

The New Marketing Renaissance

The merging of creative work and scientific evaluation
of communication

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Introduction

Is content still king? It is widely recognised that a well-defined media strategy is not enough to be effective. The message needs to be delivered via creative content that grabs a consumer's attention, to build favourable brand associations that will influence future purchases. In addition to this, creatives also play an important part in differentiating a brand from its competition, by helping to build to a clear brand identity. Klarna has long been a brand-driven business, with its distinctive creatives an important factor to the company's success. Compared with the traditional serious banking industry characteristics, Klarna use their vibrant pink colour, clever copy and quirky visuals to create an emotional connection with the modern consumer. Founded in 2005, today they now have 150 million active consumers across more than 500,000 merchants in 45 different countries (Klarna, 2023). Creativity continues to be an important tool for Klarna's marketing communications as they look to expand to more countries, and new challengers enter the industry.

A new playing field

The digital age has resulted in an explosion of new media channels, providing marketers with an abundance of communication opportunities. This has set new requirements on content creation. To be relevant and effective, creative content now needs to be tailored for each channel. It needs to suit the format and context, be tailored for each specific audience and take advantage of the features available, such as the possibility for interaction or personalisation. Despite these new options, it is becoming increasingly difficult to cut through the noise and gain effectiveness. Binet and Field's 2017 publication *Media in Focus: Marketing Effectiveness in a Digital Era* illustrated that advertising effectiveness had been declining over a 10-year period. They argued that this loss was due to an overemphasis on short-term sales activations, and not enough focus on long-term brand building. At the same time, marketers are faced with an increasing use of ad blockers by consumers, with users reaching 763.5 million in Q4 2019 (Statista, 2020).

The resurgence of creative

With so much advertising noise there seems to be a hunger for good content. Video streaming and content-driven social media platforms are more popular than ever, with YouTube and TikTok sitting at 2.5 billion and 1 billion monthly users, respectively, as of January 2023 (Statista, 2023). In fact, many marketers claim that consumers would be more receptive and less avoidant of advertising content if they were of higher quality

and more relevant. This concurs with results from Binet and Field's 2012 publication *The Long and the Short of it: Balancing Short and Long-Term Marketing Strategies*, where they demonstrated that creatively awarded campaigns are more efficient in driving growth in market share. They also showed that campaigns with emotional messaging are more effective in driving long-term business impacts, when compared with the more rational messaging typically associated with sales focused advertising (Binet & Field, 2012).

New skills for the marketing department to master

All of this means that there are high demands on marketers today. They need to produce content of such high quality that people actively want to consume it, whilst understanding the technicalities of tailoring content to the multitude of different channels. They also simultaneously need to not get lost in all the choices, and overlook the fundamentals for a successful campaign, be it objectives, measurement KPIs or execution: a true DaVincian feat!

Holistic measurements require a holistic toolbox

Klarna has long seen the benefits of working in a data-driven fashion when it comes to marketing decisions and content development. In the early days of the company, decisions were often based on instinct and experience. However, over the years Klarna has implemented several tools to analyse their marketing. They evaluate the effectiveness of their media investments through various methods, including marketing mix modelling (MMM). They also use survey-based insights to evaluate the quality of their creatives. The current economic uncertainties have supercharged Klarna's use of data and insights, as they want to ensure that they are making optimal marketing investments and their creative content is delivering the most bang for their buck.

Klarna collaborated with marketing intelligence company Nepa to help advance their data-driven insights. The case study in this paper focuses on enhancing Klarna's MMM analyses by connecting the measurements of their creative quality with marketing effectiveness.

Methods and tools for evaluation marketing effectiveness

There is an abundance of data and KPIs to help marketers make decisions on their different campaigns and channels. Digital media platforms such as Facebook, Instagram and YouTube provide detailed figures to help marketers see how their creatives are performing. However, over time these platforms have become "walled gardens" where data cannot be exported, and metrics are only available on an aggregated level. This has made it difficult to track campaign performance across the multiple channels it has been launched on, and get a holistic view of campaign performance. In addition, the depreciation of third party cookies and regulations such as GDPR in Europe (ICO, 2018) means the possibility to connect campaign exposure to business outcomes through digital attribution is limited.

MMM has traditionally been regarded as the gold standard for measuring the effectiveness of advertising on sales or market share across different channels. The technique relies on aggregated data, and thereby avoids the issues associated with digital attribution, making it a highly relevant tool in today's media landscape. Through the application of different statistical techniques such as time-series regression, MMM provides

marketers with direct apples-to-apples comparison of the return on investment (ROI) from different marketing inputs. Klarna uses MMM to make informed decisions on how to deploy their marketing investments across their different media channels. Using the results their media team can set a truly data-driven media strategy, with collaborations with local marketing teams and media agencies based on hard facts about media effectiveness and efficiency.

A drawback of MMM

One aspect that most MMM analyses do not account for is creative content. They typically provide results on each media channel's contribution to sales or market share, and the ROI. However, the marketing input is often limited to media investments. In reality, the quality of the creative likely also has an impact; any experienced MMM practitioner knows this, and will take it into consideration when interpreting model outputs and drawing conclusions. However, these recommendations are usually based on experience and gut feeling, rather than data. In modern marketing organisations such as the one at Klarna, data-driven KPIs are what steer most of the brand's decision-making. Thus, when the impact of creative quality is unknown, sub-optimal decision-making may occur. For example, a high-quality creative may require a lower media investment to have the maximum effects. Or perhaps the marketing team could increase the ROI of their current investments if their creative execution was better. These are difficult insights to collect without connecting creative execution with marketing effectiveness.

Methods and tools to evaluate creative quality

What constitutes a good creative execution is, of course, a matter of subjective opinion and taste. Many professionals would probably claim that their best creatives are often unexpected, stemming from free thinking and out-of-the-box suggestions. It is, therefore, difficult to develop a set of guidelines or standards for exactly how creatives should be executed, and what they need to focus on to be effective. This means when evaluating the quality of a campaign, the focus should be on the response it elicits from consumers rather than the elements it includes.

A common way to describe a consumer's response to advertising is a hierarchy of effects model. They have been applied throughout marketing history to describe the stages a consumer passes through when they interact with advertising. Each uses advertising as a stimulus that aims to elicit a response from consumers, typically in the form of a purchase. These models are sequential and assume that consumers move through a number of steps after being exposed to advertising. There are many variations, but most cover at least a cognitive (thinking) step, an affective (feeling) step and a behavioural (doing) step. One of the most famous hierarchy of effects model is the AIDA framework. Dated back to the late 19th and early 20th centuries, US advertising pioneer E. St. Elmo Lewis is said to have formulated the foundation of the model (Strong, 1925). It breaks the process consumers go through into four steps: attention, interest, desire and action (see Figure 1).

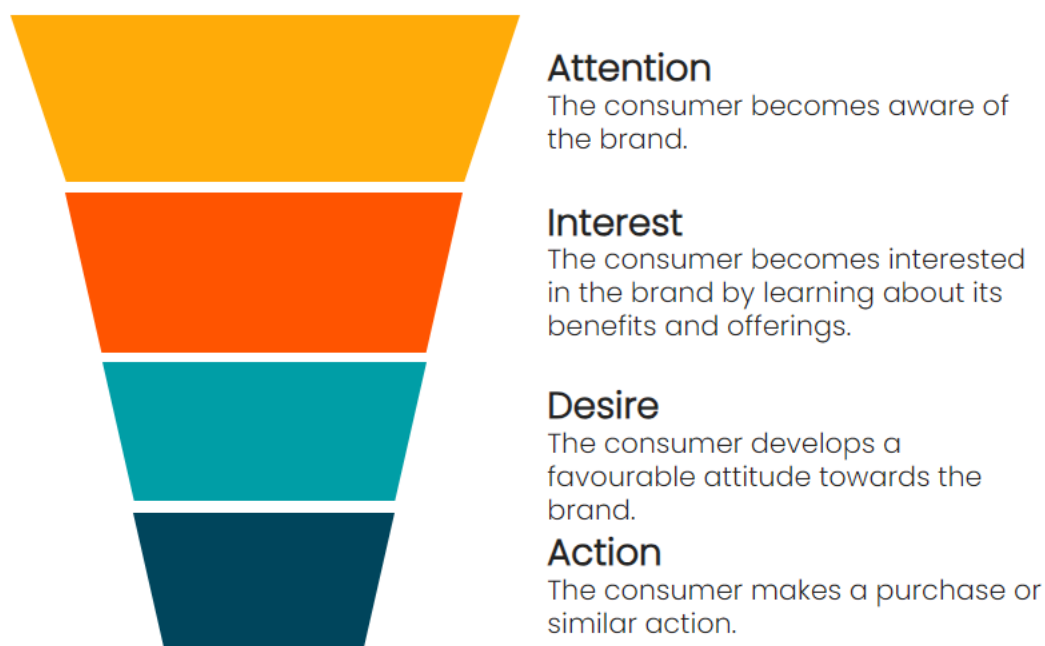


Figure 1: The AIDA framework visualised as a funnel.

As depicted in Figure 1, the AIDA framework is often visualised as a funnel, where each step is contingent on the previous; in order to be interested in a brand, the consumer must first become aware of it. Furthermore, the consumer's perception of the brand needs to be positive for the consumer to act on their interest. Thereby, the total number of consumers diminishes with each step in the funnel. A large share of all consumers may become aware, but a smaller share will be interested—and so on.

At Klarna the AIDA framework is consistently used in the evaluation of creative content from their brand campaigns. Together with Nepa, they conduct survey-based post-tests that are collected via online panels, along with survey-based “always-on” ad tracking. The latter is conducted on a weekly basis, whilst the former is performed on an ad-hoc basis in markets where the tracker is not available. In these surveys, respondents are exposed to creative material from Klarna campaigns. It is anonymised by masking the company's logo and name, so brand attribution can be captured. The questionnaires measure campaign metrics based on the AIDA framework, as outlined in Table 1, and are intended to capture the creative's effectiveness in converting consumers along the funnel.

Step in AIDA framework	Survey metric	Explanation
Attention	Observation	The share of respondents who remember seeing the campaign before

Attention	Sender recall	The share of respondents who can identify Klarna as the brand in the campaign
Interest	Message clarity	The share of respondents who perceive the message in the campaign as clear (answering 5-7 on a 7-point scale)
Desire	Liking	The share of respondents who have a positive perception of the campaign (answering 5-7 on a 7-point scale)
Action	Impact	The effect of the campaign (metric dependent upon the campaign objective)

Table 1: Steps in the AIDA framework with corresponding survey metrics in Klarna's surveys.

A drawback of creative evaluations

While the survey-based AIDA measurements have provided Klarna with valuable insights around improving their creative content, the brand has lacked the tools to fully understand the financial value of their creative quality. There was no data on how their creatives linked to marketing effectiveness and efficiency. Creating this connection would help the brand further explain the effects of their marketing and fuel their creative decision-making.

The organisational value of connecting creative with effectiveness

The marketing profession can sometimes seem divided into two camps: those that are data-driven and those driven by creative. In many organisations, including Klarna, media planning and creative execution sit in separate teams, with different skills, profiles, backgrounds and priorities. They tend to speak different languages, where creative teams often struggle to find the link between hard metrics and their content, whilst media teams lack the information on the creative's impact on their marketing success. Media teams can use the results from MMM or other ROI analyses to defend their budgets or motivate increases. Creative teams often lack this data-driven ammunition that links their work with business KPIs. Connecting creative quality to MMM insights does not just offer better quality insights. It can also contribute to bridging the gap between media and creative teams by providing them with a common language, placing them on equal footing in today's data-driven companies.

Bayesian MMM to build granular models

Klarna and Nepa have developed a Bayesian MMM that is able to capture campaign-specific ROIs from granular media investment data. It builds on standard MMM methodology, where the outcome variable follows a linear or log-line model of the media investment, seasonality and external variables such as the macroeconomic situation. MMMs can be estimated in a Bayesian or Frequentist way. Both approaches have their advantages and disadvantages, and both have been implemented in several popular libraries, such as Facebook's Robyn (frequentist), Uber's Orbit (Bayesian) or Google's LightweighthMMM (Bayesian). Klarna and Nepa opted for the Bayesian approach since it offers more flexible functional forms, whilst also allowing the model to be constrained if the data has a high variance. By using Markov Chain Monte Carlo simulation techniques, non-linear parameters (such as decay rates) can be estimated internally. Furthermore, choosing appropriate prior distributions of the ROI parameters allow the inclusion of domain knowledge about media effectiveness directly into the model estimation.

Being able to inform the model with existing knowledge about media effectiveness is crucial when estimating many parameters from highly granular data. In this case, the aim is to estimate different ROIs for campaigns that last only a few weeks. Setting priors based on historical results from similar campaigns allows for ruling out implausible values, such as negative ROIs, in a rigorous and transparent way. The MMM borrows modelling techniques from a variety of established approaches, and then combines them in an innovative way. Seasonality is estimated by a combination of a Fourier series and a trend component, as adopted by Taylor and Letham (2017) in the widely used Prophet library. In addition, the model features simultaneously estimated parameters for carryover and shape effects (Jin et al., 2017), and it allows the media effects to vary over time using a kernel regression approach, as outlined by Ng et al. (2021). The latter is particularly relevant to detect changing ROIs over time in media spend that are not a part of Nepa's tracked campaigns, to avoid wrongful attribution.

To estimate the model, weekly aggregated media spend from the UK over the years 2021 to 2023 are used, for both online and offline channels. Weekly total revenue is used as the outcome variable. External variables that are controlled for include the monthly consumer price index, the weekly average closing price of the GBP to USD exchange rate, the number of reported COVID-19 cases and the number of downloads of Klarna's competitors apps from the Apple App store. Nepa further controlled for internal lending policy changes by including the credit approval rate. The performance of the model was evaluated by showing the out-of-sample performance of the baseline specification with total weekly media spend as the sole media variable. In Figure 2, the mean model prediction with an 89% highest posterior density interval (HPDI) is visualised along with the in-sample (orange) and out-of-sample (green) actuals. The model captured seasonal patterns as well as campaign-driven revenue spikes well, without overfitting.

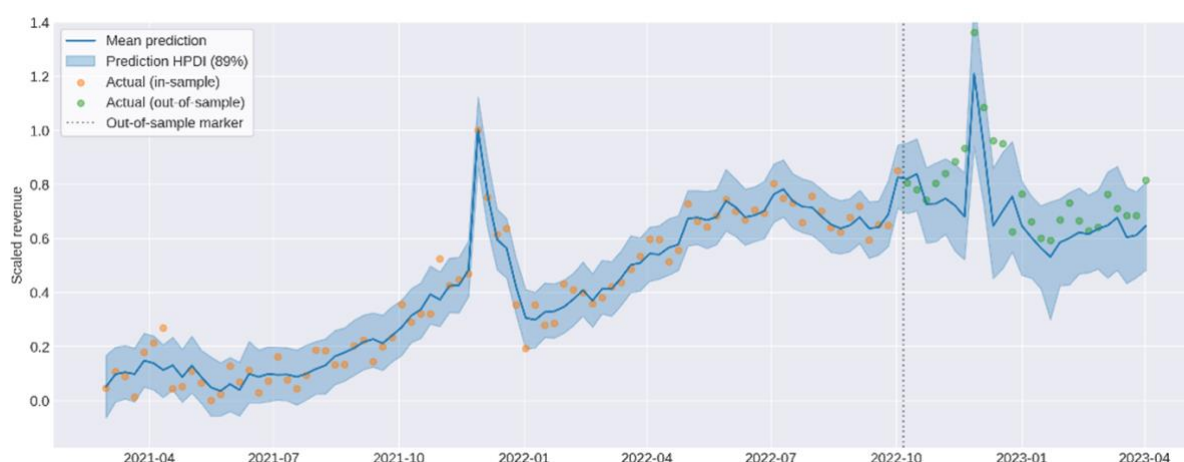


Figure 2: Baseline model mean prediction with an 89% HPDI, long with in-sample (orange) and out-of-sample (green) actuals.

In Table 2, the co-efficient of determination (R^2) and mean absolute percentage error (MAPE) are presented for the baseline model, in-sample and out-of-sample respectively.

	In-sample	Out-of-sample
R^2	0.97	0.41

MAPE	0.04	0.10
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Table 2: Baseline model metrics, in-sample and out-of-sample.

This baseline model was then extended by separating media spend into their respective tracked campaigns. From this, separate ROIs for each of Klarna's campaigns were estimated. Due to the large number of untracked campaigns, all untracked spend was aggregated into one variable. This had a negligible effect on the model's in-sample fit, but greatly reduced the noise in the estimated ROI parameters.

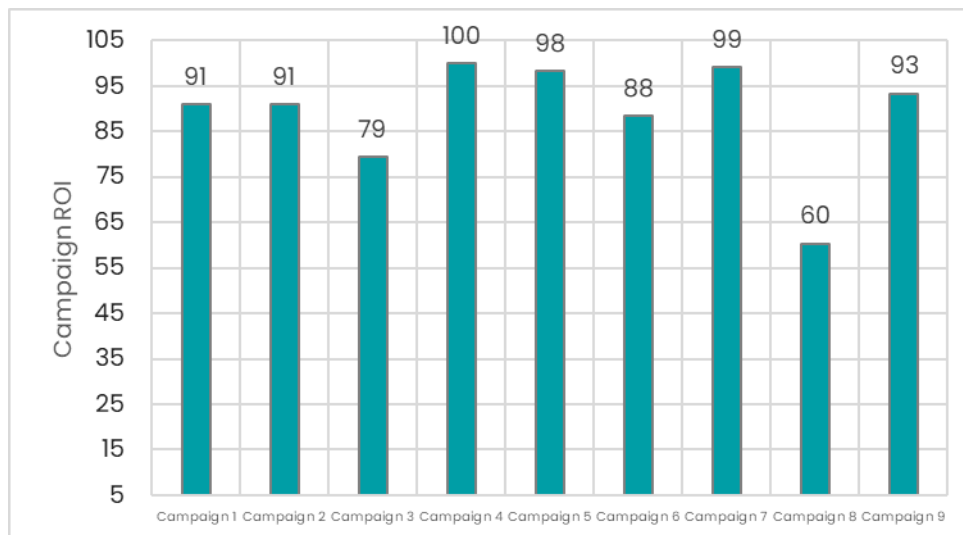


Figure 3: Campaign ROI. Indexed. Highest = 100 lx.

The results: Connecting ROI to campaign metrics

To connect creative execution with marketing effectiveness, the relationship between the campaign ROIs derived from the MMM and the AIDA campaign metrics collected for the corresponding campaigns was explored. The analysis focused on four key campaign metrics that derived from Klarna's survey-based campaign measurements:

1. Observation—Have you seen this campaign before?
2. Sender recall—Which company do you think is behind the campaign?
3. Message clarity—How clear do you think the message of this campaign is?
4. Liking—What is your overall impression of this campaign?

The relationship between each campaign metric and campaign ROI was analysed using linear regression, with the dependent variable being campaign ROI.

	Beta	ROI increase with 10 pp. increase in metric
Observation	0.05	5%
Sender recall	0.09	9%
Message clarity	0.01	1%
Liking	0.00	0.00

Table 3: Effect of campaign metrics on ROI. $R^2=0,40$ using Shapley value regression (Grömping, 2015; Lipovetsky, 2006).

The betas are scaled so that 1 percentage point improvement in each KPI results in the corresponding increase in campaign ROI index. As an example, increasing message clarity for a campaign with 10 percentage points would result in an increase in ROI with one campaign ROI index units. When the beta values in Table 3 were compared, it was evident that the campaign metrics differ greatly in how they affect ROI. Sender recall and observation respectively have the highest beta values. Message clarity and liking, on the other hand, have a weaker relationship with ROI.

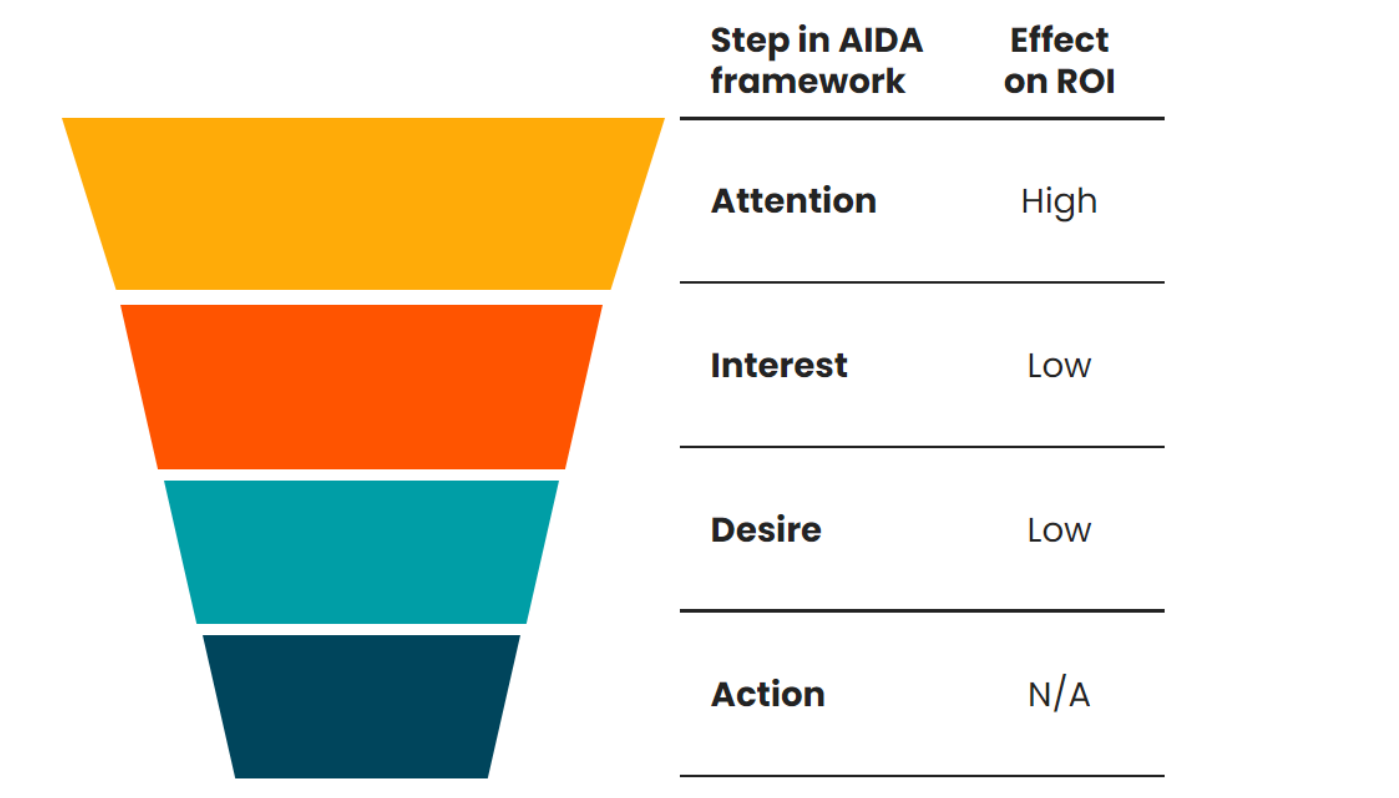


Figure 4: Illustration of AIDA framework and effect on campaign ROI.

As illustrated in Figure 4, the findings suggest that attention is the most important step in driving campaign ROI. This indicates that to maximise ROI through creative execution, campaigns should primarily be designed to capture consumers’ attention and clearly convey the brand, as measured by the observation and sender recall metrics. Conversely, building interest and desire is less important from a campaign ROI objective. However, it should be noted that the dependent variable campaign ROI is a short-term measurement. Whilst of course being an important objective, it is also important to consider longer-term goals such as brand building strength. It is, therefore, relevant to also explore how the campaign metrics relate to this objective to fully capture the role of creative.

Comparing short- and long-term effects

To investigate the link between campaign metrics and brand strength, data from Nepa’s database of campaign post-tests was analysed. It included 508 post-tests over the period 2021 to 2022, spanning a wide variety of brands, countries and media channels. All the campaign post-tests were measured via online surveys based on the AIDA framework. Purchase intent was used as the dependent variable, measured as the share

of respondents who state they will buy from the advertised brand in the future (answering five to seven on a seven-point scale). As the main goal of brand building is to generate future sales, purchase intent is a good proxy for the long-term effects of the campaigns. Linear regression was again used to analyse the link between campaign metrics and the dependent variable.

	Beta
Observation	0.00
Sender recall	0.00
Message clarity	0.25
Liking	0.44

Table 4: Effect of campaign metrics on future purchase intent, $R^2=0.447$ using Shapley value regression (Grömping, 2015; Lipovetsky, 2006).

The analysis of long-term effects indicate an opposite relationship compared with the short-term results. Liking, and to some extent message clarity, have the strongest relationships with purchase intent. This indicates that generating interest and desire for the brand are still important factors for Klarna's team to consider when putting together their creatives, but they mainly serve the purpose of building brand strength.

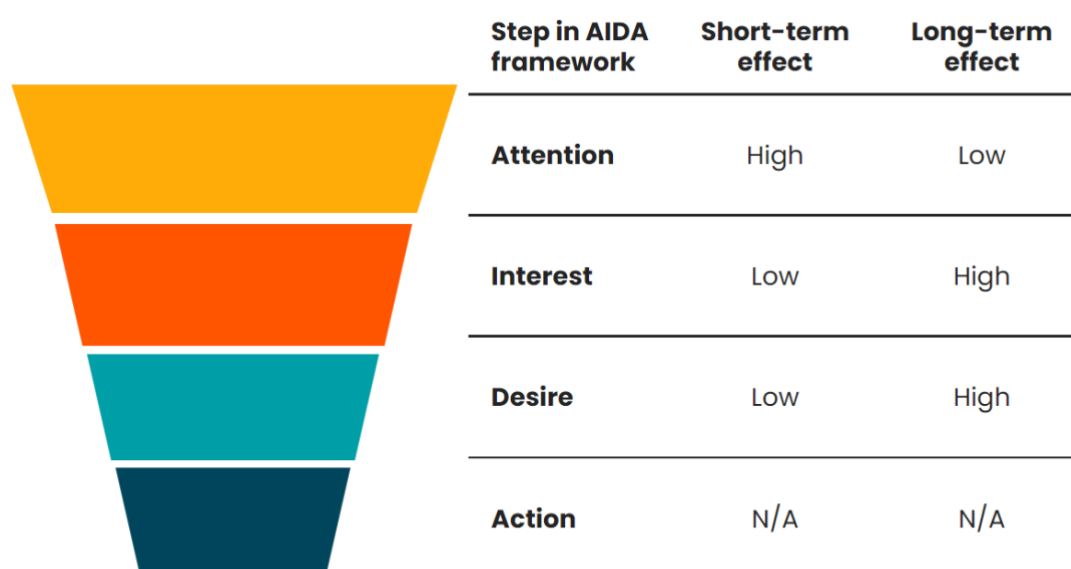


Figure 5: Illustration of AIDA framework and effects on short- and long-term ROI.

Figure 5 summarises the findings on how campaign metrics relate to both short- and long-term effects on campaign ROI via future purchase intent. Attention has the strongest impact in the short-term, whilst interest and desire play a more important role in the long-term.

Balancing short- and long-term in creative executions

This analysis demonstrates that several campaign metrics are important to consider in order to yield high ROI, both in the short- and long-term. Thus, which metrics should Klarna and other brands focus their efforts on to move the needle? When looking at the variation across different markets and industries from best to worst performing campaigns, there's a clear pattern. Sender recall is by far the single metric that has the largest variation, so it represents the greatest opportunity for improvement with the right creative execution.

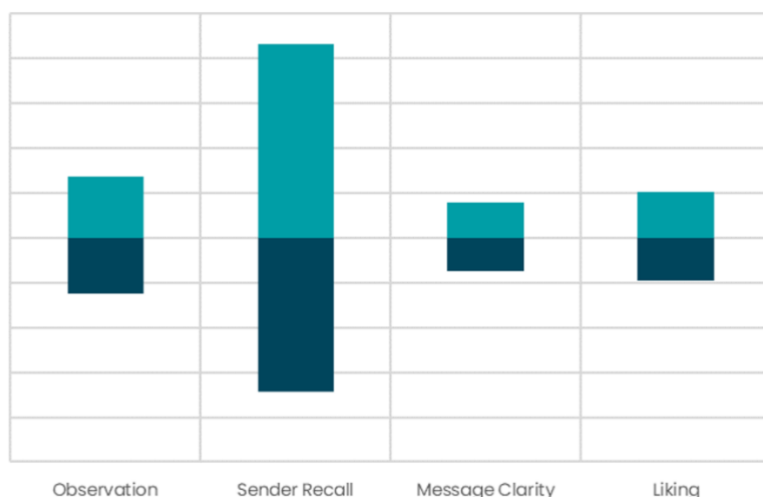


Figure 6: Variation in campaign metrics from Nepa's campaign database. The figure shows inter-quartal range for each metric.

To some extent sender recall is a hygiene factor that often gets lost during the creative process. A possible reason for this might be that it has a weak relationship with future purchase intent in survey-based campaign measurements. However, when the MMM data is combined with the campaign measurements, it is clear that sender recall has the highest potential to drive short-term sales amongst the four metrics evaluated.

The implications: How Klarna can use the insights from this expanded MMM

For Klarna, the campaign metrics from the AIDA framework are crucial puzzle pieces in understanding campaign performance, and should be adjusted to improve creatives in the future. For example, their distinctive brand identity is a key factor in their success, and sender recall lets the Klarna team know if this is clear enough in their campaigns. A low score could be an explanation for poor campaign performance, as the effects would be limited if the campaign could not be correctly attributed to Klarna. In such cases, adding more branding elements in the future could be a remedy.

An important task for Klarna's creative communications is educating consumers about their products and offerings, especially in markets the brand is less established. The message clarity metric helps the brand understand if the benefits of the offering are being communicated in a comprehensive way, or if it needs tweaking. The emotional connection consumers feel towards Klarna is a factor that has helped them win over users from more traditional payment companies. The liking metric offers a way to ensure that the creative content is contributing to that emotional connection. A low liking score would indicate that it is not resonating with the target consumers on an emotional level, and that adjustments are required—e.g., in

production or tone of voice. The insights presented in this case study provide further support for Klarna's established way of working with survey-based campaign evaluations, and the importance of the AIDA campaign metrics.

Highest vs. lowest performing Klarna campaigns, potential uplift in campaign ROI	
Observation	10%
Sender recall	22%
Message clarity	3%
Liking	0%

Table 5: Percentage difference in campaign ROI between highest and lowest performing Klarna campaigns for each metric.

Furthermore, the expanded MMM enables Klarna to quantify the impact of creative quality in terms of short-term sales ROI from the campaigns. Table 5 displays the difference in campaign ROI between the brands' best and worst performing creatives. These figures can be used to quantify the potential available in improving those that perform the worst. For example, improving message clarity from the lowest level to the level of the top performing campaign has the potential to yield a 3% increase in campaign ROI. The results in Table 5 also indicate that Klarna's specific campaigns follow Nepa's benchmark campaigns, demonstrating that sender recall has the highest leverage on campaign ROI, further proving the importance of this metric for Klarna.

In summary

This paper details a case study on how Bayesian MMM techniques can be applied to connect MMM analysis to measures of creative quality, thereby providing insights on how this quality relates to marketing effectiveness. The findings for Klarna highlight the value of quantitatively measuring the creative quality, as improving creative content yields positive effects on campaign ROI. The case study from Klarna, alongside the meta-analysis of Nepa's campaign database, also provides valuable insights on the dynamics of different campaign metrics and marketing effectiveness. Sender recall and observation show a stronger impact on the short-term sales activations, while message clarity and liking contribute to long-term brand strength.

Additionally, the findings in this paper shine a light on the importance of the sender recall metric. It has a clear association with campaign ROI and offers the most potential for improvement both for Klarna and the wider campaign database. Correct brand attribution is a fundamental aspect that a campaign needs to deliver. Regardless of how strong the creative is in other aspects, if the campaign is not attributed to the correct brand, the investment will not provide the desired effects. The analysis underpins the importance of measuring sender recall, and the need for a stronger focus on clear branding for campaigns in general. Modern marketing departments need to be true renaissance organisations; they need to be experts in the complex technological world of media, whilst at the same time delivering attention-grabbing creativity. These skills often sit in different teams that have a limited understanding of each other's worlds. This paper shows how

creative quality can be linked to marketing effectiveness, and thereby bridge the gap by establishing a common language between creative and media teams.

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