia-Garcia, 2016) to shift perceptions and drive consideration for the brand.

Fast-Food Chain (QSR) Findings

The results from the QSR research were directionally aligned with the Allstate study—sharing a marketing goal for lower funnel conversion. But fast food, a low-involvement category, is a very different market from insurance, requiring different metrics to evaluate mobile marketing effectiveness (foot traffic versus sales for insurance). The QSR tested a promotional campaign for choosing a handful of menu options at a discounted price. The specific promotion had preexisting awareness from a previous launch. The goal of this campaign was to use the same promotional platform in order to drive additional foot traffic to various restaurant locations. Similarly to the Allstate campaign, a broad mix of advertising media was used (targeted mobile display, radio, desktop video, mobile video, and television). And although mobile overall emerged as the most efficient driver of foot traffic compared to other media (digital and traditional), not all mobile formats performed the same. (See Figure 3).

Among the QSR study findings:

- Targeted mobile display placements emerged as the most efficient driver per advertising dollar spent for both Allstate and the QSR. The authors propose that recency and context of message were more important drivers of conversion, which is why targeted mobile display and radio ranked at the top of MMA's efficiency index.
- Richer video experiences (in mobile or television) were not as efficient, given that the message was easy to communicate and there was preexisting awareness about the promotion.
- Using location and other data signals allowed the QSR company to target key segments of consumers who much more likely would respond positively to the promotional offer, such as commuters, who tend to travel the same route every day. Despite the additional cost of data to improve the targeting of these placements, advertisements that were served to these segments were more than five times more cost effective at driving foot traffic than the campaign average. Similarly, targeting a segment of coupon users (based on personal level data that showed these consumers had redeemed coupons in the recent past), performed almost as well—about five times higher than the average.

The most important result came in determining the optimal allocation for mobile in this QSRs campaign media mix. The researchers took into consideration the performance of the various mobile tactics and its contribution to the total, as it was derived

	Video	Audio
15-SECONDS	200	118
30-SECONDS	100	100

Note: Index measures the relative efficiency of each media's ability to drive consideration for Allstate per advertising dollar spent. Consideration was measured by a survey question. Source: SMoX Allstate study.

Figure 4 Allstate: Relative Efficiency of Video and Audio by Length

	Price	Effectiveness
Banner Ad Size A - Box	100	700
Banner Ad Size B - Box	100	100

Note: Index measures the relative efficiency of each media's ability to drive purchase intent for Unilever's Magnum per advertising dollar spent. Purchase intent was measured by a survey question. Source: SMoX Unilever study.

Figure 5 Unilever Magnum: Price and Effectiveness Comparison Of Large and Small Mobile Banners

by the logistic regression analysis. They also compared the cost of mobile to other media, and they ran various optimization scenarios in order to understand the optimal media combinations that would maximize the performance of the QSR campaign.

The researchers recommended for the QSR campaign an estimated optimal allocation of 33 percent of the media mix to mobile—significantly higher than the actual allocation that the company had used, (mid-20s percentage), and the highest recommended allocation among all previous studies in this program. The authors proposed that this was largely because this specific "use case"—combination of product category (low involvement, frequent purchase), campaign message (simple, promotional, immediate) and KPI (foot traffic)—uniquely played to mobile's strengths. Nevertheless, part of the upside also came from the ability of the company to experiment with various data signals and test innovative tactics and data combinations.

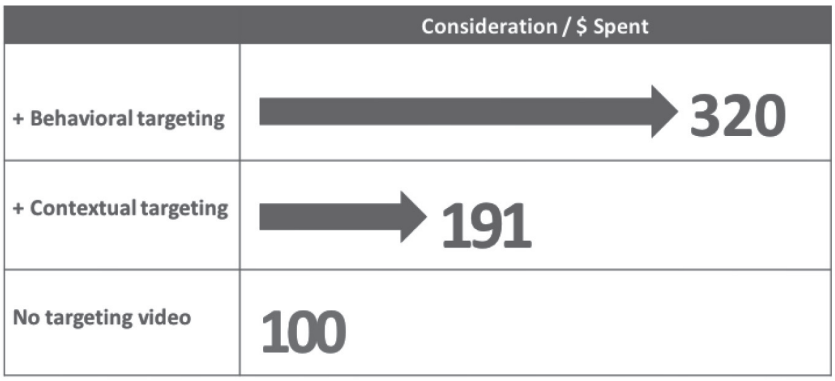
RQ2: Size, depth, and repetition: How can a brand most effectively communicate a message on a mobile platform?

Allstate, AT&T, and Unilever: Size, Depth, and Repetition Findings

Video emerged as a strong driver of consideration for Allstate, but not all video units and assets performed the same. Length and placement made a difference, but mobile video and mobile audio showed varied outcomes of driving consideration, in relation to the length of the creative asset that was used (See Figure 4).

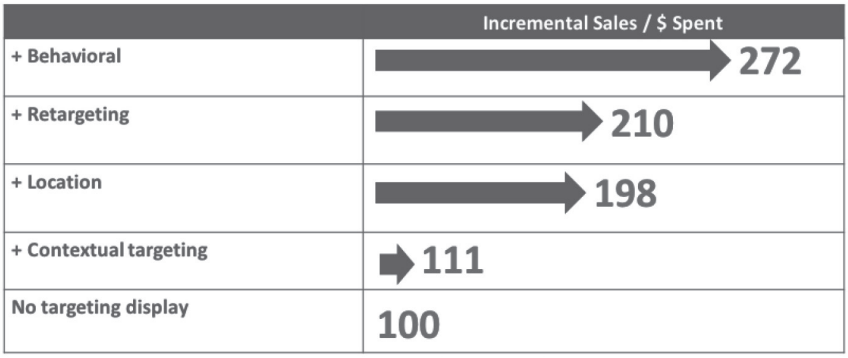
The authors proposed that because attention span is shorter for mobile advertising, marketers could expect stronger results if they can articulate their product or brand story in a shorter time. A 15-second commercial was more efficient, particularly in the case of mobile video. The gap between 15 and 30 seconds was a lot larger when it came to mobile video. This possibly suggests that when consumers were watching video on their phone, they had a lower tolerance for longer commercial interruptions. For mobile audio advertising, the 15- to 30-second difference was less significant, likely because a listening activity does not require consumers to hold the device in their hands.

Size and scale mattered in different ways in the Allstate, AT&T, and Unilever campaigns. Although shorter appeared to be more effective for mobile video, bigger was better for mobile banners. The authors compared two different-sized banners that were tested in the Unilever Magnum Ice Cream study (See Figure 5). The results showed that the larger banner, by far, was more effective and efficient—the most dramatic difference observed among the "bigger is better" pattern found among the other studies in this research program. A possible reason for this is the type of product category (impulse) and the way the advertisement real estate was utilized to create desire with impactful imagery. By contrast, the difference in banner size effectiveness that was reported for telecoms (AT&T study) was much lower, although still compelling,



Note: Index measures the relative efficiency of each media's ability to drive consideration for Allstate per advertising dollar spent. Consideration was measured by a survey question. Source: SMoX Allstate study.

Figure 6 Allstate: Relative Efficiency of Targeting Approaches In Mobile Video



Note: Index measures the relative efficiency of each media's ability to drive sales for Allstate per advertising dollar spent. Sales were measured by direct matching to Allstate data. Source: SMoX Allstate study.

Figure 7 Allstate: Relative Efficiency of Targeting Approaches In Mobile Banners

with the larger unit being more than twice as effective as the smaller unit.

Findings from Allstate, Unilever, and AT&T suggest that different rules apply when it comes to using mobile video and mobile banners to deliver a message.

- Shorter clearly is better for video and is preferable, although not as much of an issue, for audio.
- Larger size is better, especially for image-driven categories, when it comes to banners.

"If bigger generally is better," the researchers asked, "is more also better?" The impact of frequency was different for banners versus video and other, richer advertising units. More research is needed into the optimal frequency and pacing of advertising, because the results are not completely consistent across all of the brands. The preponderance of findings, however, suggests that optimal ROI is achieved with less frequency with mobile video and other highly noticeable advertising units.

This might be explained by the engagement level with video consumed on a mobile screen, and it is consistent with empirical research on matters of frequency. An Advertising Research Foundation study in 2016 found that "while impression levels delivered to consumers via digital can range in the hundreds per month, more than 40 impressions per month can actually have a negative impact on a brand's goals" (Snyder and Garcia-Garcia, 2016, p. 361).

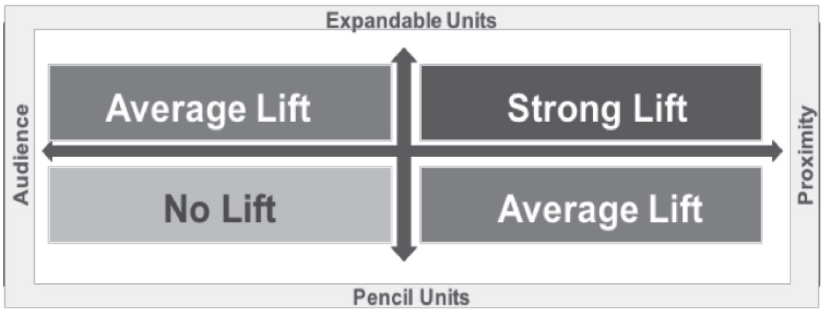
RQ3 Targeting: What is the value of different data signals, digital or physical, for improving targeting in mobile?

Allstate, Unilever, and Walmart Targeting Strategies

Allstate tested a variety of targeting approaches leveraging a wide spectrum of data signals, both digital and physical. There were differences in the impact of those approaches, depending on the KPI (consideration versus actual sales).

The researchers compared the efficiency of behavioral targeting and contextual targeting approaches used to deliver mobile video to the right consumers and drive consideration for Allstate (See Figure 6). The study demonstrated that both approaches justified their incremental cost and improved the performance of mobile video. The authors specifically found the following:

- Brands used contextual targeting to identify consumers who were browsing relevant content about the category



Note: Store visitation lift was measured using actual foot traffic data. Advertiser did not approve disclosure of the exact lifts, only the directional findings illustrated above.

Figure 8 Walmart: Store-Visitation Lift Caused by Location-Targeting Approach and Advertisement-Unit Combination

on their mobile devices. This approach improved the results of mobile advertising by more than 90 percent.

- Brands also used behavioral targeting, relying on first-, second-, and third-party data about key behaviors that illustrate that a person is in-market to buy home or auto insurance. This approach further improved results of mobile video advertising by more than three times, compared with when no behavioral targeting was applied.

The authors also compared the efficiency of various targeting approaches that were used to deliver mobile banners, with the ultimate goal of driving sales (See Figure 7). Behavioral targeting emerged as the most powerful tool to identify consumers in the right moment when they are in-market for auto and home insurance and to drive acquisition. Retargeting (*i.e.,* targeting consumers who previously were interested in Allstate) also delivered great results, more than twice the return as when it was not applied.

The authors, moreover, found the following:

- Contextual targeting, although an efficient driver of consideration when used for video advertisements, did not really move the needle on sales when it was used with mobile banners. The authors proposed that this approach was more suitable for upper-funnel metrics (*e.g.,* image, consideration), especially when matched with a rich experience, such as mobile video.
- Location targeting emerged as another efficient driver of sales, next to retargeting and behavioral targeting. In this case, it improved the results by two times. This is particularly important, because it means that marketers can utilize physical data signals, such as location data, in order to define elaborate audiences and expand the reach of targeting "in-market" consumers beyond the behavioral and retargeting approaches.

The findings added to knowledge (from the previous case studies in the current program) about location-targeting methods for driving foot traffic to physical store locations. The Walmart study (See Figure 8) specifically suggested the following:

- The strongest impact on foot traffic came from proximity targeting when combined with expandable banner units, generating the strongest lifts in foot traffic.
- By contrast, when historical location data were used to define an audience (of past shoppers), the impact on store visitation was lower for the expandable (larger) advertising unit, and there was zero incremental impact for the small, static banner ("pencil unit").

Whereas Allstate and Walmart used location data to define audiences (for Walmart, to target consumers relative to their proximity to a store), Unilever focused on the weather conditions in a given location. For Unilever's Magnum Ice Cream, mobile banners, even with no weather targeting, had emerged as an efficient driver of brand awareness (75 percent more efficient compared with the campaign average; See Figure 9). There was no impact in terms of driving short-term sales in the target group of that campaign, which resulted in zero ROI. When the same advertisements were served targeting locations where the outdoor temperature was above 80°F, however, the results changed, and a sales impact was measurable in the short term. The reason for the drastic turnaround, the researchers believe, was relevance.

The weather-targeting approach ensured that the mobile banners matched a relevant "need state" predicted by the high temperature. Combined, the weather-targeting strategy and a message of indulgence led the mobile banners to become one of the most efficient drivers of short-term sales—about 50 percent more efficient in relation to the campaign average. Recall that the analytic platform methodology employed in this research program includes use of control groups. This enabled the researchers to assess that the same advertisement, when served without weather targeting, had not generated a sales lift compared with the control. This suggests that it was the combination of the mobile advertising and weather targeting that generated sales.

The interaction between need state and advertising is not a new marketing concept. Yet traditional media are limited in their ability to be present in places and times where these need states materialize—for instance, the increased desire for ice cream when temperature goes above 80°, as in the Magnum Ice Cream example. In these situations, mobile advertising has a unique advantage because of the pervasiveness of mobile phones, which allows marketers to act on their consumer insights and engage consumers in the moment.

	Aided Awareness	ROI
Mobile Display with weather targeting	200	147
Mobile Display	175	0
Campaign Average (across all media)	100	100

Note: Index measures the relative efficiency of each media's ability to drive awareness or sales for Magnum, per advertising dollar spent. Awareness was measured by a survey question, while ROI takes into consideration the estimated profit due to media, using actual sales lift analysis. Source: SMoX Unilever study.

Figure 9 Unilever Magnum: Relative Efficiency of Mobile Banners in Relation to Campaign Average

BEST PRACTICES IN MOBILE MARKETING

The findings from this body of research can serve as a guide to marketers who want to improve the effectiveness of their mobile-advertising investments. Although the rules for mobile-marketing efficiency can be applied in different ways depending on the brand, product category, and medium, the authors suggest the following best practices:

Produce Creative Content Specifically for Mobile

Mobile's smaller screen offers the opportunity for more purposeful engagement, so repurposing creative content from other platforms misses the opportunity to fully leverage context and customize accordingly. Previous research provided evidence about the benefit of unifying creative strategy across different platforms but also customizing execution to the platform level (Snyder and Garcia-Garcia, 2016). The current research validates that marketers can maximize the impact of their advertising when they align creative concept, format, advertising unit, data, and delivery to communicate a brand message that is relevant in the specific moment in the customer journey.

Alternatively, marketers increasingly can assess the impact of multiple combinations of the above levers "in-market" through programmatic advertising. Starting with a broader menu of possible ways to engage with mobile-specific content, advertisers can run massive experiments with dynamic creative optimization, measure what works, and optimize accordingly while the campaign is live.[14]

Target More Deeply

Mobile creates a much richer dataset than traditional media, allowing marketers to capture the context, intents, and need states of individuals. The historic location of a consumer can reveal a great deal about his or her passion points (visited a golf course, went skiing, attended a live music performance), income (lives in an affluent neighborhood), or even current need state (find out today's weather). Unifying and activating these data potentially can increase the actual CPM paid by advertisers when targeting broader demographic audiences. Advertisers, however, should take into account the impact of advertising and how it drives their campaign KPIs when considering cost. Most of the data-targeting approaches assessed in the current case-study series more than justified their premium (cost) and significantly improved the impact of mobile advertising per dollar spent. This validates the theory that marketers can find great value in understanding the customer journey and operationalizing planning insights to target "moments of relevance" across the customer journey. In those instances, the results from applying such targeting not only are significantly greater but also create a "multiplier" effect and drastically change the impact of a given creative asset.

Adapt to Continuous Optimization

Mobile targeting optimization may prompt marketers to ask, "Can we act fast enough on the optimization insights?" Analytics technology does the heavy lifting, yet the practice of changing in the middle of a campaign might be new to a marketer. Once a marketer begins to optimize mobile while the campaign is live, he or she might want to optimize as many other media as

[14] *Fondon, C. J. (2014, October 20). "Dynamic Creative Optimization: What is it?" Retrieved May 26, 2017, from ProgrammaticAdvertising.org's website: http://programmaticadvertising.org/2014/10/20/dynamic-creative-optimization-what-is-it/.*

possible. And, as data-analysis and measurement technology continue to evolve, the issue becomes marketers' and agency orientation toward agility. This research, therefore, has implications for how a marketer organizes teams and agencies around continuous optimization, as opposed to an annual planning cycle.

LIMITATIONS

In the authors' view, the biggest limitation to the current research program is the match rate of identity data. With a current rate of 40 percent and growing, researchers should be careful to examine whether scaling up the 40 percent to 100 percent of the population aligns with total sales. If so, the identity data that can be matched can be viewed as representative, and a marketer can have more confidence in the findings. If not, a researcher can consider weighting but will need to understand whether certain groups are misrepresented and assess the impact of specific variables to achieve a projection that aligns with total sales.

In the current case-study series, impact was measured for both brand equity and sales behavior, but might it miss the longer-term impact of advertising? The method of the primary vendor selected for this study series (Marketing Evolution) for quantifying the relationship between brand-equity measures and a person's purchase activity for months, and in some cases years, has been applied to customers in the automotive, retail, and financial-services categories. Within each sale, the method allows the researchers generally to trace back to a set of beliefs about the brand. When advertising enhances these beliefs, sales follow. The researchers refer to these measures as leading indicators.

The current research program measures brand beliefs as well as sales and can apply a formula of brand beliefs and their conversion to longer-term sales and profits. Arriving at this formula, however, typically requires a year or more of observation. Each case study is a single campaign, and, therefore, the benchmark conversion applied is based on the vendor's database. The database of norms might not be applicable directly to any single brand and, as a result, might not provide definitive answers of long-term effect for all marketers. More emphasis is placed on the sales benefit achieved within one purchase cycle, and some might view this as a limitation.

FUTURE RESEARCH

More work is needed to better understand the increasing variety of mobile tactics at a more granular level:

- Factors such as auto-play versus opt-in, sound-on versus sound-off, and skippable versus nonskippable advertising sometimes are intertwined with variables, such as video length and targeting method applied, creating an infinite number of combinations.
- Location targeting sometimes is viewed as "proximity targeting," or geofencing, and solely is associated with marketers who want to drive foot traffic to a physical location. There are promising opportunities, however: using historical location patterns to define elaborate audiences around behaviors (*e.g.,* people who commute using a specific route), passion points (*e.g.,* people who go to music venues), or even income segments (*e.g.,* affluent consumers who go to ski resorts). Some of these location-targeting tactics are assessed further in the context of the QSR study.

More MMA-led studies will follow, including Ford Motor Co. and Miller-Coors (results expected in 2018). Work with a major bank and leading fashion retailer also is in progress. Beyond the more granular questions addressed in the previous studies, these marketers will explore "unique-to-mobile opportunities," including:

- the impact of "mobile-first" creative content and its impact on ROI. This will include the impact of "nonworking cost"—in other words, the cost of producing the actual creative assets, which often is left out of media-efficiency analysis.
- using mobile for integrated communications: how mobile can enhance television or out-of-home advertising and the role of creative message and sequencing. This could build on knowledge from a 2016 Advertising Research Foundation study that found a "kicker effect" when digital-advertising investment was added to television, resulting in an ROI increase of about 60 percent (Snyder and Garcia-Garcia, 2016).

Finally, there is an interest in further examining social media and other "walled gardens" that account for a large share of the mobile-advertising spend. Some work in this case-study series (Unilever and the QSR) provides isolated cases of measuring some of these platforms, but further investigation is needed. As the industry conversation about transparency and data sharing continues to evolve, marketers will get better at predicting what is feasible and how advertising spend in these platforms will be assessed in the years to come. JAR

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