Visa Consulting & Analytics

Measure and Optimize your Marketing Performance

Understanding the true returns on investment helps to elevate your marketing strategy

VISA everywhere you want to be

Accurately evidencing the benefits of marketing drives credibility

Companies across the globe are looking to their marketing efforts as they try to adjust to life in a post pandemic world. Global advertising spend is on course for growth of 12.6% in 2021 to reach $665bn as the global advertising market rebounds strongly from the COVID-19 prompted downturn of 2020[1] which caused a fall in advertising spend of 5.4%.

This global positive trend in advertising spend is replicated in the Middle East and North Africa (MENA) region. Growth in spend of 15% is forecast for 2021, with further growth envisaged in the next two years. This reverses the decreasing trend in advertising spend seen in MENA over the last 5 years, which has been as a result of political instability, volatile oil prices, and, more recently, the COVID-19 pandemic[2].

While marketing is one of the primary levers for driving revenues, it is also a significant cost line, typically constituting around 11% of company revenues[3]. Understanding in detail the success of each individual marketing activity is critical to ensure the optimal allocation of marketing resources and the maximum level of returns from the marketing investment made.

In the financial services sector, marketing is forecast to outstrip many other sectors in 2021, with spend projected to rise by 17.9% to over $50bn for the first time[4]. With players in this sector at various levels of maturity in terms of assessing their yields from their marketing investment, many still have the opportunity to improve the effectiveness of their marketing budget. Converting every dollar of ineffective marketing spend to one that delivers incremental business adds revenue straight to the bottom-line.

> ***"Half the money I spend on advertising is wasted; the trouble is I don't know which half"***
> John Wanamaker[5]

John Wanamaker's quote continues to trouble marketeers around the globe, but **in today's world, you need to accurately and clearly show the tangible contribution that your marketing activity is delivering to your company's performance.** The competition for spend on other areas such as staffing and technology means that if you can't convincingly prove the value of your activity, then valuable financial resources are likely to be invested elsewhere.

With significant advancements in the field of analyzing marketing performance, marketeers now have a variety of tools available to confidently measure the success of their activity. Companies that invest the required resources can now better understand the true value of each of their marketing campaigns, ensuring that they invest in those activities that will deliver the best return.

In the remainder of this paper, we look at:

- ***The current state of marketing measurement in financial services and payments,***
- ***The challenges around effective measurement, and***
- ***Different methodologies to improve the quality of your analysis.***

1. Netimperative: Digital intelligence for business, [Global ad spend trends: 12.6% increase as countries recover from pandemic - Netimperative]
2. Middle East Campaign, August 2021: Zenith releases regional ad spend predictions.
3. CloudAnalysts: Gartner's "CMO Spend Survey 2020-2021" found that in early 2020, Chief Marketing Officers expected that an average of 11% of revenue would be spent on marketing. How to Budget: Marketing Expenditure as % of Revenue? (cloudanalysts.com)
4. Netimperative: Digital intelligence for business, Global ad spend trends: 12.6% increase as countries recover from pandemic - Netimperative
5. John Wanamaker was a successful United States merchant considered to be a proponent in advertising and a pioneer in marketing.

Marketing measurement should be agile and adaptive to current market trends

To truly understand financial services marketing performance, a mix of measures need to be used within an overall analysis framework. The need for this is dictated by rapidly changing dynamics in customer preferences that mean you cannot assume all other factors remain equal when doing your campaign analysis.

The ongoing and accelerating shift to sustainable product sourcing, the increasing focus on healthy living and the structural changes in the economy due to the pandemic, are all examples that prove that the backdrop to financial services campaigns is continually changing. The latter has had the most dramatic effect over the last 18 months, with consumers "going digital" and changing their behavior to buy through eCommerce channels due to the lockdowns and social distancing measures imposed.

This shift in market dynamics is further accentuated by the organizational trend towards customer centricity. Driven by the business objective of expanding sales, financial services companies adapt their products and sales mechanics to suit consumer demands and, in turn, speed up the changes to the market environment.

The following marketing framework of tools is ideally required to ensure that current market trends can be accommodated when evaluating the success of marketing activity:

A data platform that efficiently handles a large database and provides effective marketing measurement capabilities.

01 01 01
00 00 00
10 10 10
11 11 11

A mix of predictive models, including future forecast, channel attribution and market mix (historical data) models. The shelf-life of predictive models have typically proven to be only 12-18 months, therefore, it is necessary to update existing models and underlying assumptions to align with current market scenarios.

Substantiation of predictive models by regular data market research. Continuous testing of assumptions through both Primary and Secondary research ensures models remain relevant and efficient.

Employ a regular and robust campaign "test and control[6]" methodology, with the objective of assessing the feasibility and fitment of existing models.

Incorporate Customer Lifetime Value and/or Net Promoter Score into your framework to efficiently measure the cross-functional and future benefits of marketing activities.

The tracking and measurement of softer metrics such as customer sentiments and advocacy should be included within the framework, utilizing data from sources such as the growing use of social media advertising.

6. Comparison of a randomized set of campaign customers vs. a control set; similar customers who did not participate in the campaign.

Marketing measurement in payments is focused on growth in revenue and card usage

The primary motivations for payments marketing campaigns are to increase the active customer base and get existing customers to transact and spend more frequently on their cards. Therefore, campaign effectiveness is primarily measured through assessing the growth in KPIs such as revenue, active customers, and transactions, with the growth typically determined in one of the following two ways:

1. **Test vs. Control Set.** An evolved method of measurement that compares the responses of the entire test set of customers who received the campaign, against a randomized control set of customers who did not receive the campaign.

   The underlying assumption is that both customer sets are alike in their spend preferences and abilities and in the absence of the campaign would have exhibited exactly the same purchase behavior. So, any difference in purchasing behavior in the test set during and post the campaign is attributed to the campaign.

2. **Pre-Campaign vs. Post-Campaign.** A more traditional measure that compares KPIs in the pre and post campaign periods, but only for customers who received the campaign. It is assumed that any incremental spend during the post-campaign period is entirely due to the campaign and that all other factors that influence purchase behavior, like the demand for goods or purchasing ability, are the same over the two periods.

In reality, the assumptions underlying both of these measures are flawed as you will simply not find a group of customers totally alike in their purchase behavior and market dynamics are continually changing. Given this, the major challenges in measuring marketing effectiveness are:

Creating a Randomized Control Set. It is not possible to create a control population based on all relevant attributes that exactly mirrors your test set. In addition, customer behavior attributes will be dynamic over time as they are influenced by competitor and market forces, further blurring the similarity.

Bias for Short-Term Revenue. A focus on increasing revenue during the campaign leads to majoring on this measure to the exclusion of other campaign outcomes, such as brand health and customer goodwill. Campaigns alter future customer preferences and behavior and any significant "halo effects" post the campaign should be measured and assigned a monetary value.

Changing Customer Preferences and Market Conditions. Outside influences such as the move to sustainable living, the access to global products, and more recently the wide-ranging impacts of the COVID-19 pandemic, make "like for like" audience comparison extremely difficult to do.

Expectation of a Single Toolkit. There is no one tool that will provide you with an accurate measure of campaign performance. Different measurement tools, such as predictive models, digital attribution trackers, randomized control experiments, brand health tracking, and research, should be used collectively, rather than selectivity, to arrive at a complete measurement of marketing effectiveness.

Achieve greater accuracy in the measurement of marketing

In light of the measurement challenges we face, to produce results that truly reflect campaign performance we can adopt certain scientific modifications to our data and measurement methodology to achieve greater accuracy. Here we explore two of the ways that you can use data science to your advantage.

1. Improving the Quality of the Control Set

Through a two-step process, we can synthetically create a control set from the pool of customers who did not receive the campaign, such that it mimics the spend behavior of the test set in the pre-campaign period.

Step 1 - Create the control set using a K Nearest Neighbor (KNN) cluster method. This method helps to select a control set that is as alike as possible to the test set in terms of spend, preference, and demographic attributes.

Step 2 – Re-weight every customer specific observation in the control set created using a technique called Entropy Balancing, so that the pre-campaign spend behavior of both test and control sets match.

Subsequently, any difference in spend between the test and control set can be confidently attributed to the campaign. This process is explained further on pages 6 and 7 of this paper.

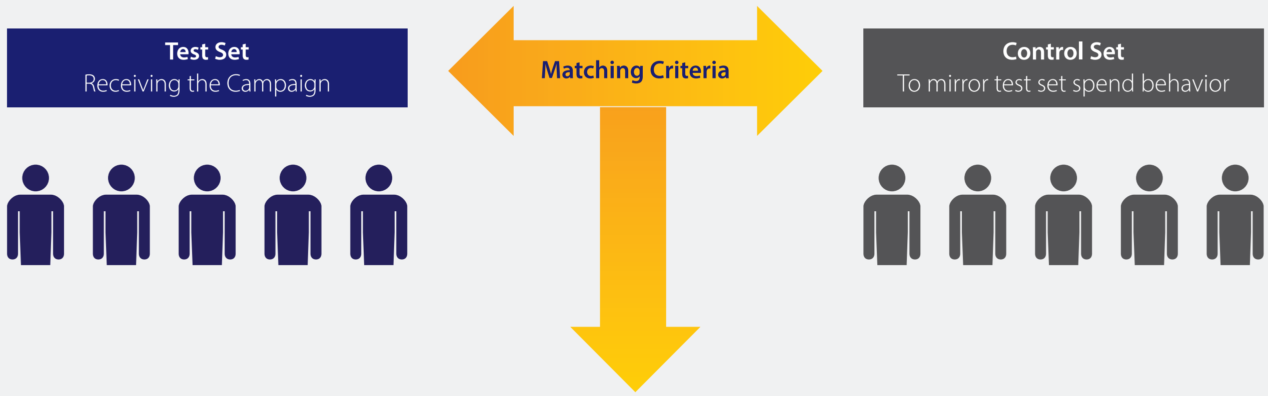
2. Eliminating Trends and Seasonality Effects

Ever changing consumer and merchant behavior attributes like demand, purchasing power, product popularity and availability, mean that when you compare one time period to another there are many other factors at play, in addition to the impact of the campaign.

Through the use of a time series forecasting technique called Holt-Winter's forecasting it is possible to eliminate the effect of these other factors, leaving a pure and accurate forecast against which to measure the impact of your campaign. Again, this process is explained further on pages 8 and 9 of this paper.

Apply key characteristics to identify the control set

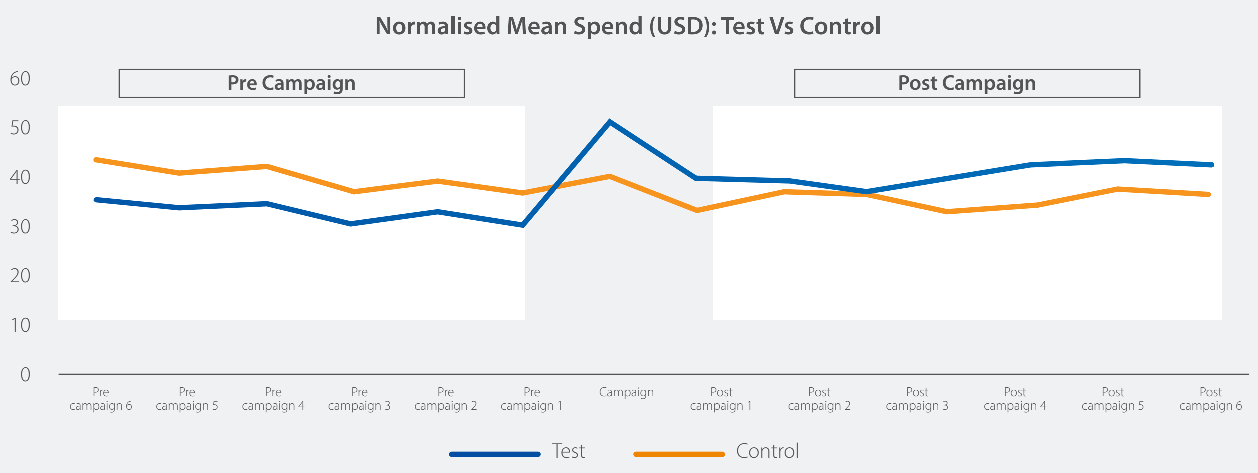
To identify a control set that matches the test set as closely as possible, a KNN cluster analysis is performed using a set of key characteristics covering historical spend, length of customer relationship and market segment spend history.



- Transactions and spend for the last 1, 2, 3, 4, 5 and 6 months
- Vintage (length of relationship) of the customer
- The market segments in which they have transacted recently

The cluster analysis classifies the closest neighbors for each customer within the test set. A higher specification of neighbor can compromise on the proximity in the match of test and control sets, hence it is usually advisable to use three matching neighbors within the control set for each customer within the test set. This often gets the balance right between not being specific enough in your matching and being too granular with your criteria.

Once the control set is chosen, the aim is to match the past spend behavior of the test set with that of the control set. With KNN cluster analysis the match is often close, but not exact, as can be seen in the anonymized example below, which compares spend over the pre-campaign, campaign, and post-campaign periods:

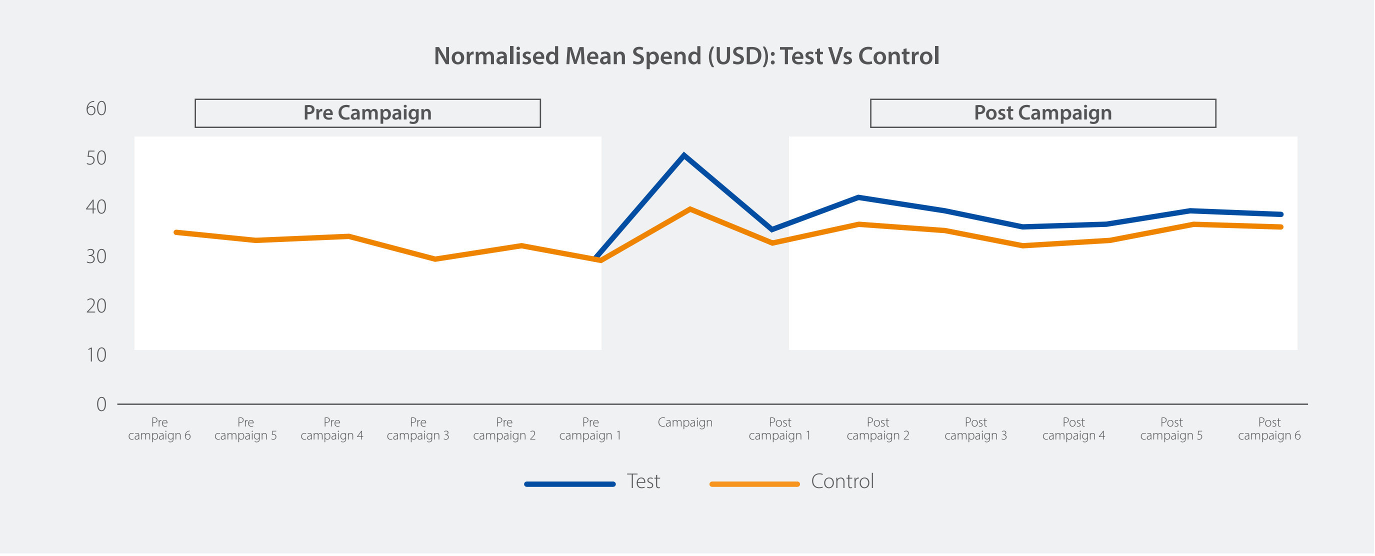


Re-weight control set characteristics to exactly match the test and control sets pre-campaign spending patterns

In order to move from a place where the pre-campaign spend is close between the two sets of customers, to one where the spend patterns exactly match, a weighting technique of Entropy Balancing is used.

Every observation or characteristic in the test set is assigned a neutral weight, while appropriate weights are assigned to every observation or characteristic in the control set, so that the control set behaves exactly like the test set in the pre-campaign period.

The same set of weights are then assigned on the campaign and post-campaign spend outcomes of the control set. In doing so, any difference in behavior or purchase propensity that the control set had compared to the test set is eliminated. After applying Entropy Balancing to align the test and control set spend behaviors, the spend patterns of each set are as below:

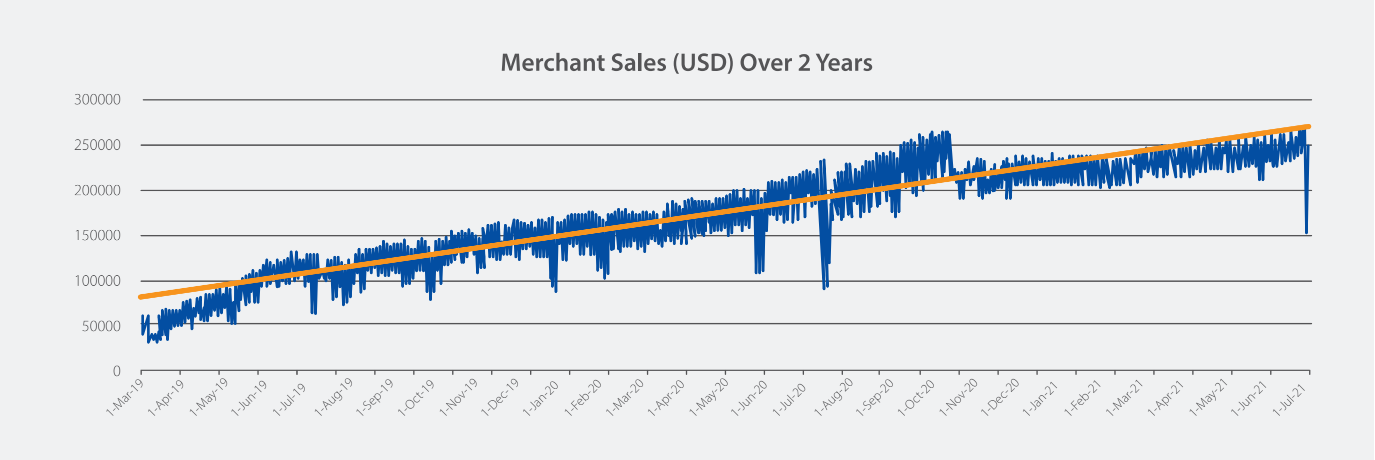


The control set now reflects the spend pattern of the test set exactly in the pre-campaign period. The gap between the control and test spend in the campaign and post-campaign periods has also reduced and now only reflects changes in spend due to the campaign. **The true impact of the campaign can now be seen and decisions on its success and similar future campaigns can be made with confidence.**

Eliminate trends and seasonality effects from campaigns

The most common approach for assessing marketing effectiveness amongst marketeers is to compare campaign performance to a previous period, such as the month before the campaign, or the same period in the previous year. The assumption that this is a "like for like" comparison is flawed due to changes in external factors such as pricing, purchasing power and product popularity across the two comparison periods.

Let's look at an example of a campaign which a card issuer ran with a merchant. The graph below shows that the merchant has achieved significant sales growth over time, which is of course expected for many merchants due to a focus on expansion.



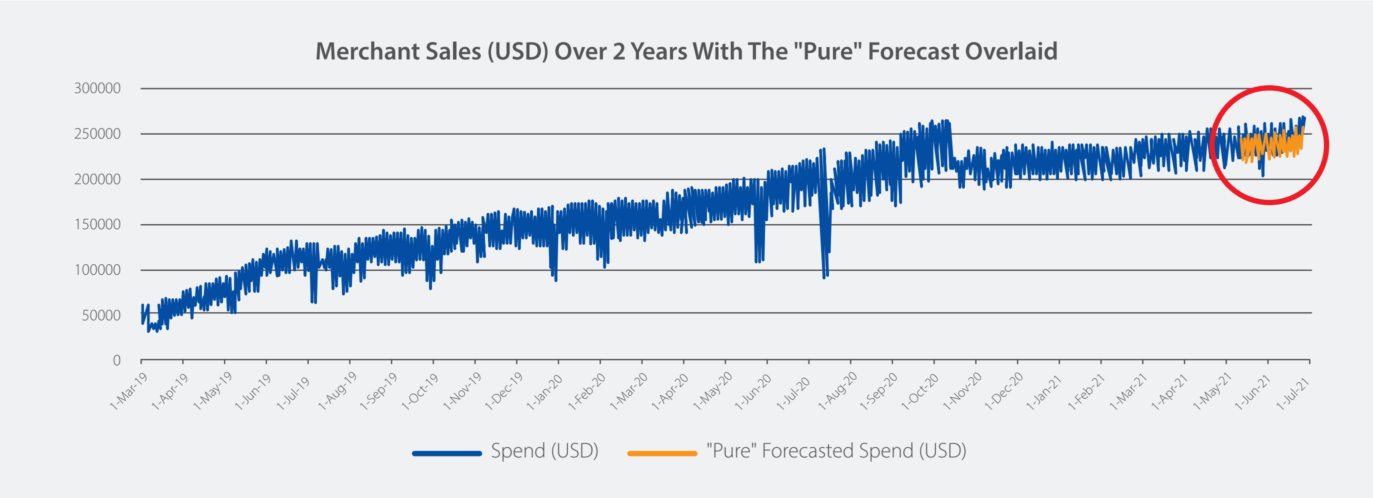
You can see the growth trend represented by the orange line, but what is also apparent is the pronounced weekly seasonality in the spend pattern. This could be because of a number of things, such as the nature of the merchant's offering being more popular during the weekend, or the merchant offering discounts on certain days of the week to drive demand.

The campaign took place in June 2021 and by comparing it to the same month in 2020, there will be incremental growth given that the business is expanding, but all this incremental growth cannot of course be attributed entirely to the campaign.

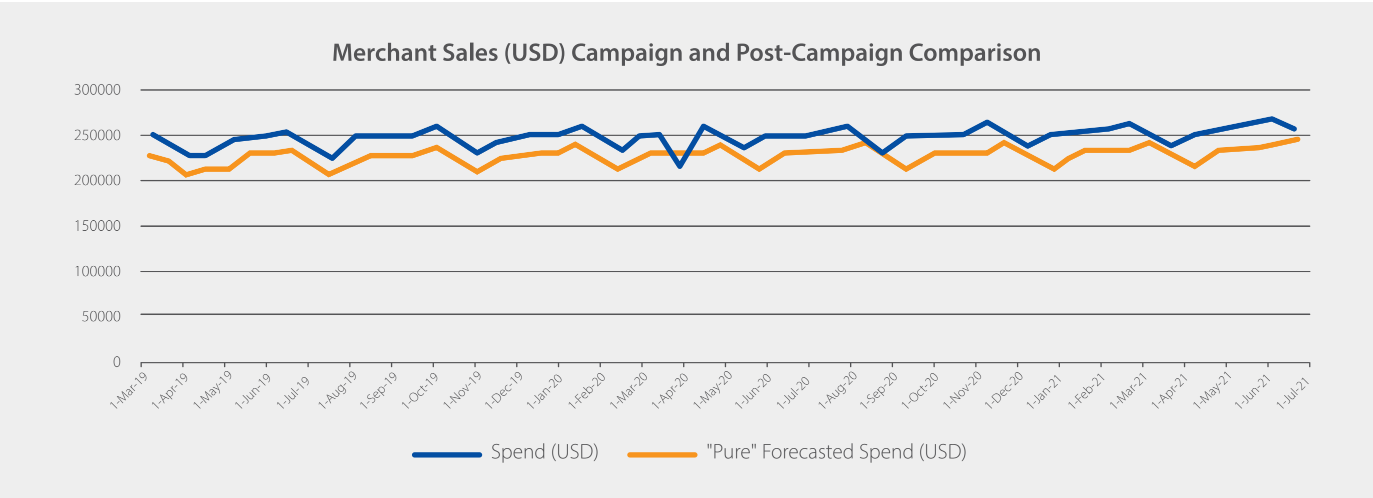
The uplift specifically from the merchant campaign can be identified

To see the true incremental uplift due to the campaign, a forecast was run based on 24 months of spend data. This used the Holt-Winter's forecasting technique which captures the trend as well as the seasonality inherent in the spend trajectory over time. This produced what the forecasted spend for the campaign month, June 2021, would be in the absence of any campaign, with spend driven entirely by the historical drivers of customer demand and product availability.

This "pure" forecast for the month of the campaign (June) and the month after (July) is the true benchmark for assessing campaign performance and below this is overlaid on to the actual spend attained by the merchant.



In zooming in on these two months (campaign and post-campaign) in the graph below, **it can be seen that there is approximately a 10% increase in spend at the merchant compared to the "pure" forecast,** which is fairly consistent across the period. This uplift in spend can be confidently attributed solely to the campaign.



The science is available to improve measurement of your marketing activity

The successful marketing of services is crucial to the success of every financial services organization. Driving the maximum return, both short term and long-term, from the investment you have made is the ultimate aim, but many companies are still some way from obtaining this lofty ambition.

With the advancement and innovations in data science, financial services marketeers can now benefit from enhanced insight into campaign impacts, giving them much greater confidence in the returns from their marketing activities.

In this paper, we have focused on just two of the methodologies available that:

- ***Improve the reliability of marketing measurement by enhancing the quality of the customer control set against which success is measured, and***
- ***Eliminate the external effects of consumer behavior, preferences, purchasing power and the inherent dynamics that the passage of time creates.***

These two scientific modifications help to provide a true historical comparison and bring the delivery of realistic campaign outcomes much closer, making it easier for you to decide where to invest your valuable marketing resources.

By highlighting the true contribution from each individual campaign, you will be able to see much more clearly where activity should be upweighted and also where campaigns are not delivering, allowing your marketing budget to be redeployed to optimal effect.

To find out more on how to enhance your assessment of marketing performance contact your Visa Consulting & Analytics representatives directly via e-mail

Asmita Ganguly
asgangul@visa.com
Asmita is a Senior Data Scientist at Visa supporting the Visa Consulting & Analytics practice for the MENA region.

Basma Berti
bberti@visa.com
Basma is a Senior Director at Visa within the Visa Consulting & Analytics practice for the MENA region.

Ghana Mahanty
gmahanty@visa.com
Ghana is a Senior Director at Visa, leading the Data Science practice for MENA region.

Nicolas Khoury
nkhoury@visa.com
Nicolas is a Vice President at Visa, leading the Visa Consulting & Analytics practice for the MENA region.

About Visa Consulting & Analytics

We are a global team of hundreds of payments consultants, digital marketing specialists, data scientists and economists across six continents:

- Our consultants are experts in strategy, product portfolio management, digital, risk and more, with decades of experience in the payments industry.
- Our data scientists are experts in statistics, advanced analytics, and machine learning, with exclusive access to insights from VisaNet, one of the largest payment networks in the world.
- Our economists understand economic conditions impacting consumer spending and provide unique and timely insights into global spending trends.

The combination of our deep payments consulting expertise, our economic intelligence, and our breadth of data, allows us to identify actionable insights and recommendations that drive better business decisions.

For help addressing any of the questions raised in this paper, please reach out to your Visa Account Executive to schedule time with our Visa Consulting & Analytics team or send an email to **VCA@Visa.com**. You can also visit us at **Visa.com/VCA**.

