VISA

Visa Consulting & Analytics (VCA)

Personalization at scale

How A.I. can unlock the why, what and how of customer engagement

June 2024

Disclaimer

Case studies, comparisons, statistics, research and recommendations are provided "AS IS" and intended for informational purposes only and should not be relied upon for operational, marketing, legal, technical, tax, financial or other advice. Visa Inc. neither makes any warranty or representation as to the completeness or accuracy of the information within this document, nor assumes any liability or responsibility that may result from reliance on such information. The Information contained herein is not intended as investment or legal advice, and readers are encouraged to seek the advice of a competent professional where such advice is required.

These materials and best practice recommendations are provided for informational purposes only and should not be relied upon for marketing, legal, regulatory or other advice. Recommended marketing materials should be independently evaluated in light of your specific business needs and any applicable laws and regulations. Visa is not responsible for your use of the marketing materials, best practice recommendations, or other information, including errors of any kind, contained in this document.

Personalization at scale – how A.I. can unlock the why, what and how of customer engagement

Think about the last time you went shopping on Amazon, sat down to watch Netflix, looked for something to listen to on Spotify, or searched for anything on Google.

In each case, you would have received a uniquely personalized experience, tailored specifically for you, and serving up options that are likely to be relevant, appealing, and engaging.

This is personalization at scale. It's made possible by A.I.-enabled algorithms. And the same principles can be applied to any sector – including payments and financial services.

In this paper, Visa Consulting & Analytics (VCA) looks at the reasons why today's financial institutions (FIs) should aspire to similar degrees of personalization, and how today's A.I. technologies can make this possible.

A pressing need to cut through – and an opportunity to do it at scale

Today's consumers can be overwhelmed by offers and opportunities.

In the influential US market, the top-five banks invest more than US$1 billion each on marketing annually[1], the sector spends more than US$36 billion a year on online advertising[2], and the average household continues to receive more than 25 credit card solicitations through the mail every year[3].

This is just one part of an information deluge. Although no one knows for sure, it is estimated that the average consumer is bombarded with as many as 5,000 promotional messages each day[4]. So, it's no surprise that people tend to have a low level of tolerance for untargeted and unsolicited promotional messages. For an offer to cut through, it needs to be relevant, timely, and communicated in the right way.

Today's tech giants have shown us the benefits of delivering a unique, hyper-personalized experience. Amazon's product recommendation engine is said to generate over 35% of the company's sales[5], while more than 80% of the shows people watch on Netflix are discovered through personalized recommendations[5]. And, in general, the more personalized the service, the more engaged the customers – with more than 70% of consumers now expecting companies to deliver personalized interactions[6].

Achieving the necessary levels of hyper-personalization has traditionally been a real challenge for banks. Generally, they have seen the rationale and have the capability to segment their customer base, deduce opportunities, and devise relevant campaigns. But they have faced operational constraints, lacking the bandwidth to continually develop multiple hypotheses, conduct multiple segmentations, and tailor multiple campaigns.

Now, with advancements in A.I. and technology, the ideal of personalization at scale can become a realistic aspiration for any financial institution. Armed with A.I.-enabled analytic techniques, segmentation can be both granular and holistic; with the latest Generative A.I. programmes, tailored messages and communication can be created at the click of a button; and with marketing automation engines, campaigns can be assembled, A/B tested and monitored with relative ease.

But, to achieve success in the financial services sector, it's necessary to do away with some of the conventions of the past, and approach the subject of segmentation and personalization in a new way.

Terms and definitions

Given the subject of this paper, here are our definitions of a couple of terms we use extensively and may require clarification.

Segmentation – is the process of organizing customers into homogenous groups where all consumers share certain characteristics within the same group. Each group or segment is also uniquely distinct from every other group or segment.

Persona – is a profile or narrative describing the typical features of a person who falls into a given segment.

For example, we could have two segments with different travel patterns, such as:

• Economy or low fare travelers, who typically take two-week trips, book them direct with a long lead time, and travel together with children and/or older relatives.

• Business or premium fare travelers, who typically take short breaks, book them through a corporate travel broker with a short lead time, and travel alone.

And we might characterize these segments with the personas Family Travelers and Business Travelers respectively.

1. EMI, Leading U.S. Banks Boosted Marketing Spend in 2022, 2023: https://emiboston.com/leading-u-s-banks-boosted-marketing-spend-in-2022/
2. VeMarketer, As early as last year, financial brands' ad spending began to wobble, 2023: https://www.insiderintelligence.com/content/early-last-year-financial-brands-ad-spending-began-wobble
3. Sequel Response, Direct Mail Volume & Trends Report, 2023: https://www.sequeldm.com/direct-mail-trends-volume-report/
4. University of Southern California, Thinking vs Feeling: The Psychology of Advertising, 2023: https://appliedpsychologydegree.usc.edu/blog/thinking-vs-feeling-the-psychology-of-advertising
5. Deloitte, Connecting with meaning Hyper-personalizing the customer experience using data, analytics, and AI, 2023: https://www2.deloitte.com/content/dam/Deloitte/ca/Documents/deloitte-analytics/ca-en-omnia-ai-marketing-pov-fin-jun24-aoda.pdf
6. McKinsey & Company, The value of getting personalization right—or wrong—is multiplying, 2021: https://www.mckinsey.com/capabilities/growth-marketing-and-sales/our-insights/the-value-of-getting-personalization-right-or-wrong-is-multiplying

VISA

How to deliver personalization at scale

To deliver personalization at scale, we believe it is necessary to act on **four imperatives**:

Imperative #1

Look beyond single sources of data

One of the most important assets that today's businesses can draw on is a wide range of data, which is available from many different but complementary sources. At VCA, we think in terms of four broad categories of data, each of which can bring unique value and deliver unique insights:

> **True personalization is achieved, not by looking at these data categories independently, but by overlaying them. For example, by merging spend data and propensity scores from VisaNet with a bank's CRM data, it becomes possible to create strong personas that resonate with particular product features and attributes.**

Category #1
Customer profiles

Provides confirmation of people's demographic details, financial histories, ability to meet financial commitments, and the breadth of their relationships with Financial Institutions (FIs).

Source: The bank's existing customer information, possibly supplemented by bureau data

Category #2
Customer interests

Delivers insights into people's opinions, interests, behaviors, peer groups and, ultimately, their fundamental beliefs and values. This information can be explicitly gathered from the customer, or by analyzing the types of campaigns they have interacted with historically.

Source: Campaign management systems

Category #3
Customer spend histories

Delivers insights into people's actual spending patterns, preferences, and priorities – and enables banks to make market-wide, peer group comparisons.

Source: Bank transaction data, supplemented by VisaNet data

Category #4
Customer online presence

Delivers insights into people's digital behaviors, which can bring a richer, more refined understanding of their interests.

Source: Browsing history (e.g. cookies, social media segments, etc)

VISA

Let's take a look at how this approach could work in practice. As an example, a bank could enter into a partnership with a consumer electronics store located in a specific city and, together, they could run a campaign that promotes a covetable new consumer device to drive footfall to the retailer's location. Here is how they would use the four categories of data to pinpoint the most relevant customer segment:

Category #1 **Customer profiles**	Category #2 **Customer interests**	Category #3 **Customer spend histories**	Category #4 **Customer online presence**
To find those customers who live in or around the city location.	To add those customers who are most likely to be interested – because their past behaviors suggest they have a keen and demonstrable interest in electronics.	To add those people who have a propensity to purchase – i.e. identifying lookalikes who, given their past transactional behavior and how they compare with others across the wider market, are most likely to follow through and buy something.	To communicate to each individual via their preferred channel – e.g. if we know they are an avid Facebook user, the offer can be pushed via Facebook advertisements.

Armed with this type of analysis and degree of precision, product development programs can be better informed, digital campaigns be better targeted, and conversion rates can be lifted.
With more relevant and targeted messaging, the customer experience is also improved – alleviating the risk of campaign fatigue or reputational damage.

Imperative #2

Move beyond traditional approaches to segmentation

One of the biggest barriers to achieving personalization at scale is the traditional approach to campaign planning and segmentation. Most banks have followed a sequential, top-down approach, comprising four steps:

The traditional way of doing things

Step 1. **Define the use case**

Seek out people who may be relevant to a given campaign theme. For example, when planning a travel-related campaign, data analysts would identify people who had previously performed a travel-related action, like taking a flight, booking a hotel, or renting a car abroad. This subset would then become the initial base, comprised of people the bank is interested in profiling – or creating personas out of.

Step 2. **Build features**

Analyze the defining characteristics of the people in the initial base – like the average lead time for travel bookings, the proportion of travel booked in economy versus business, the number of other people who join them on a foreign trip, the number and frequency of trips to Europe, etc.

Step 3. **Segment the base**

Once the feature matrix has been developed, which describes the behavioral characteristics of individuals in the subset, there are many machine learning algorithms that can be applied to arrive at the final set of potential segments.

Step 4. **Profile the personas**

Segments are characterized according to their behavioural profile. At this point, it is standard practice to name the segment (e.g. Family Travelers, Business Travelers, etc). This information is then used by product and marketing teams to design pertinent products and offers that will resonate with these profiles.

There are **two key challenges** associated with this conventional way of planning and developing personalized campaigns:

CHALLENGE 1	CHALLENGE 2
It's inherently unscalable	It ignores a significant proportion of your base
The top-down approach is, by its very nature, a sequential process. The segmentation process outlined above will only ever apply to a travel-related campaign.	By ignoring those people who have not performed the action, you are overlooking the behavior of a large proportion of your customer base. This can lead to false assumptions or conclusions being made about your customer base and lead to missed opportunities.
So, for example, when the bank wants to pursue a new campaign theme, such as a digital-related campaign, it's necessary to initiate the process all over again (starting afresh by identifying people who have previously performed a digital-related action like buying online or using a digital wallet). Of course, there, there is likely to be some overlap between use cases (e.g. Digitally Active Travelers) but the top-down approach won't reveal them.	For example, there might be a group of customers who have not yet travelled overseas, but who look like Travelers in every other respect. This lookalike group could form part of an acquisition campaign that is performed alongside a usage campaign targeted at those that have travelled.

Imperative #3

Apply a bottom-up approach to segmentation

At VCA, we believe that taking a bottom-up approach solves for some of the shortcoming of the traditional top-down approach. This means we start by segmenting the entire customer base into thousands of micro-segments using advanced machine learning algorithms. The resulting micro-segmentation is incredibly rich and flexible, revealing the basic DNA of distinct customer groups. It is also applicable to many different campaign themes or use cases.

So, for example, if we wanted to apply the micro-segmentation to a travel-related campaign, we could ask the question "compared to the market average, which of our micro-segments over-index in travel-related behavior?" From here, we could then tease apart the nuanced behavior of potential travelers and determine which segments contain the Family Travelers versus Business Travelers. Although they both travel, these personas are very distinct from each other. A campaign offer and style of messaging that appeals to one is unlikely to be relevant to the other, and vice versa.

One advantage of the bottom-up approach is the way it can be applied to any campaign objective the bank may have. For example, using the same micro-segmentation, we could also ask the question "compared to the market average, which of our which micro-segments over-index with respect to digital behavior?"

So, instead of repeating the segmentation process for different use cases, as one would need to do with a top-down approach, we use the same micro-segmentation to pull out a different set of – possibly overlapping – personas. For example, we might find that there is a group of travelers who are also digitally active. This has allowed VCA to find huge efficiencies, reduce the time to market, and help clients introduce new products to serve previously unthought/unknown personas.

Another advantage is that it considers the characteristics of the entire customer base by identifying lookalikes. For example, there could be a group of customers who haven't made any travel-related transactions, but look like Family Travelers in all other dimensions, so these people could be included in campaigns that promote family-oriented holiday packages.

Typically, when we run a hyper-personalization segmentation, we will yield several thousand micro-segments. Each of these micro-segments may contain just a handful of customers, all of whom share some near-identical characteristics, providing the basis for highly effective digital campaigns.

However, some clients can find the richness and granularity of this approach to be overwhelming, or the micro-segments too narrow to feasibly work with. If so, similarly behaving micro-segments can be grouped together to form larger segments – and campaigns can still be created with more accuracy and objectivity than was possible using traditional top-down techniques.

Image A

Image B

Image C

A visual analogy of our bottom-up approach is to take a high-resolution image which represents the behaviors of all consumers (*Image A*). Here, you can repeatedly zoom in on any area of the image and it will give you detailed information on the characteristics and features of that area. By contrast, taking a top-down approach is like taking a low-resolution image (*Image B*). At this resolution, you lose out on important characteristics and defining features because the image is much more abstract and somewhat distorted. You are also restricted in terms of movement across the image, as you are only able to zoom in and explore one area at a time.

Of course, if a client prefers to work with a somewhat broader segment, a good balance can be found somewhere between the highest and lowest resolution (*Image C*), which provides us with a representative view of consumer behavior whilst also being manageable enough for effective marketing campaigns.

Imperative #4

Continue to optimize using multiple A/B tests

Of course, segmentation is not the only constraint that prevents banks from succeeding with at-scale personalization.

It is only by conducting multiple and repeated A/B tests, using precise and representative samples, that banks can understand the true impact of their campaigns, and the relative effectiveness of different treatments (such as headlines, design, offers, and so on). Using this methodical, scientific approach, it becomes possible to maximize conversion rates, and understand the factors that drive them.

A range of new technologies – such as test platforms to run multiple A/B tests, marketing-focused generative A.I. tools to swiftly create and adapt campaign materials, and marketing automation engines to quickly assemble and deliver campaigns – can help banks continually refine their approach at speed and at scale.

Five indicative case studies – and the potential for many more

At VCA, we have been successfully applying a bottom-up approach to micro-personalization for some time and helped a range of clients from several sectors to solve diverse use cases. Following are five examples of the ways in which VCA has helped drive successful and highly personalized campaigns, identify new customers for acquisition campaigns, and derive powerful insights that can be used to inform clients on operational decisions and potential partnership opportunities.

🏛 For issuing banks

Example #1 A rapid-fire series of personalized travel campaigns

We were asked to reveal the behavioral characteristics of travelers and help our client develop a series of rapid-fire marketing campaigns during the upcoming holiday period. Here, we identified 330+ different personas in the market and helped design multiple high-impact campaigns to drive incremental revenue, each personalized to the persona being targeted – for example, we were able to design campaigns tailored to people who typically book all-in-one travel packages to the Maldives, digitally savvy forward planners who book well in advance using online travel agents, those who take extended road-trips or who habitually book Airbnbs, and so on.

Example #2 An unlikely yet highly effective approach to driving buy now, pay later adoption

For the same banking client, we were tasked with identifying cardholders that have a high propensity to adopt buy now, pay later (BNPL) as a payment option. Here, we interrogated the same bottom-up micro-segmentation to identify segments who appear to prefer BNPL purchases. Using this approach, we were able to prove a long-standing business-wide 'gut-feeling' that these cardholders make a significant number of purchases in fashion and apparel merchants. Armed with this data-driven insight, we then interrogated the same micro-segmentation for a third time to ask a different question, namely, "which segments have a preference for fashion and apparel merchants but have not made any BNPL purchases". This allowed us to identify a huge pool of potential customers to drive a highly successful BNPL acquisition campaign.

For merchants

Example #3 Going beyond the traditional line-of-sight

Our bottom-up approach not only applies to the world of financial services but also to our merchant partners, helping them to identify new opportunities and refine the customer experience. This is important because most merchants only ever have a narrow view of their customers. For example, we partnered with an international airline to provide powerful insights into where its customers are spending in-destination, insights that are traditionally outside of the merchant's traditional line-of-sight but made possible through VisaNet. This information can now be used to not only identify lucrative merchant/brand partnerships that the airline can add into its loyalty program, but also identify the true destination of the customer where the second leg of travel has been made on a different airline – thereby providing the airline with powerful information for flight scheduling and new route planning.

For government agencies

Example #4 Empowering local tourism boards

At VCA, we often support government agencies, helping to drive successful initiatives that can benefit citizens and nurture local economies. For example, our bottom-up approach has been successfully used to help local tourism boards develop authentic, appealing, and personalized campaign materials to attract a wide range of tourist profiles, such as honeymooners, family beach holidaymakers, and outdoor adventurers and adrenaline junkies. These marketing materials were also adapted with tailored visuals and messaging to attract tourists from across the globe.

Example #5 Informing local economic policies

Another application of our bottom-up approach that has been popular with local authorities is being able to understand the spending profile of residents and citizens when traveling abroad. This is similar to Example #3 above, but the scope goes beyond an airline's customer base to provide local authorities with unique insights to help formulate economic policies that encourage local spending and boost the domestic economy. In addition, understanding the international spend of citizens and residents can help local authorities identify merchant sectors across the local economy that need support or potential gaps that need to be filled through local investment.

How Visa can help?

In a hyper-competitive marketplace, where consumers are constantly bombarded with offers and approaches, and are increasingly discerning about the approaches they are willing to engage with, there's a need for today's payment players to enhance their approach. It's important for campaigns and offers to be timely and relevant, and to strike the right tone.

This is where VCA can help. Our team of world-class data scientists have exclusive access to VisaNet, one of the world's largest transaction processing systems, giving us unique insights into where, when, how, why and on what today's consumers choose to spend their precious funds. This, in turn, enables us to discern their wider attitudes, lifestyles, behaviors, values, and propensities.

As well as applying bottom-up segmentation techniques, we have developed several propensity models to solve for complex business challenges and enable clients to precisely target consumers with propositions and offers that are likely to be relevant and engaging.

Meanwhile, our team of advisors have decades of experience in improving the performance of FIs and other payment players.

To find out more, get in touch with one of your local VCA representatives, or contact one of our subject matter experts directly:

> **Our team of world-class data scientists have exclusive access to VisaNet, one of the world's largest transaction processing systems**

Hashem Ali Shihab
hshihab@visa.com
Based in our Dubai office, Hashem is Data Science Director for CEMEA at Visa Consulting & Analytics

Vishal Jeswani
jeswani@visa.com
Based in our Bangalore office, Vishal is Data Science Senior Manager for CEMEA at Visa Consulting & Analytics

Alexandra Alexashina
aalexash@visa.com
Based in our Dubai office, Alexandra is Head of Solutions and Data Science Senior Director for CEMEA at Visa Consulting & Analytics

About Visa Consulting & Analytics

We are a global team of hundreds of payments consultants, data scientists and economists across six continents.

- Our consultants are experts in strategy, product, portfolio management, risk, digital 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** or visit us at **Visa.com/VCA**

Follow VCA on in