Evaluating the Effect of Mobile Display Advertising in South Africa

Gareth Lloyd[1]

[1] Head of Research & Analytics, 24.com, Cape Town, South Africa

E-mail: Gareth.Lloyd@24.com

Published 14 March 2019

Abstract

South Africa has seen rapid growth in mobile phone penetration and time spent on device. Digital advertising spending however has not grown at the same rate, with the majority still being directed towards desktop. This study intends to provide evidence for increasing advertising spend on mobile by launching 79 campaigns on 24.com properties, which contain some of South Africa's most visited mobile websites. Apart from assessing overall brand lift, the study also seeks to understand how ad format, messaging, targeting and brand size affect brand awareness, consideration, preference and purchase intention. The relationship between brand lift and CTR is also examined. Targeted questionnaires were sent out to individuals who were exposed to campaigns. Eleven brands participated with 5 different mobile ad formats being used per brand. Over 26 million impressions were served, with 22,833 surveys collected. The study findings show that all ad campaigns launched resulted in meaningful positive brand lift, allowing us to conclude that the mobile channel is a suitable and effective channel for various types of brand categories and ad formats. Furthermore, we find that more creatively complex ad formats work better at the bottom-of-the-funnel (preference, purchase intention), while less complex ad formats drive top-of-the-funnel brand lift (awareness, consideration). Targeting enhances the overall brand lift effect by 18%, with purchase intention showing the largest increase in effect when targeting is used (+38%). Targeting also accentuates the brand lift advantages of each ad format. Finally, click-through-rate shows no relationship with overall brand lift, or any of its sub-components. It is recommended that CTR is not used as a measure by the industry, proxy or otherwise, for the total brand lift effect of a mobile ad campaign.

Keywords: Brand Lift, Mobile Advertising, Digital Advertising Formats, Click-Through Rate.

1. Introduction

South Africa has seen a sharp increase in the number of consumers who have access to, and use smartphones to access the internet in the past 10 years. Currently, nearly nine out of ten households are mobile only, with smartphone ownership set to more than double by 2023 (PwC, 2018).

Despite this proliferation in mobile usage, mobile advertising spend has not increased at a comparable rate. While reliable figures for the digital publishing industry in South Africa are hard to come by, 24.com can report that despite encouraging year-on-year growth of 57% in mobile advertising, the majority is still being directed towards desktop/pc channels (see figure 1). As a result, a gap exists between the reach of mobile and the proportion of advertising budgets that are allocated to the channel[1].

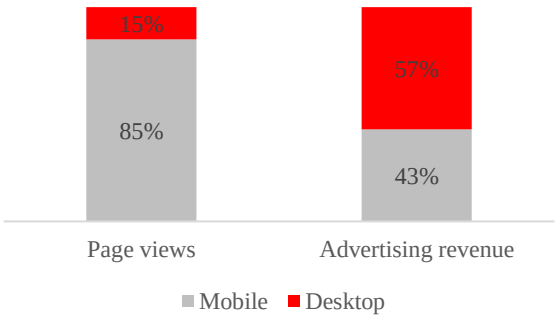


Figure 1: 24.com % page vs and % revenue 2018

1 This can also be framed as a gap between the amount of time people spend on mobiles in relation to other device types, and the amount of spend allocated to the mobile channel, meaning that many marketing opportunities are missed.

© 24.com

Some common reasons put forward for this apparent reluctance to direct marketing spend to mobile are: 1) compared with desktop, smaller screens on mobile limit the size, functionality and overall impact of ad formats; 2) the continuous scroll nature of mobile negatively impacts viewability, meaning ad impressions are not seen because they are quickly scrolled past; 3) desktop shows higher conversion rates for performance marketing related campaigns.

In order to address the mismatch in advertising channel spend, as well as some of the common reasons cited for it, 24.com has run an extensive research project that specifically investigates the brand lift effect of advertising on mobile devices. Over and above assessing the overall brand lift effect of mobile advertising beyond just immediate click related ad-engagement, the study seeks to break down the brand lift effect into a number of sub-components that will contribute to a better understanding of how advertising works on mobile devices.

1.1. Purpose and Research Questions

In order to understand the extent of the brand lift effect, as well as its sub-components, a measurement approach is needed that will quantify these outcomes in a valid way.

The most widely used metric for digital campaigns is click-through-rate (CTR). This study will propose a new set of metrics that show the greater holistic value that mobile advertising creates. Importantly, the approach used measures mid-funnel brand lift effects which most standard ad performance data do not quantify. Typically, awareness is measured by reach and conversion by goal completion on a digital platform, but the value added by mobile advertising to attitudinal dimensions like consideration and preference are ignored. On top of this, a strict focus on immediate digital conversions does not take into account the increase in purchase intention that is generated, but may not be acted on immediately, or is fulfilled within non-digital channels (e.g. brick and mortar stores). CTR will still be incorporated as an additional diagnostic metric with the intention of evaluating its relevance to brand lift effects.

Taking all of the above into account, the purpose of the study is to identify how ad format, messaging, brand size and audience targeting affect a consumer's awareness of, consideration, preference and purchase intention towards specific brands when exposed to advertising campaigns on 24.com's mobile platforms. Furthermore, the study will investigate the relationship between CTR and brand lift as measured using a separate survey based approach.

2. Study Design and Methodology

The objective of assessing brand lift and its sub-components can be achieved using a survey approach where users exposed to a particular campaign on a 24.com mobile device are subsequently retargeted with a questionnaire. This approach was succesfully used in previous research conducted by Schibsted[2] and Lund University in Sweden (Olivensjö & Sundberg, 2015). Our study replicates this previous research as closely as possible.

In total, 79 campaigns were launched where each campaign is an individual test. A completed test entails the full execution of the process from exposure to the creative, to retargetting, sufficient survey completion and data processing (calculation of brand lift).

2.1. Setup of Campaigns

The following parameters were held constant for each campaign: 1) all campaigns were shown on 24.com's mobile platforms (mobile web and app); 2) the adverts were shown in the app/mobile home page (article stream) and within article at position 1, which is usually viewable by scrolling once in each; 3) the design specifications for each ad format were held constant across all campaigns (see Specs and Guidelines in appendix); 4) each campaign was allocated in the region of 400,000 impressions; 5) the target number of surveys per campaign was 300; 6) campaigns were aimed to be served over a 4 week period; 7) once a cookie was shown a particular campaign it was not shown any other campaigns for the period that the campaign was live.

2.2. Launching the Campaigns

The survey design relied on the implementation of a number of cookies. Each campaign was assigned a unique cookie that allowed the user to be retargeted with a survey at a later stage. For each brand/product, several campaigns were launched at the same time (static banner, animated GIF, native infeed, video, rich media, and in some instances, targeted and non-targeted versions of each ad format). Every campaign was allocated approximately 400,000 impressions. Cookies also allowed for each campaign to be isolated, meaning that a particular cookie was not shown any other campaigns that were tested at the same time. This increased the likelihood that any brand lift was attrbutable to a specific campaign, with fewer potentially confounding inputs.

One known limitation of this approach was that unique visitors were tracked using cookies on mobile device. There is no way of deduplicating cookies if a user visits any 24.com

[2] Schibsted is the largest media group in Scandinavia with publishing brands such as Aftenposten, Aftonbladet, Svenska Dagbladet and Bergends Tidende in their portfolio.

mobile site on separate devices. This could result in a miscalculation of the true number of exposures a user had to a particular campaign (a variable used as an input into the brand lift calculation).

Another issue that may have arisen is that a user could be exposed to separate ad format variants on separate devices for a particular brand/product, in which case the difference in brand lift cannot be attributed to a particular ad format type.

Finally, if a user cleared cookies then all exposure related activity was cleared, making the device eligible for a new campaign. These limitations have no current technical solutions however, and are experienced as industry wide challenges. Due to the low probability of users accessing 24.com sites on multiple mobile devices, and the fact that the campaigns did not run on desktop, the study design is considered fit for purpose.

2.2. Data Collection

During the time in which a campaign was live, the numbers of users who were exposed to it was constantly tracked. This exposed audience was further segmented into subgroups (e.g. 1 exposure, 2 exposures, 3 and so on.). Users were served questionnaires when they returned to a 24.com site after exposure based on which subgroup they fell into.

The questionnaire shown to users was simple and as short as possible. The objective was to maximise response rates without losing measurement validity. Only one question was asked, with the brand/product advertised being referred to specifically. The answer format was single response radio buttons.



Figure 2: Survey used

The answer options used were: 1) Not familiar with the brand; 2) Familiar, not interested; 3) A brand I would consider; 4) My most preferred brand; 5) I plan to buy/use the brand (where brand in the question and answers was replaced with the advertiser brand in question). Once a survey response was received, ad exposure information was recorded alongside it in the underlying database.

2.3. Data Processing

Following previous studies conducted by publishers such as Schibsted in Sweden, 24.com partnered with Brand Metrics[3], an external company, for the delivery of surveys, as well as the calculation of brand lift results. Credentials and technical details are available by contacting Brand Metrics directly.

2.4. Data Analysis

All campaigns successfully ran were collated in a database, and various groupings were selected in order to perform the analysis. Brand lift scores (awareness, consideration, preference, purchase intention and total brand lift) were compared across these various groupings, namely ad format, brand size, messaging and whether targeting was used or not. In the future, when sufficient numbers of studies are conducted to constitute robust base sizes, criteria can be combined to arrive at more specific findings (e.g. how ad formats within various messaging types affect brand lift scores).

CTR rates were obtained from ad serving platforms such as DFP and were plotted against brand lift metrics in order to understand the relationship between them.

3. Analysis and Discussion

In total 11 advertised brands/products were booked resulting in 79 completed campaigns. Just over 26 million impressions were served with 22,833 surveys being completed.

3.1. Overall brand lift

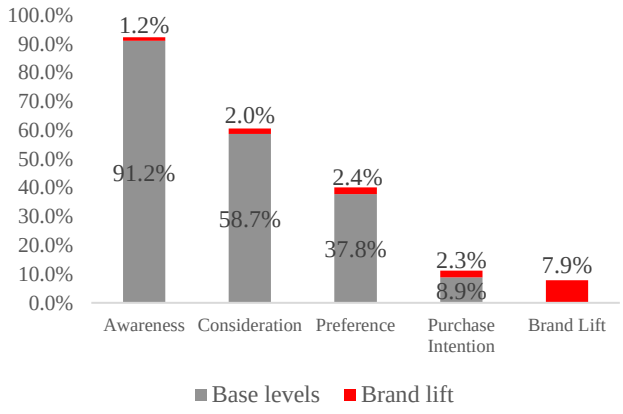


Figure 3: Brand lift averaged across all campaigns

Averaged across all 79 campaigns, mobile advertising on 24.com sites resulted in a positive total brand lift effect of

[3] www.brandmetrics.com

7.9%. Total brand lift is arrived at by summing the brand lift effect on the awareness, consideration, preference and purchase intention sub-components. The findings show that mobile advertising results in meaningful positive effects for brands across all marketing funnel metrics.

The brand lift scores on each sub-component can be interpreted as the increase in the number of people who fall into each phase of the brand funnel as a result of the campaign. Base levels indicate the existing levels of brand equity for a brand or a group of brands on the various sub-components before the mobile ad campaign/s were run.

It is worth noting that the brands that participated in this study are all well-known brands, with high base levels of brand equity. As a result, there was reduced room for growth on certain metrics, particularly awareness. These high levels of base brand equity have resulted in bottom-of-the-funnel metrics like preference and purchase intention contributing the most to total brand lift.

3.2. Ad format

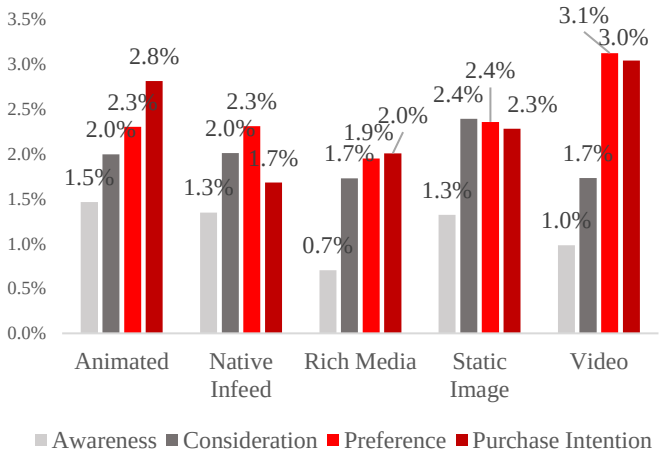


Figure 4: Brand lift by ad format

The bar chart in figure 4 shows the percentage brand lift effect from pre-campaign base levels, split by ad format. Video and animated GIF show the greatest overall brand lift effect (8.9% and 8.6% respectively), followed by static image 8.4%, native infeed 7.3% and rich media 6.4%.

When examining what these total brand lift effects are comprised of, animated GIF is best at increasing awareness of a brand/product, and also performs well at increasing purchase intention. Static image shows the largest increase in consideration, but also performs relatively well in driving preference and awareness. Native infeed (a similar format to static image, but with additional styling to make it look like an embedded post from a social network platform) performs relatively well at driving brand preference and awareness. Rich media is the lowest on all brand lift metrics except for purchase intention. Video performs best at increasing bottom-of-the- funnel metrics preference and purchase intention.

Overall, we can conclude that more creatively dense ad formats which convey richer information have a higher propensity to drive bottom-of-the-funnel metrics. Less creatively dense ad formats with less information are better suited at driving top-of-the-funnel dimensions. The implication of this is that a particular campaign can maximise its intended impact by selecting ad formats that are best aligned with its objective. For example animated GIF and video are better suited to campaigns that focus on maximising purchase intent, whereas static image is better at driving awareness and consideration focussed campaigns.

In the event of mutiple objectives, various formats can be chosen with messaging being tailored to the brand lift outcome that an ad format is best at promoting. Furthermore, if the campaign runs over a period of time, ad formats can be rolled out in a sequence that maximises the effect of the overall campaign.

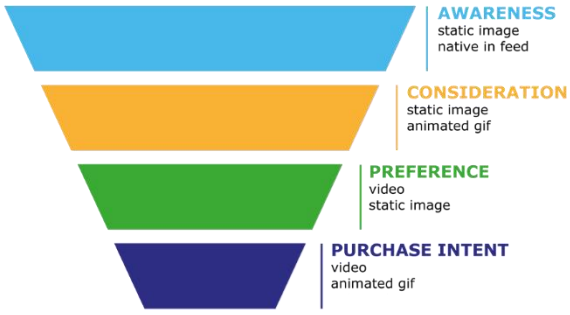


Figure 5: Creative formats and the marketing funnel

3.3. Messaging

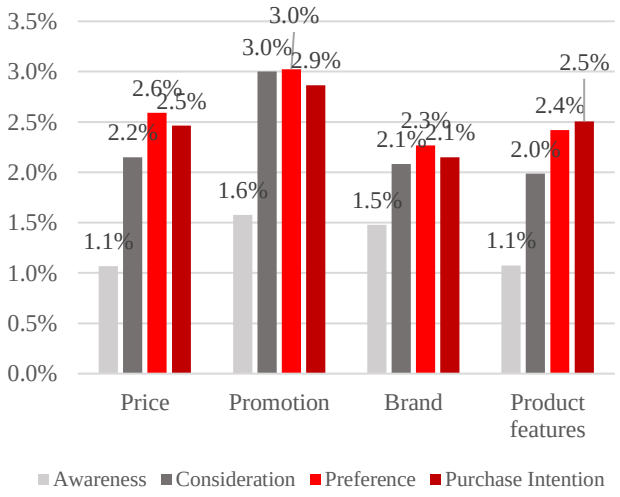


Figure 6: Brand lift by category

Figure 6 shows average brand lift by messaging type. Messaging type was qualitatively determined using the following criteria: 1) Price: any advert mentioning price in Rands directly; 2) Promotion: any mention of a percentage discount without directly indicating price; 3) Brand: adverts focussing predominantly on brand, with no mention of price, promotion or product features; 4) Product features: adverts mentioning specific performance related features of the product. Campaigns were placed into these various categories and then analysed.

Interestingly, promotion focussed messaging shows the highest overall brand lift effect. A campaign for a well known consumer electronics retail chain fell into this category, pushing a primary message of "offers up to 50%". This campaign ran prior to Christmas for a limited time. Seasonality, combined with singular impactful messaging and a limited time period for the offering resulted in strong brand lift effects of all metrics. This shows that promotion based campaigns that are easily decoded and well timed can produce significant increases in all elements of the funnel, including purchase intent.

Campaigns that focussed primarily on discounts where price was mentioned performed relatively well. This category featured the same consumer electronics retailer, as well as campaigns for two well-known supermarket retailers who featured various discounted items in the run up to Christmas and New Years (Christmas lunch/meal related specials, and discounts for sweets, snacks and alcoholic products respectively). Price campaigns were particularly good at driving consideration, meaning that the brand would now feature in the list of mentally available brands when the consumer intends to purchase within the category next. The slightly reduced purchase intent and preference brand lifts of price campaigns may be explained by the screening effect of mentioning price; once a price in mentioned a consumer has a much firmer understanding of affordability. As a result, a proportion who know for certain that they are unable to afford the brand/product in question drop off from the bottom-of-the-funnel gains. Promotion campaigns that do not mention price at all may keep this proportion of consumers however.

Brand campaigns which mainly featured brand logos along with more emotional messaging performed relatively well on the awareness and consideration metrics. This category featured one well known off-road car manufacturer that focussed on adventure and freedom, as well as a popular baby care brand that highlighted the positive emotional aspects of real parenting. Without specific product detail, a sense of urgency, or additional information that could help the consumer determine affordability and relevance to a direct need, brand campaigns seem to be better suited towards top-of-the-funnel metrics. Having said this, they are still able to drive preference reasonably strongly by enhancing the emotional component of the brand relationship and should be seen as an important part of a broad mobile campaign that seeks to enhance positive functional, as well as emotional associations with the brand.

Campaigns that focussed primarily on product features performed relatively well on bottom-of-the-funnel metrics. The product feature category included: a well known off-road vehicle where specific references were made to in-built sat-nav features; a consumer electronics manufacturer that focussed on camera and screen specs; a laudry detergent which emphasised the superior cleaning power of the product; and two financial services brands who referenced the features and benefits of their respective investment products. Campaigns that focussed on product features generally contained specific information that needed to be understood, but the results show that when they are, they can drive preference and purchase intention by increasing positive associations with the functional aspect of the brand relationship. The result is to establish personal relevance by fitting the brand/product into a consumer's given need state (based on what they are all individually looking for). When this is done sucesfully with product level information, the brand becomes more likely to be the brand that is purchased next.

3.4. Targeting

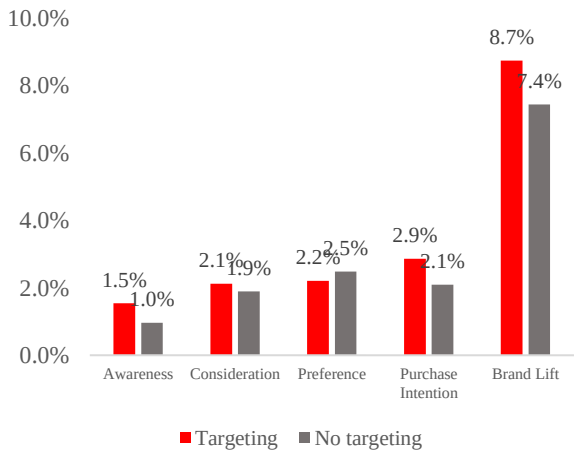


Figure 7: Brand lift by audience targeting

Where possible, each ad format within a campaign was replicated and run against a non-targeted, and a targeted audience. Targeting in this case entails serving the ads to segments of the 24.com audience who have been identified by various types of behaviours as having greater affinity towards, or interest in a given category (e.g. automotive).

Figure 7 shows that targeting results in an 18% increase in overall brand lift. Awareness and purchase intention are the metrics that show the largest gains when using audience targeting, with purchase intention showing a considerable 38% increase.

Category involvement/affinity may help explain this difference in performance to some extent: consumers who have been behaviourally identified as interested in a category/product show higher levels of receptiveness towards adverts within that category (Cho, 2003). Consumers that are accurately targeted will be more open to noticing brands and messaging. This increased receptiveness can explain increases in awareness, as consumers are more likely to take in information displayed in adverts relating to a new brand/product in that category, forming new memory structures as a result. On the opposite end of the funnel, consumers with well-established hierarchies of brand desire are receptive to messaging that further affirms their existing preferences and beliefs (confirmation bias (Nickerson, 1998)) moving them from lower funnel states like consideration or preference to purchase intention (or affirming current decisions to purchase).

When looking at the difference in brand lift when using targeting by the different ad formats, we find that targeting enhances the various strengths of each format as shown in figure 4. In other words, where an ad format like video is particularly strong on increasing purchase intention, using targeting increases this tendency.

3.5. Brand size

Brands featured in the study all had high levels of awareness amongst the 24.com audience, with the lowest level of awareness of 80%, and the highest being 100% (average 91%). Despite the limited distribution of brand sizes, three groupings were identified in the data: brands with 80%-90%, 90-95%, and 95%+ pre-campaign awareness. The findings of this section are limited to these quite granular groupings within the context of large brands, and cannot be extrapolated to much smaller brands (e.g. pre-campaign awareness of less than 40% of the sample). More campaigns with smaller, or entirely new brands are required in order to more fully understand the effect of brand size on brand lift which will be the incorporated in future research.

Within the context of large brands, there is slight negative relationship between brand size and brand lift (R squared 0.16, correlation -0.38). This suggests that within our group of large brands, the larger a brand becomes, the lower overall brand lift becomes, although the relationship is not sufficiently strong with a noteable amount of the largest brands showing higher than average brand lifts. Interestingly, smaller brands in the study show greater variation in brand lift, with higher standard deviations than larger brands, but standard deviation and the slope of the negative relationship decreases as brands enter the 90% and above group.

80-90%	90-95%	95%+
7.7%	4.0%	4.2%

Figure 8: Total brand lift standard deviation by brand awareness

The same exercise is conducted for each of the sub-components of brand lift. Awareness shows the strongest negative relationship with brand lift (R squared 0.25, correlation -0.5), and a reducing standard deviation as brand size grows. This means that brand lifts in awareness become harder to obtain as a brand grows because there are simply fewer consumers in the target population who are not aware of the brand. The tendency for gains in awareness to reduce with brand size is the biggest contributor to the overall small reduction in brand lift as brands grow mentioned above.

Gains in consideration that are attributable to mobile ad campaigns also reduce with brand size, but the relationship is much weaker (R squared 0.13, correlation -0.32). This is most likely because the larger a brand gets, the more likely it becomes to already feature within a consumer's consideration set (a consumer's mentally available short list of brands).

Preference shows a weak relationship with brand size (R squared 0.07, correlation -0.2). This means that relatively smaller, medium and larger brands in the study reported similarly distributed levels of brand lift on this dimension. This could be related to the fact that preference does not move as sequentially as other metrics like awareness and consideration. In other words, as brands get bigger, they don't necessarily add consumers who rate them as their top brand in a linear manner. The particulars of an ad campaign are more likely to determine movements on this metric than brand size, measured in mere exposure or reach. This dependence on the elements of the creative also mean that campaigns can move consumers towards higher brand preference without necessarily needing to move consumers through awareness and consideration first.

Finally, brand size has the weakest negative relationship with purchase intention (R squared 0.035, correlation -0.19). Similar to preference, this means that both smaller and large brands within the study showed mostly similar distributions in purchase intent lift, with slightly more variation for smaller bands (80-90% pre-campaign awareness). As with preference, it may also be that ad campaign elements are much stronger determinants of purchase intention lift than brand size, or that once brands reach a certain high level of awareness, the

relationship between brand size and purchase intention becomes negligible.

3.6. CTR

The outcome of all campaigns on the brand lift metrics are plotted against CTR performance metrics from relevant ad serving platforms. The results show that there is no relationship between overall brand lift and CTR at all (R squared 0.00015, correlation -0.03). This finding is consistent across all of the sub-components of brand lift too. It is clear that across all studies conducted, CTR is not in any way related to the total brand lift performance of a mobile campaign and should not be used as a direct or indirect measure of brand lift for mobile campaigns. This does not mean that the metric is not useful in any way; it however does mean that additional measures need to be implemented for the full effect of a mobile advertising campaign to be shown.

4. Conclusion

This study shows that ad campaigns using various formats, spanning categories from retail to automotive, durable goods and FMCG result in meaningful positive brand lift across all stages of the marketing funnel. Despite objections raised such as small screen size and reduced visibility due to quick, endless scroll, this study shows that the mobile channel is a powerful contributor to the success of brands. In short, we can conclude that mobile advertising works in increasing all metrics in the brand relationship.

All ad format types tested result in positive brand lift effects indicating that all formats tested are suitable for the mobile channel. When looking at the sub-components awareness, consideration, preference and purchase intention, there are differences in how each ad format performs, with more creatively dense formats producing larger effects at the bottom-of-the-funnel and less creatively dense formats working better at the top-of-the-funnel.

Native infeed and static image formats show greater increases for top-of-the-funnel metrics: awareness and consideration. Rich media and video formats result in higher brand lift effects for bottom-of-the-funnel metrics: preference and purchase intention. Animated GIF is the only format to perform comparatively well across all of these metrics.

It is recommended that marketers factor in the relative strengths of each ad format when formulating a campaign in order to maximise the overall brand lift effect. The findings also allow for the optimisation of campaigns with multiple objectives (e.g. awareness and purchase intention) by establishing a sequence of adverts ordered by ad format type that is likely to be better at moving consumers down the funnel, closer to purchase intent.

Messaging type produces different brand lift effects. Ads that mention price, and/or contain specific information about product features drive bottom-of-the-funnel brand lift effects. Campaigns that focus on brand, with no price or product information are comparatively strong at driving top-of-the-funnel metrics. Promotion (percentage discount) focussed messaging performs well across all metrics in the brand funnel.

Overall, using behavioural targeting on mobile results in greater brand lift effects, particularly on the purchase intention dimension. Video is the recommended format for targeted campaigns that seek to maximise purchase intention, while static image and native infeed are recommended for targeted campaigns aimed at increasing awareness. Native infeed is recommended for targeted campaigns that focus on driving consideration.

Brand size has no meaningful relationship with brand lift, although when looked at by the various sub-components, awareness shows the strongest negative relationship. This means that as brands get bigger, brand lift effects in awareness reduce. The relationship is less strong for consideration, and negligable for top-of-the-funnel metrics: consideration and purchase intention. More studies are needed that include much smaller brands in order to investigate the relationship more fully.

Finally, CTR has no relationship with overall brand lift, or any of its sub-components. It is recommended that CTR is not used as a measure by the industry, proxy or otherwise, for the brand lift effect of a mobile ad campaign.

References

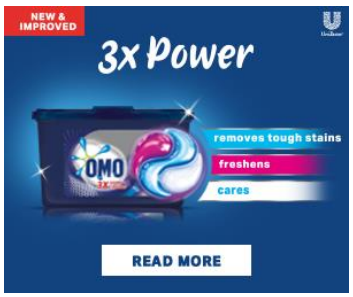
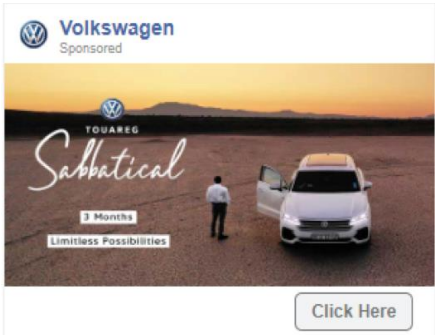
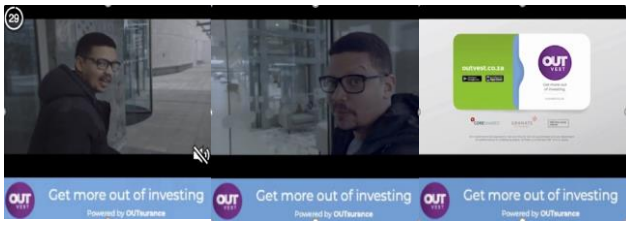
Cho, C.-H. (2003). The Effectiveness of Banner Advertisements: Involvement and Click-through . *Journalism & Mass Communication Quarterly*.

Nickerson, R. (1998). Confirmation Bias: A Ubiquitous Phenomenon in Many Guises. *Review of General Psychology*.

Olivensjö, A., & Sundberg, G. (2015). *Evaluating the Effect of Mobile Display Advertising - Guidelines on how to Advertise in the Mobile Channel.* (Master's thesis, Lund University School of Economics and Management, LUSEM).

PwC. (2018). *Entertainment and media outlook: 2018-2022, An African perspective.* Ovum.

Appendix: Ad formats tested

Static image 	File format: GIF | JPEG | PNG File size: 300x250 File weight: 39KB Animation: None
Native in-feed 	**LOGO** Dimensions: 72w x 72h px | File Format/Size: GIF/JPEG/PNG | File Size: 10kb **IMAGE** Dimensions: 640w x 360h px | File Format: GIF/JPEG/PNG |File Size: 39kb **HEADLINE TEXT** Characters: 30 max **SPONSORED LINK TEXT** Characters: 30 max **SPONSORED TEXT** Characters: 30 max **ACTION BUTTON TEXT** Characters: 20 max **URL Characters**: 2048 max
Animated GIF 	File format: GIF File size: 300x250 File weight: 39KB Animation: Not to exceed 15sec | No looping after 15 secs Animation runs automatically
Rich Media 	**LOGO** Dimensions: 80w x 40h px | File Format/Size: GIF/JPEG/PNG | File Size: 10kb **HEADLINE TEXT** Characters: 30 max **BUTTON TEXT** 9 buttons, 1 to 2 word per button **INTRO TEXT** Characters: 18 max **URL Characters**: 2048 max **INTRO BUTTON TEXT** Characters: 7 max User engagement required to swipe through images
Video 	**VIDEO FORMAT** MP4 / 16:9 **VIDEO SIZE** : 8mb Max **VIDEO LENGTH** 60 Seconds Max **URL Characters**: 2048 max Video plays automatically in stream but user must toggle volume

Partnering brands: Checkers, Shoprite, Dion Wired, Dove, FNB, OUTsurance, OMO, Old Mututal, Samsung, Toyota, VW