REPORT

‘Next best action’ in an omnichannel environment

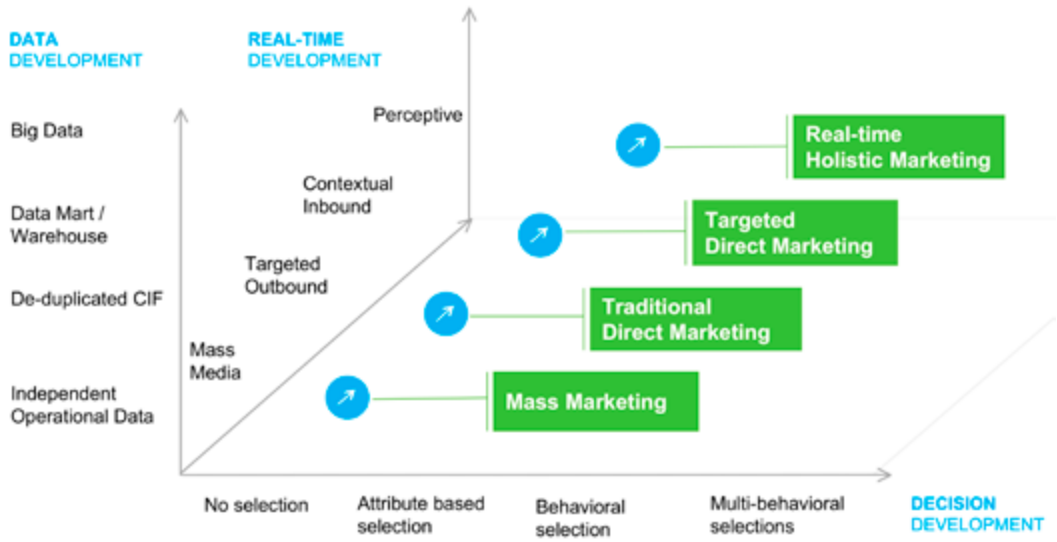
October 2015

Contents

Introduction

During our visits to banks and other industries, we've noticed some fascinating and important changes that are taking place in the realm of marketing. The following diagram provides a useful framework for much of the content of this transcript.

Development of direct marketing



The evolution of direct marketing

Over the last few years, there has been significant progress in the development of all of the elements in this diagram – including the data dimension, real-time development and engagement, and segmentation analytics.

1. **Data.** Years ago, marketers often just had lists and worked with the IT department to extract data out of the systems so that they could start to use campaign management to market to people. This then slowly developed into a dedicated customer information file. Following this, there was the era of data marts and data warehousing, which involved a similar level of hype to that currently associated with big data.

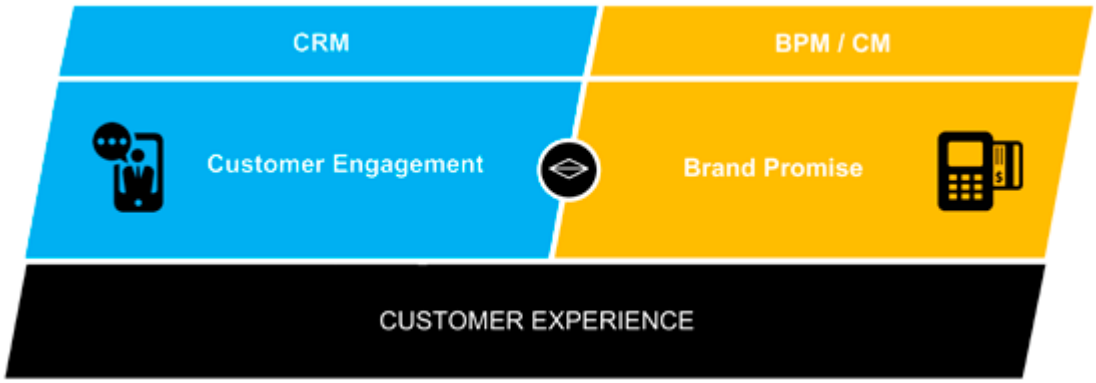
   Despite the hype, there was an important kernel of truth in this emphasis on data warehousing, as banks were trying to dedicate large amounts of data for a specific purpose. Most banks now have data marts and data warehouses for leveraging sales and marketing. The most recent development has been big data, which offers new possibilities for marketing. The big data that banks are currently focusing on include real-time payment streams, location data for people with apps, and the 'clicks' that come from online channels, tweets and posts.

2. **Real-time development.** Direct marketing developed from the mass media and then moved into targeted outbound marketing, using analytics to limit the audience – but other than that, relatively little happened for a while. We are now in the era of 'contextual inbound' marketing: on-the-fly, real-time engagement. This in turn is rapidly moving towards an era of 'perceptive' marketing. This involves real-time events, with hyper real-time marketing triggers that could perhaps come from people entering a certain area or from a problem with a payment – and the bank is able to respond immediately to the situation.

3. **Segmentation.** Over the years, banks have moved from basically no segmentation at all (sending out collateral to everyone) through to naïve segmentation and then to segments based on behaviour. This is a step towards the latest development – multi-behavioural selections, in which the segments become very dynamic. Just understanding a segment and the people within it is no longer sufficient, because people are very complex. Banks try to compromise by creating segments that they understand, because it's easy to produce creative collateral for that segment. However, from a perspective of the return on marketing investment, current segmentation strategies probably aren't good enough.

There is also another side to marketing and sales. Financial institutions must make sure that they keep all of the promises, the offers and the recommendations that are made through their various channels. Any project should involve both sides: if an offer is made and accepted by a customer, the back-office processes needed to deliver that promise must be in place as well.

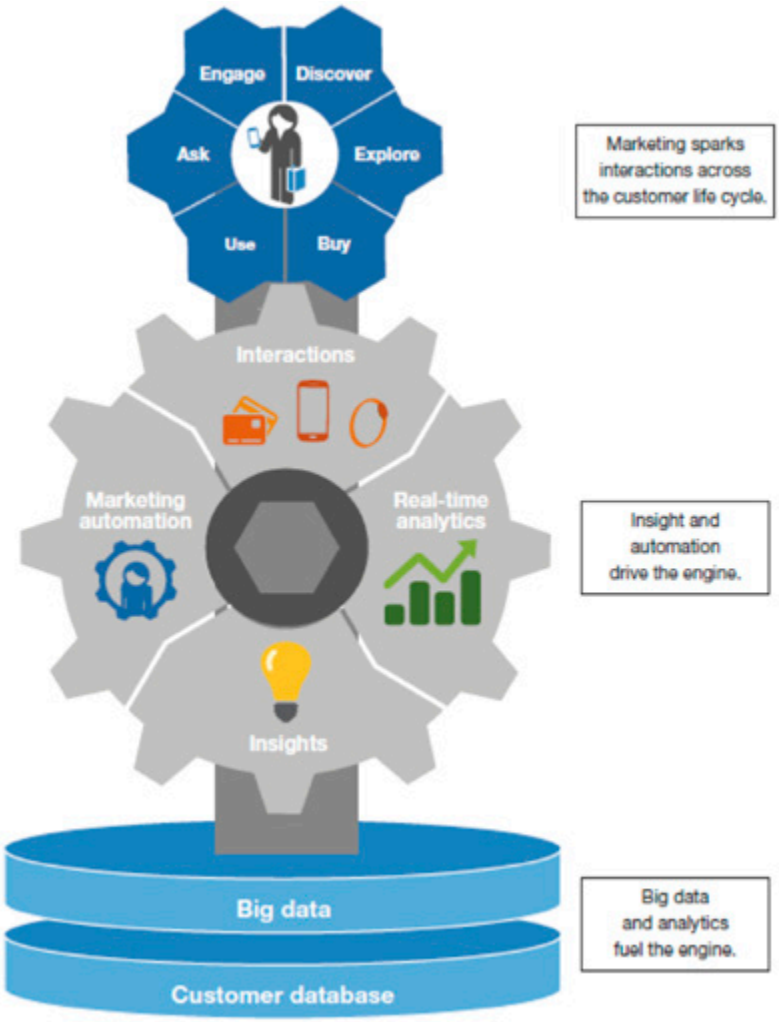
How better businesses engage, simplify and change



In relation to big data, our research suggests that many different banks and other large companies are collecting a lot of data which is now stored in big data repositories. There are plenty of tools available for collecting it but not many companies are particularly confident yet in how to use it – except, perhaps for reporting on customer journeys across different channels and mapping these in a lot of detail. But to make the data actionable, people are still looking for best practices.

Contextual marketing: developing a one-to-one customer interaction that drives sales, service and customer experience

The contextual marketing engine – every journey is unique



Source: Forrester. "The Power Of Customer Context." Carlton A. Doty, April 14, 2014

Marketing is changing – and banks need to be aware of these changes and the potential they offer for growth and profitability. A leading research and analysis company, Forrester, has a vision of modern day marketing that is contextual. It includes a customer database, big data and a decision hub or marketing analytics hub that takes real-time analytics and turns these data into insights or decisions. The processes behind this are automated and that is what fuels all of the different interactions across the life cycle of a customer.

So, in terms of this contextual approach, banks have to be prepared to have a customer decision hub that can react to circumstances, as many things are changing in the world. Once this develops into real-time contextual engagement models, they no longer really involve traditional campaigns. They give way to interactions and endeavours to maximise customer value during those interactions.

Context changes the marketing focus

Marketing before context focuses on:	Marketing after context focuses on:
Campaigns	Interactions
Targeting	Engaging
Customer segmentation	Customer recognition
Media schedules	Customer moments
Relevant messages	Contextual utility
Transactions	Value exchanges
GRPs and CPMs	Minutes of engagement

Source: Forrester. "The Power Of Customer Context." Carlton A. Doty, April 14, 2014

This table illustrates how marketing is moving from scripted plans and scheduled campaigns to a much more contextual experience. One aspect of this is that all of the touch points in the channels become much more interactive and much more intimate, so the old model, although it's still working, it isn't working very well.

Although targeting that is based on analytics can be very sophisticated, this is still very much an inside-out approach. However, Forrester suggests that it should be all about engaging customers – and making sure that while they are engaged, they enjoy a very good customer experience.

Recently, banks have been trying to form segments that will help to create a one-to-one experience with the customer. However, this can go too far. Customer recognition has now become more important: scheduling campaigns so that they leverage customer moments of truth. If a bank has a schedule at all, it should be used to tease prospects and customers into using channels where the bank can be more engaged with them – where it's not broadcasting or sending messages but is much more interactive.

Even items such as relevant messages can be useful (after first using analytics to decide what is a relevant message) but Forrester believes that it should be more contextual than this. Banks should be looking at how they can use the moment and create value during every single interaction.

Transactions are therefore giving way to 'value exchanges.' Metrics such as Gross Rating Points (GRPs) and cost per thousand (CPM) are giving way to measuring engagement. According to Gartner, the whole digital philosophy of buying ad words and commercial space and television programmes should be about minutes of engagement, as this is the only worthwhile metric. This is radical, especially in relation to digital marketing – as it is not the way the industry currently works or measures itself. In fact, in some ways, digital marketing is simply status quo – resulting in very loosely targeted marketing.

What is interesting is that digital has the potential to deliver highly personalised, targeted and relevant messaging – but in fact today is mainly used old-fashioned techniques, which is why many people complain about privacy and spamming and 'stalking', where a poorly targeted ad follows them around wherever they go.

In Europe, there are more and more regulations around privacy and spamming – making unsolicited marketing difficult. And even when people opt into a campaign, likelihood to open, read and respond is very low for mass solicitations. Forrester has underlined how this is changing the whole concept of marketing.

Moving from campaigns to interactions

Looking at this migration from campaigns to interactions, in one Central European bank, this has happened partly by force. The bank had much less money to spend on campaigns and had numerous discussions about the workflow of a campaign. They realised that in many campaigns they started by promoting one product, yet ended up selling another instead. The bank is now moving more to interactions, which ensures that at the end of each interaction the customer has received value which might result in a purchase, the use of a service, or better feedback.

One element that helps this is that the movement to more channels allows for more intimate conversations and interactions. And for many banks, the volumes are also moving, from outbound campaigns to a lot of inbound interactions – partly because of privacy regulations and also because people just aren't opening their outbound solicitations such as mail as much.

A key issue is the complexity of the model needed to achieve industrialisation. As of yet, machines can't provide the human touch in one-to-one personalised interactions. If banks think about industrialisation, they also need to think about the complexity of the model behind the engagement strategy. Some banks are moving towards this in a step-by-step approach – but at the moment, the level of complexity is huge and they are often struggling to automate the entire model behind the engagement strategy.

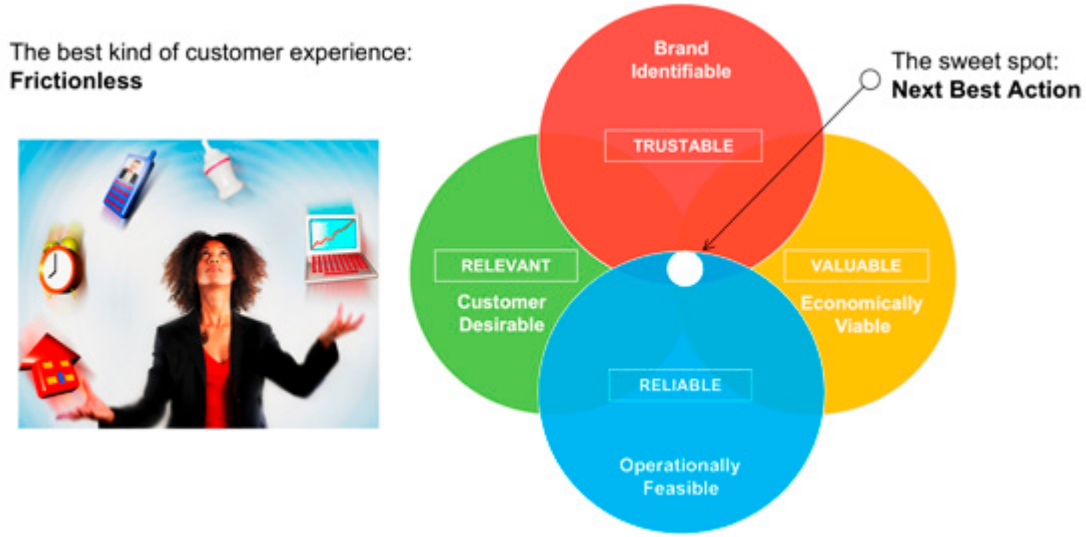
However, there are innovations that are gradually making this easier. One way is to leverage analytics at a massive scale. For instance, Citibank executes a thousand predictive models to make a single decision during an interaction. And then when the customer is doing something contextual, the bank re-executes all of these thousand models to decide on what to do next. So, a massive deployment of analytics is needed to optimise the interaction.

Increasingly, as the world moves towards mobile and digital, speaking to customers is going to become a privilege. Banks have to be prepared for the key moments through prediction – but the human ability to listen and to find the most appropriate offerings for those customers in that interaction may be extremely difficult to replicate and replace. However, banks do need to move away from the target model towards a greater emphasis on customer experience and value exchanges – really focusing on the length and quality of those exchanges.

They also have to be prepared for a world in which most of the customers won't actually speak to them. They may engage through a mobile application or various other channels but won't actually talk to a person. Much of the current progress in technology helps banks get smarter, leveraging analytics at scale and using these in channels where there is no human voice.

Case study: PNC Bank

Next-best-action makes the conversation trustworthy



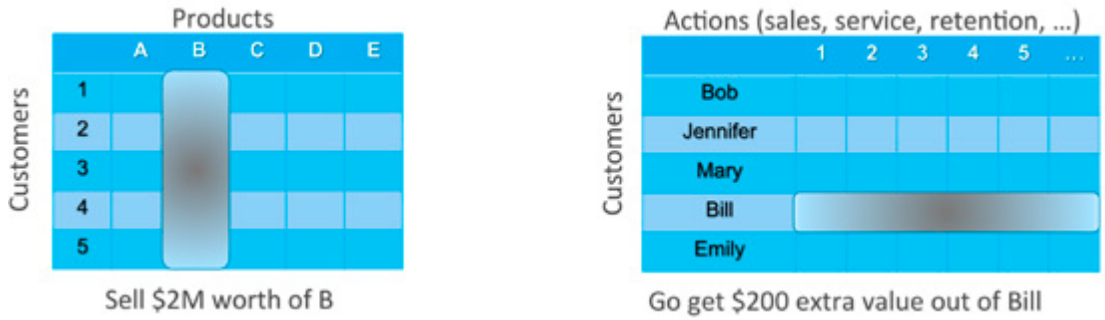
Source: Karen Larrimer, CMO, PNC Bank

PNC Bank is a great example of how contextual marketing works in a large bank. The diagram above depicts how the bank's CMO attempts to juggle her marketing to provide a good customer experience. She needs to make sure that the brand is represented during every interaction, in all of the channels. She has to make sure that the interaction is valuable to the bank, is economically viable, and is reliable – so if there's a brand promise, the bank keeps it.

The final aspect is relevancy – where analytics are involved. The CMO needs to ensure that in every interaction, she does what the customer deems to be desirable. She called the intersection of all of these four circles the 'next best action'. This was an incredible paradigm shift for PNC. It meant that all of the different product managers and the people responsible for the various business lines (e.g., cards, savings products, and mortgages) had to get in one room, and collaborate on their joint strategy for juggling these factors and deciding on next best actions.

To be contextual and to leverage every interaction in the best interest of the long-term relationship, the bank can't be pushing a particular product. PNC Bank therefore looks at every potential product and every single talking point and then uses a 'next best action' to decide what to do. This means that senior executives also must collaborate on the customer strategy, which can be a difficult thing to do culturally – yet PNC knows that banks need to break out of their silos: there's just no other choice.

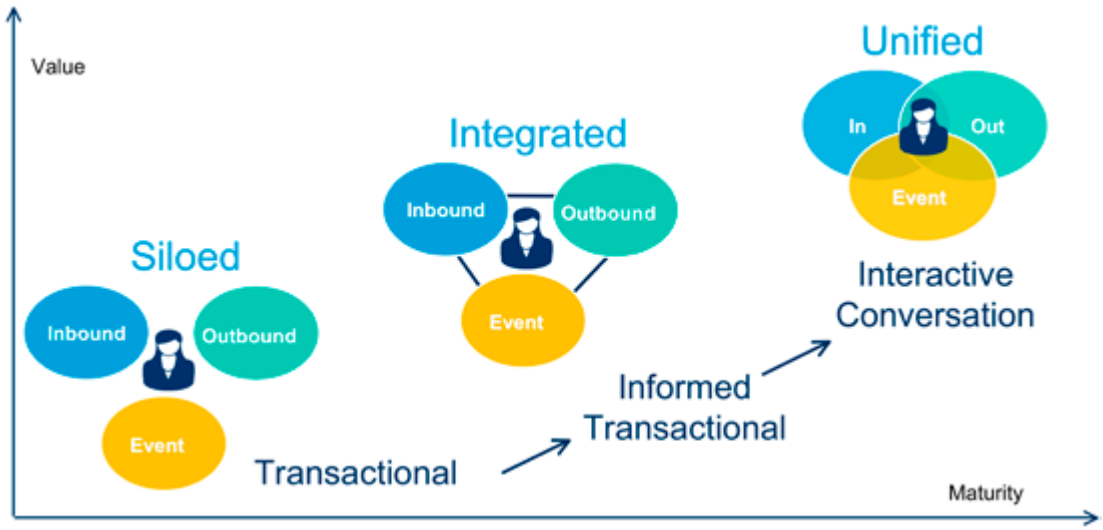
Product-centric vs customer-centric: not just lip service



Banks such as PNC are putting a lot of effort and money into developing a platform where inbound and outbound leverage the same strategies. The bank is moving away from the type of campaign that has a KPI or goal of selling $2 million worth of a product to a different model, with a 180 degree shift in focus. This new model looks at each of the customers individually and thinks about how the bank can add extra value across everything. In each and every channel, they consider all possible actions. If nothing is important enough, based on the propensity models and the predictive analytics, then the bank may take no action. Every action has to be relevant for that customer at that moment.

This philosophy also has a huge effect on how the bank's teams are organised. They need to look at all of the factors involved holistically. It's a huge change but it's beginning to happen everywhere.

Siloed, integrated or unified marketing?



If a bank becomes more contextual, and follows the Forrester model, it needs to make sure that it unifies inbound with outbound. When inbound, outbound and event-based marketing are in silos, context is lost. The bank misses opportunities to learn from engagement in other channels and the conversations are often disconnected. Since speaking to a customer is a privilege, knowing their history is critical to having relevant conversations.

For instance, if someone has a failed search on the website or an unsatisfactory conversation in a branch, the bank needs to know this for the next interaction. This central knowledge supports an integrated approach, where outbound is integrated and unified with inbound channels.

With this approach, massive analytics and insights in the online channels are automatically applied when using the outbound channel. So when somebody hasn't contacted the bank for weeks, the system can send an outbound reminder, with every channel aware of that decision and action.

The focus is using analytics in creating immediate (contextual) and lasting value, for customers and for the business. The outcomes are improved customer experiences and customer relationships, because actions are personalized and relevant. This is known as a fully contextual approach.

A fully contextual approach

Next-best-action: optimizing value for each customer

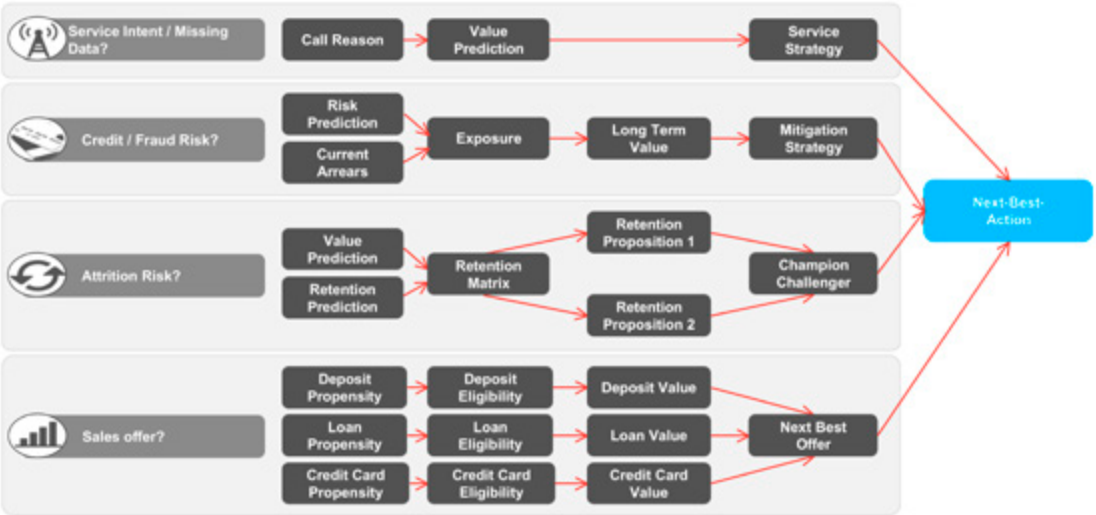
What does it mean to be fully contextual? The diagram above shows – on the right hand side – the business owners who are responsible for growth – and their objectives such as growth, service, retention, and risk mitigation. On the left hand side are the customer needs – including things being relevant, timely, consistent, and contextual.

In the middle is the balance that must be struck – hence the scales – Banks need to use analytics and propensity models to decide on the next best action, ensuring they have a one to one business case to justify the action taken. For example, they might use thousands of propensity models to first determine whether the customer is even interested or needs certain products, such as a loan or credit card. This is prioritising starts.

Then, they look at contextual elements such as eligibility, whether there is an outstanding service issue, affordability, and margins. This enables the bank to prioritise in real time.

'Next-Best-Action' (NBA) involves determining what the best action is during any interaction (out of a library of possible actions such as sales, service, and risk actions), in any channel – and then suggesting that action.

Conceptual next-best-action decision strategy



The strategy at the bottom of this diagram suggests a next best offer. The next one up suggests a best retention action. Above that, the strategy suggests a best risk mitigation action. And last, a best service action. This approach to overall strategy formulation is different from marketing campaign logic, where banks are just finding a best offer for a segment of which a customer may fit into.

These NBA strategies are built by business people and run using a decision hub. When run, the decision hub arbitrates to select the best action across all of the available strategies. The hub then renders the action, using responsive design, in the customer's engagement channel.

If the engagement channel is the call centre, the call centre receives the best actions. If it's in an online channel, offers may appear on a web page. The technology scales to handle billions of interactions if necessary.

One of the real challenges is not system related, but organizational. Can bank personnel sit together and agree on customer-centric strategies.

Now, looking at the customer lifecycle, when can the bank use NBA effectively? The answer is throughout, from on-boarding to risk mitigation to retention.

Let's briefly look at a retention lifecycle case from another industry. Verizon (a US telco) has 110 million customers using many channels, including online, mobile, IVR and 25,000 resale shops – and in any given year many will churn (cancel their contract). The company created bundles by aligning the lifetime value of a customer with the budget needed to retain that customer. The result was a 1 to 1 business case for retention, and reduced churn.

Driving revenues by optimising customer value

Together, let's dig deeper by focusing on customer value management. Accenture has carried out a study across a range of industries that shows that customer value isn't evenly distributed – in fact, it's incredibly skewed.

Value isn't evenly distributed, not even close

These are 20 representative customers. The Accenture study discovered that 20% of them – i.e. only four of these people – typically produce 80% of the profits. And even more importantly, just one of these customers, representing 5% of the customer base, produces 50% of the profits. Clear evidence that banks shouldn't be treating all of these customers in the same way.

The finding have been confirmed by Pega's discussions with banks and other companies in the US. This "profit per customer" statistic is typical, and it's a good reason why it's important to align communications with customer value.

Again, 'next best action' is a different philosophy, in which banks use every inbound and outbound customer contact to add value. The aim is to improve the quality of the relationship over time.

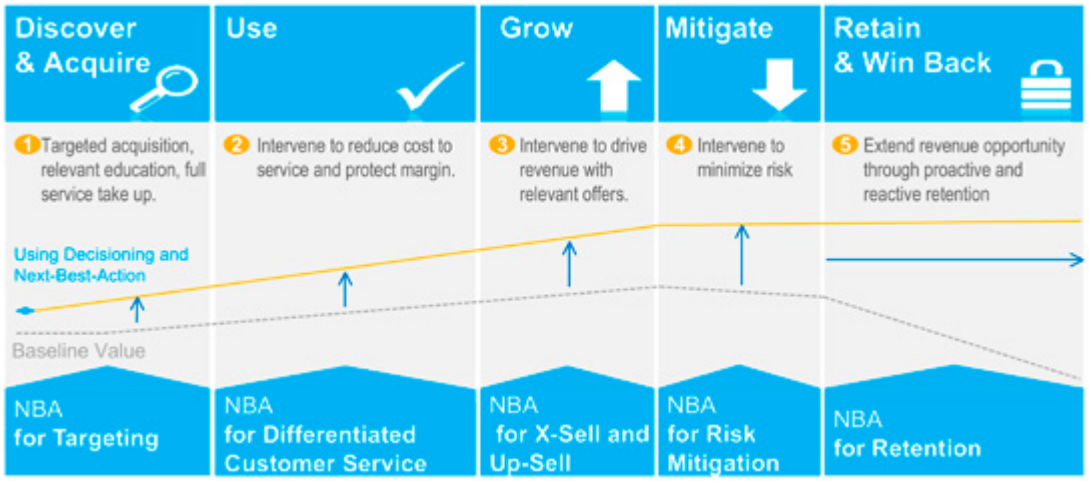
The approach is akin to playing 'Customer Value Chess'. Strategies might involve making a sacrificial move; or having a plan that involves a lot of moves that will increase customer value over time. McKinsey looked at the factors that add to the value over the customer life-cycle from the first year to the second year, and at what subtracts from the value – and the type of levers available.

It's difficult to shift from a product perspective to a 360° view of the customer. A Central European bank aligned itself with being customer centric – not only in terms of products but also in terms of different components of the relationship. They found one of the biggest issues in the transformation journey was not getting general buy-in for the merits of the concept itself, but instead getting the entire organization to embrace it and implement it effectively.

This change involves cultural shifts, such as convincing people who are currently competing for the same customer using outbound campaigning, to come together and collaborate on the best thing to do for customers when they come to inbound channels. For a given customer, do they really need a particular product at that moment, or instead should customer retention strategies be used?

What are some of the other cultural obstacles involved? In many banks, people are given incentives to sell a particular product, even when the customer doesn't need that product, or when a more customer-centric strategy would lead to higher customer satisfaction.

Next best action and continuous value creation



Next best action analytics can be used at every stage in the customer life-cycle. Starting with acquisition, lead management can be more targeted. When the customer is onboarded, banks should look ahead at likely customer value evolution.

Remember that 5% of the people acquired will produce 50% of the profits, because they will transact more, have multiple accounts and be more engaged with the bank. There's a big spread between people that create substantial value and those that don't create much, and its usually evident at an early stage of the relationship.

Even when a bank doesn't have much data, it can still boost customer value. Later, when a customer is onboarded, the bank will learn more. Selling should be constrained until more data and more interactions are obtained, and its assessment of the customer's requirements and lifetime value becomes more evident. Lifetime value should always be calculated on an individual basis, not in large groups.

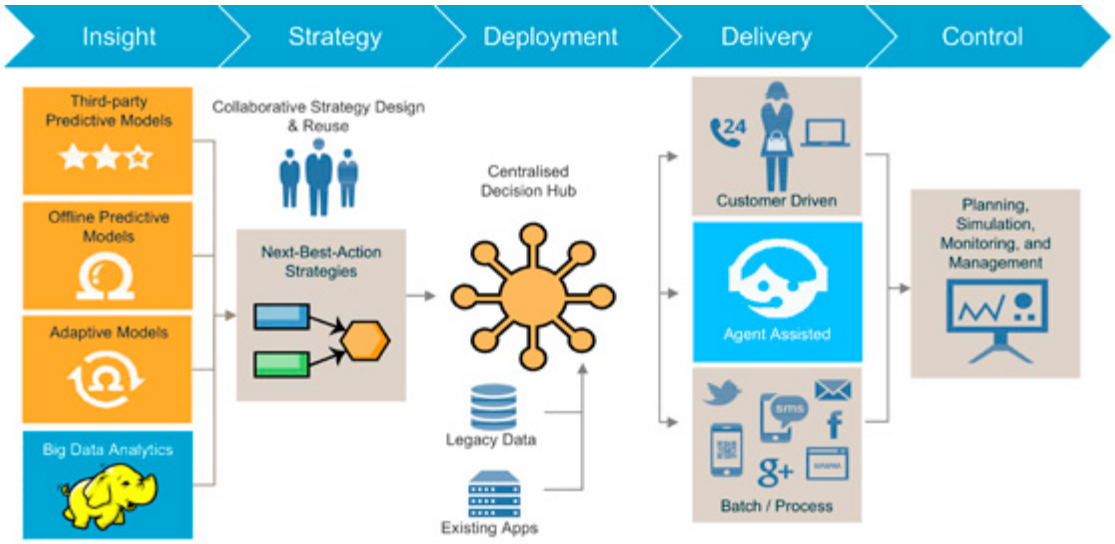
The second stage can include educating customers and encouraging them to use the bank's services. And in the third stage, once analytics are working and the bank has a deeper relationship with the customer , selling will be more effective with more personalized and relevant offers presented to the customer.

Banks always want to mitigate risk. The key is still understanding each customer in context. Perhaps the customer has taken out a loan; perhaps there is a collections process – these need to be differentiated. Perhaps the customer is sailing on a yacht in the Bahamas, and missed a payment. Thus, collections and risk mitigation strategies also need to be very individualised.

The final stage involves adding value by extending the tenure of the customer. This isn't just about customers leaving the bank – there might be product attrition, for example, where they aren't using their credit card as much because they use a competing credit card. Or they might be using the bank as their main bank, except for wealth management, for which they use a different organisation. So concepts like share of wallet, win-back and retention are considered in stage five – all happening against a background of a unified next best action strategy.

Implementing a next best action strategy

End-to-end decision management and analytics platform



Today, some more advanced companies in banking, and other industries, such as communications, are using an "End-to-End Decision Management Platform" where they use data and models to gain insight, then formulate strategies, deploy them to a central decision hub, and then perform delivery in various channels, and then monitor their progress.

To aid in deciding best actions, they use propensity models. The decision platform can import models that already exist, and it can employ adaptive models (self-learning models).

As mentioned, Citibank executes over 1,000 propensity models during a single interaction with one customer in order to identify the next best action. And it's conversational, so when the customer reacts, they may execute another 1,000 predictive models.

For next best action to work well, departments must collaborate. People across different disciplines and functional areas of the bank must work together. In one bank Pega visited, people working in the Risk Department were finally collaborating with people in the Marketing Department for the first time in its history. A common goal of being “Customer Centric” is what finally pulled them together. Prior to this, Marketing was sending out credit card offers, and about half of those offers were rejected by the Risk group. Using the next best action approach, the bank can instantly take risk into account when it decides on the overall next best action.

Another important factor is having strategies that can be deployed into a central decision hub, so that any touchpoint system in any channel, whether it is a real-time channel, agent-assisted or an offline channel, can easily ‘ping’ this decision hub and have it deliver the best action at that moment

Because strategies are centralised, the bank can record, monitor, and study every customer level decision. Different variations of strategies can easily be changed and controlled by businesspeople, for example adjusting pricing or the APR on a credit card.

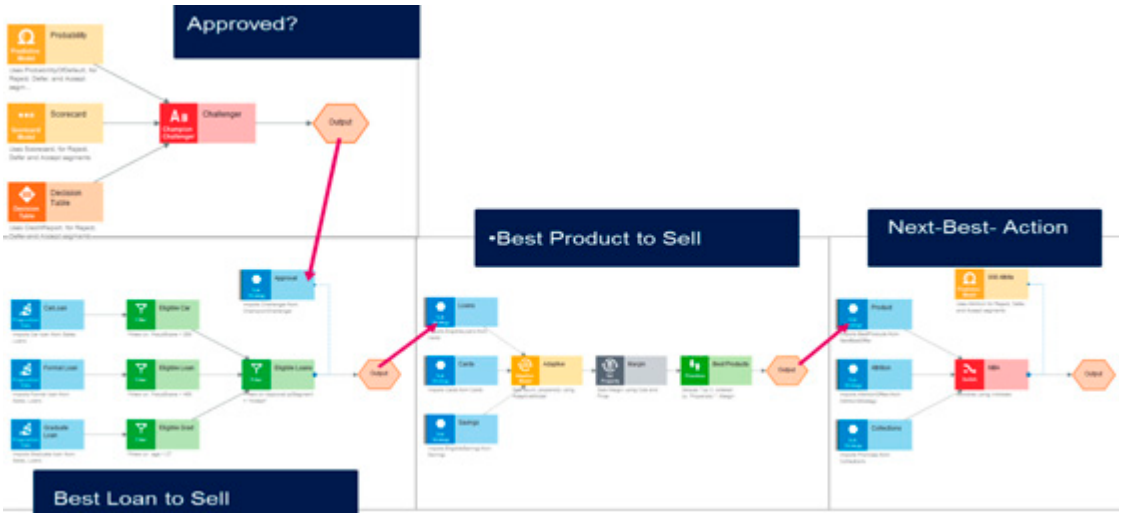
Today, banks are approaching this in different ways. Namely, a Central European bank uses central decisions, but doesn’t use predictive models yet. A Middle Eastern bank treats prospects that are applying for loans, although they aren’t actually customers. Yet still,

they can cross-sell other banking products or upsell and increase the loan value. And during the relationship, they look at the risk profile and the probability of default..

Next best action is closely related to event-based marketing. Every time a customer touches the organisation, the bank executes the next best action strategy. The same is true when an event happens: for instance, if there is a large transaction or if it’s somebody’s birthday, that triggers the execution of the next best action strategy.

Putting value creation into practice

Next-best-action: delegation of decisions



So how does value creation work in practice? The diagram above shows a real example of a decision strategy for next best action. It illustrates how these decisions are delegated: there is a separation of duties, and there are different owners for the different parts of the strategy.

For instance, in the middle is a strategy that decides on the best product to sell, based on adaptive models. These are self-learning models that determine which products are appropriate for whichcusotmers.

The set of strategies are coordinated. The bank decides, say, that it should be selling, because there's no retention risk, credit risk or collection risk. Then, they identify what type of product family to selli, and the best product within that family. That in turn uses a strategy provided by the Risk Department (on the top left), evaluating default likelihood.

All of these strategies are pulled together, and less than one second, the bank makes a overall decision. For instance, if it's a loan, it identifies which particular loan; and if it has a preapproval. After that, it goes to due diligence to make sure that the customer is not a default risk.

In some companies there is often a strategy team – typically a small group of relatively senior people – that have daily meetings, especially in the design phase. This team makes regular changes to the strategies. So if the bank strategically needs to sell more (or fewer) mortgages, this team makes the adjustments immediately. It's not the mortgage product owner who starts doing different campaigns – it's a customer-centric strategy, where the bank makes it priorities and can also change them.

Execution

Turning to the execution of this type of approach, the main idea is to work toward having a single customer decision authority. Strategies are designed and deployed by the business into the decision hub. IT's role is to ensure the platform that the decision hub runs on is available and scales to meet performance requirements.

Because it's centralised, it provides cross channel consistency. So, if a customer rejects an offering in the web channel, the hub propagates this intelligence to other channels so the same offer isn't made unnecessarily there.

Simulation

With rich interaction history data, including granular data on offer presentations and, simulations are possible.

Using this data in simulations, "What-if" analysis is possible. For example, questions can be posed such as, "What if we started favouring this particular savings product or this particular credit card; will this negatively affect overall response rates, or response rates for other products?"

With simulations, full scale mock replays are possible, where millions of interactions are executed, and impacts are measured.

Case study: PNC Bank

PNC has been implementing a central customer hub, which it calls the CIM (Customer Interaction Manager). The team that controls the strategy reports directly to the CMO of the bank. This team comes up with the strategies for selling and for retention across the different product lines. It spans payments, credit cards, lending, deposits, investments and a few other services. All of the people responsible for those functional areas aren't doing campaigns anymore – they basically collaborate and execute a customer-centric strategy.

Increasing revenue through multi-channel decisioning

Customer interaction management at PNC

PNC

BUSINESS GOALS

- Deliver differentiated customer experience across all customer channels
- Focus on offering customer-centric treatments, offers and messages
- Integrated and consistent across all employee-assisted and self-service channels

RESULTS

ROLLED OUT IN CALL CENTER, IVR, ONLINE BANKING AND ATM	HIGHEST WEB PORTAL SCORE BY INDEPENDENT REVIEW
SPANS ACROSS PAYMENTS, CREDIT CARDS, LENDING, DEPOSITS, INVESTMENTS AND OTHER SERVICES	VOTED 'BEST CUSTOMER EXPERIENCE' BANK, "A" IN A RECENT ONLINE MARKETING REVIEW FOR ONLINE PORTAL QUALITY

Analytics can be used to drive greater value for our business. We have brought this into action, by using next best action technology to create a compelling customer experience

John DeMarchis
Senior VP, Customer Service Management, PNC

They started in the real-time channels (call centre, online banking, ATMs and IVR), as they posed the biggest challenge and opportunity to add value for the bank.

PNC was voted the best customer experience bank, because it provides consistent , relevant and customer-centric omnichannel. For example, call centre agents know what a customer did two minutes previously online, and can make the conversation relevant in that context.

To do this, PNC employs extensive analytics: underpinning its customer treatments are models that predict relevance. PNC may execute up to 500 models in real time to make a single decision. And PNC was able to implement this system in two channels in six months – and shortly after went live across all of the real-time channels.

PNC Bank started the next best action journey in the real-time channels, because these were effectively greenfield – they weren't particularly sophisticated, so they could make a lot of changes quickly and not impact their existing outbound efforts. PNC will eventually use exactly the same strategy for outbound as it is using for inbound – that's the bank's mission for the coming 18 months.

Case study: EE

Driving incremental value

Increasing annual operating margin at UK's largest telco

everything everywhere

BUSINESS GOALS

- Increase revenue per customer
- Create a unique business case for every retention interaction
- Radically improve retention rate for high-value customers
- Provide a consistent experience across all channels

RESULTS

DECREASED SUBSCRIBER RETENTION COST	REDUCED MONTHLY CHURN RATE TO 1.2% FROM OVER 2.0%
4% ADDITIONAL RETENTION of their most valuable customers each month	INCREASED CONVERSION RATE of customers that accept retention offers

"With a single solution, we have lowered retention costs and retained more customers, all while average call handling times have held steady, even going down in some instances."

Alex Ford
Customer Base Director

Another example comes from EE, the UK's largest mobile provider. EE is a joint venture formed between T-Mobile and Orange. They started where they could realize the most value first, so they didn't implement the hub in as many channels as PNC did initially. Their main challenge was churn, and so they decided that a next best action strategy was the best way to try and retain customers.

Their new strategy promotes consistent communications, since there isn't different product managers for cards, loans, savings etc. They take a scientific approach to increasing value for every customer, one customer at a time. They started with retention, and have a goal of a unified strategy, to ensure they proactively and reactively retain customers. They also assigned individualised budgets to every retention effort.

For instance, retaining Customer 1 might be worth £200 – and so they might be willing to invest up to £200 to retain Customer 1. For Customer 2, they might be willing to invest £700. Lifetime value analytics are used so they spend different levels on customers based on customer value.

In another example, a Western European bank uses the next best action approach. People from different departments get together every week to discuss customer potential. During that process, they agree upon the type of triggers and leads that will be assigned to different customers. Each customer receives a mailing with the 'next likely product to buy' offer, and this is synchronised with the offers that are provided to the sales people in the branches.

This bank isn't real time in all of its touch points. For example, current accounts and credit criteria are real time, but other activities are still in batch. Being real time at all of the touch points is still a challenge due to infrastructure issues.

In contrast, the market in the Middle East requires an approach where customer risk is monitored very closely. For example, a bank there might monitor a customer's returns and once they complete their instalments, they can then cross-sell.

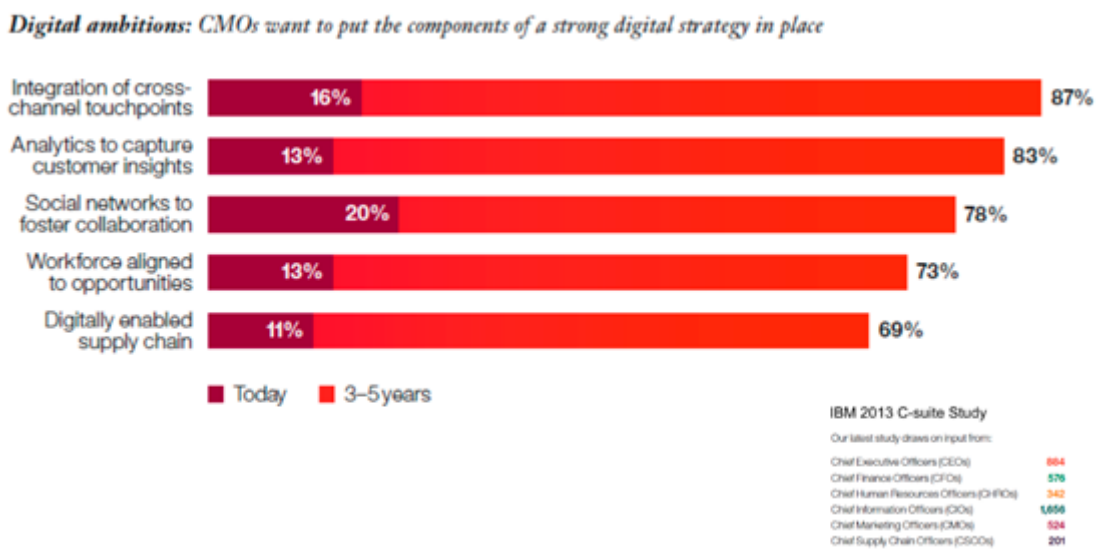
For loan products, the bank may looks at salary accounts, monitoring statements which give it debt burden ratios; in other cases the bank may ask, by using a questionnaire; and in other cases learn from social posts. Everything is based on different consumer types in this market and information that can be obtained to mitigate financial risk.

So culturally, banks in the Middle East are already aligned for prioritising one customer at a time.

Enhancing customer engagement in an omnichannel environment

So, how does this all work in an omnichannel environment? The reality today is that many people are communicating using multiple devices. And this trend is continuing to accelearate. Banks need to prepare for this situation.

Cross channel top of mind of CMOs

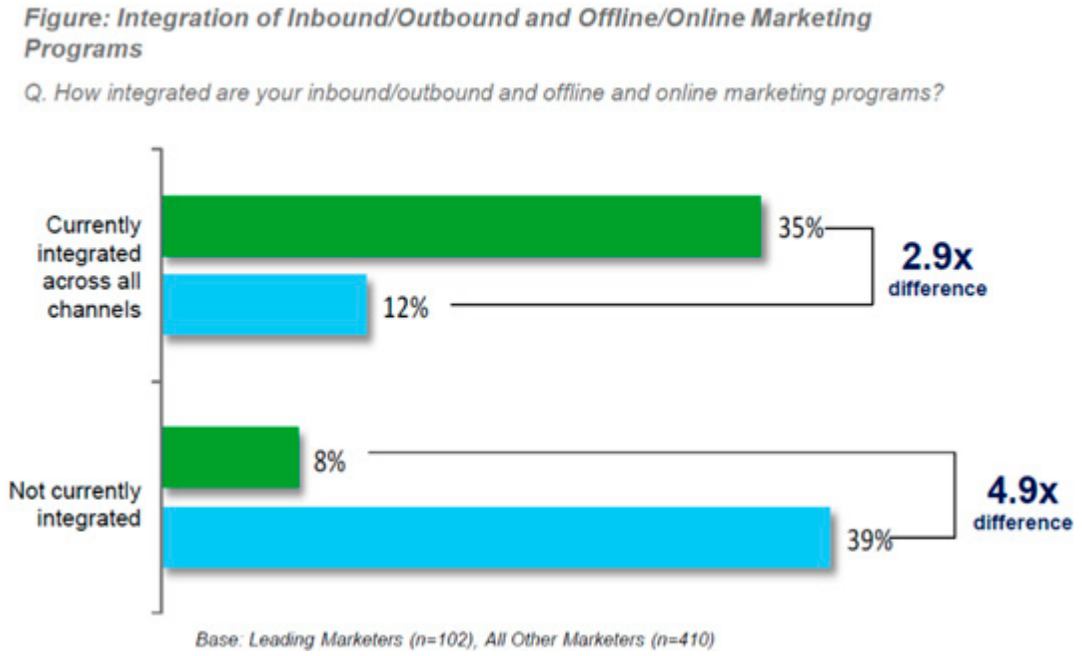


The above diagram is taken from an IBM study in 2013. The top two priorities are particularly interesting. Clearly, it's critical for the CMO to work to integrate different touch points, yet few organisations can do this. Although numerous banks engage customers via multiple channels, they are rarely orchestrated – there's no integration and there's no single decision authority for all of these channels.

A few years ago, real-time channels were greenfield for marketing: the emphasis was on direct marketing through traditional channels (email etc.). Then real-time channels became more directly controlled by Marketing. Even today, digital is still often a silo, with online marketing separated from the rest of the organisation.

Another important statistic to note is that most CMO's state that they need better analytics for customer insight, but they don't have this currently.

Leading companies have a head start



Source: IBM CMO Study

In another CMO study, IBM looked at the contrast between leading marketers (marketers in companies that performed better) versus other marketers. For leading marketers, they found a big difference in how they effectively integrate across channels.

In relation to this finding and reflecting back on PNC Bank, they are a specific example of how a company that effectively integrates across channels gets results that help them become or continue to be a leading marketer.

The customer journey

Turning to the customer journey, this is a picture of a typical customer journey of the 1980s – it's very predictable, very simple, with not many distractions, not many devices, no mobile, no dotcom and no social media.

Then, the journey started to change. The customer journey was like being on a rollercoaster and everything is chaotic and scary, but in fact, it's still very predictable. After two and a half minutes, they are back to where they started.

Today, the customer journey looks more like a pinball machine, where the marketers have the levers and need to keep the ball in play and score as many customer value points as they can – but it's difficult. They always need to focus, and if they miss one – if there's a touch in one of the channels in an omnichannel environment and the bank doesn't play it well – they will lose the ball.

One important aspect it to do everything at the right time. Unfortunately, the right time is very unpredictable. Banks are used to a world with direct marketing, where topics are scheduled and the company sets the schedule. That is now totally reversed. Banks don't always predict accurately when the customer is actually going to engage with them – but when this happens, they have to ensure that they are totally prepared for it.

A study by a European bank calculated that the total interaction time it had each month with a customer was about two hours, which included ATM withdrawals, visits to the website and perhaps to a branch. The key question (and opportunity) becomes how the bank can best leverage those interactions.

Using the next best action approach, banks don't schedule batch campaigns. Instead, they program the decision hub to prepare for the next customer interaction (without trying to predict its timing), and then when it happens, be prepared to respond with the best possible offers at that moment.

The bank can still be proactive in certain cases and look at priority. If a particular customer hasn't reached the bank through the online channel, it may proactively reach out through an outbound channel such as SMS, yet when doing this pick the next best action priorities for that touch for that particular customer, instead of picking an offer for a segment of customers. That's very important in this customer-centric vision.

Actually, the best thing that a bank can do from the business side is to get comfortable with fact that they may rarely see the customer face to face – and that this may only when the customer wants it, not when the bank wants it.

This shift in mind-set is critical if businesses want to survive. Fortunately, in some cases it's driven from the inside out when organizations hires younger people who are already digital natives – and who realize that consumers expect to have unpredictable multi-channel engagements. In other cases, such as in Communications industry (especially in Europe), there is so much competition, that these companies must be customer-centric and they must be aligned in the different channels, or otherwise, competitors steal customers away at alarming rates, and business that don't adapt simply go out of business.

And the good news is many of the companies that we've worked with have made this jump, and the returns they are experiencing are amazing.

In fact, they experience two very positive effects. First of all, customer profitability increases tremendously, because with next best action, the bank is forced to focus on the customer and to think about, "What will enhance our relationship the most?" The second effect will be an increase in customer satisfaction and a higher Net Promoter Score (NPS) – due to a more consistent and relevant experiences across channels.

Customer journeys are accelerating, compressing, and there are limited opportunities when customers do make contact to get things right. And the question also becomes do banks have the correct KPIs for measuring these effectiveness of these interactions? One organisation is measuring customer satisfaction for each interaction.

The impact on satisfaction

One study in the Communications industry measured the impact on NPS after a contextual decision hub was turned on in different territories – and what they found was the NPS rose as soon as this centralised hub was in place, because it addressed two key needs:

1. First, communications were more one-to-one and relevant, so the bank's customers viewed that were being listened to.

2. Second, the bank improved the value customer's saw they were getting. In some cases, this even resulted in a new role being created called a customer value manager or customer base manager.

This resulted in a different KPI structure. The customer value manager is responsible for profitability and the happiness of the customer base – i.e. customer satisfaction – and they might overrule many channel or product requirements. They have meetings, often weekly, with the product stakeholders. They look at which products are favoured and see how that will play out in terms of the customer-centric vision.

They then tweak the next best action strategy and look at what will happen holistically. It's not about how many mortgages they are going to sell or how many platinum cards; it's about how to increase the profitability of the bank – without this being at the expense of customer satisfaction.

Does the approach in private banking differ from that in retail banking in terms of approaching customers and next best action marketing? There isn't really much difference, apart from the fact that private banking should be even one step further along in this holistic approach. It's very important for customers to be understood in every moment of their life, and in every need that they might have. This is the theory, but in practice, most banks don't really have a customer-centric view yet: they are still focused on the product-centric view.

With private banking, or B2B, unless the volume is very high, there might be difficulties with the analytics. In next best action, it's about having rules and decisions that are centrally managed and customer-centric, but there is also a need to use propensities to create relevancy. In private banking, that might be more difficult to do unless the bank is very large, as there might not be enough examples to carry out a reliable analysis.

Returning to customer satisfaction, the method of servicing the customer accounts for part of the satisfaction score. One bank has started to measure the trust related to interactions and has realised that trust is a better indicator of an intention to recommend or intention to reduce or augment the share of wallet. So the bank now prefers this as a KPI instead of satisfaction.

In the PNC case study, the CMO defined the dimensions, and trust is also one of her key areas of interest. Using NPS is certainly better than not measuring any satisfaction at all, but trust could also be a very good factor to measure.

Banks also need to look at the underlying factors. To gain trust, first of all they need to deliver on any promise they make – which is an aspect of consistency. If a bank uses product KPIs, this can inherently weaken trust, because employees are incentivised to sell products. Banks aren't charities – they have to make money, but a better way to do this is to look at the whole relationship and to increase its value, and increase trust as the proxy of value. Banks need to break KPI silos, because they go against trust.

Social networks

Another aspect of marketing communications in the modern world is the use of social media. Many banks are now listening into the social networks and responding to complaints etc., but are any really using it as a marketing channel? Some are – although they might not yet be in a position to say how many Facebook followers actually purchase something or have become customers.

Banks in the Middle East face some major obstacles in terms of social media banking. These include regulatory and legal issues, banking secrecy issues, reputational risk and connectivity issues. However, the situation might start changing now that Facebook and Twitter are clearly advertising, so it is becoming more acceptable to use them for marketing to people. Social media users realise that all of these social facilities have to be paid for, but at the moment it remains a difficult channel for banks.

A Western European bank has been trying to identify its best promoters – especially people in the social media who are really influencing others. It wants that group to collaborate in the development of new products and services. Those people will then talk about these products in their own social media. It's a completely different way of doing marketing, through super promoters.

One Middle Eastern bank is using social networks specifically for advertising to boost product and service awareness. The key challenge in this area is to make it one-on-one. However, one difficulty it is facing is finding the KPIs for measuring how this will contribute towards the Profit and Loss account. Some intermediate KPIs are needed to show how it will add to the business.

Meanwhile, an Eastern European bank is using social media to inform customers about new products and propositions. Customers like to give their feedback on Facebook and if they have any queries, they receive a quick response from the bank.

The customer journey in an omnichannel environment

All together now: contextual, differentiated, connected

Requirements for an effective omni-channel customer journey

- Contextual decisions
- Differentiated treatment
- Connected conversations

What does the customer journey look like in an omnichannel environment? Before looking at an example from the communications industry, it's worth considering what we're trying to achieve. At the business architecture level, the journey has the customer right at the centre of the universe; then, based on analytics and omnichannel decisions, an organisation can find the next best action strategy and can make recommendations to any of the channels.

That's how a bank can develop customer journeys that are all connected and built up. It can try to 'tease' someone in one channel, educate them in another and make the conversion in a third channel. This is how a relationship is built. Some of these channels are still slightly futuristic, such as the TV channel, whereas with others it's much easier to visualise how they work.

So, there is a connected journey across the different channels in this setup and it is also connected throughout the customer lifecycle – from acquisition, nurture and sales through to retention. All of these goals become really achievable if companies believe that they can have a single decision engine in the centre.

From a methodology point of view, no-one is currently putting anything like this in the middle of the bank. Banks tend to start by picking a business purpose, typically cross-selling or something else that goes across the customer base. They then usually pick two channels (rather than one), because two provide many more points around cross-channel conversations. The most popular ones are the contact centre and the web.

So, two channels are used to prove the point, and to prove the impact on customer satisfaction or trust (if it can be measured) and the profit benefits. If this happens, it can then be extended to different business purposes – perhaps to attrition, share of wallet and risk mitigation – and into multiple channels.

With next best action, from a customer perspective, it must all be real-time engagement, contextual, relevant and consistent. How can this be achieved?

1. There must be an holistic approach throughout. It's really important to increase the value of the customer to the bank. The bank should be looking at priorities in its meetings, rather than talking about the number of products it needs to sell in a certain timeframe. This is always a good discussion to have with the C-level suite. Culturally it's a challenge, but in the end, clearly this is where any company will have to go.

2. The bank must personalise across the channels and differentiate between customers. There are two communications examples that illustrate this. The first involves a customer called Troy, who has a low lifetime value and a low risk of attrition and also a low credit risk. There's nothing really spectacular about him: the company can see the products he is interested in, one of which is the iPad Air.

   The other example is Barbara, who has a high lifetime value but also a high attrition risk, which is a dangerous combination. She also has an interest in the products, but perhaps the company shouldn't be selling to her.

All together now: contextual, differentiated, connected conversations

Let's examine how this works in relation to contextual conversations and differentiating between customers, and keeping them connected across the different channels. The first step in marketing to Troy on the website is to start favouring the iPad, as he has shown an interest in it. This isn't rocket science, apart from the fact that the next best action strategy looks at everything. It has clearly seen that there is no credit risk and no retention risk, so it's safe to sell to him. The iPad is highlighted because that's the most important item that has attracted his interested. So this starts to build relevance.

That scenario can be contrasted with Barbara, who was also interested in the iPad but is an attrition risk. The company is trying to retain her, so it might give her, say, $100 or 20% off the iPad but ask her to call to make that deal (because the company knows it won't successfully retain her in the online channel). The next best action strategy therefore tries to get her to talk to the contact centre because, based on analytics, this seems likely to have more chance of success in retaining her.

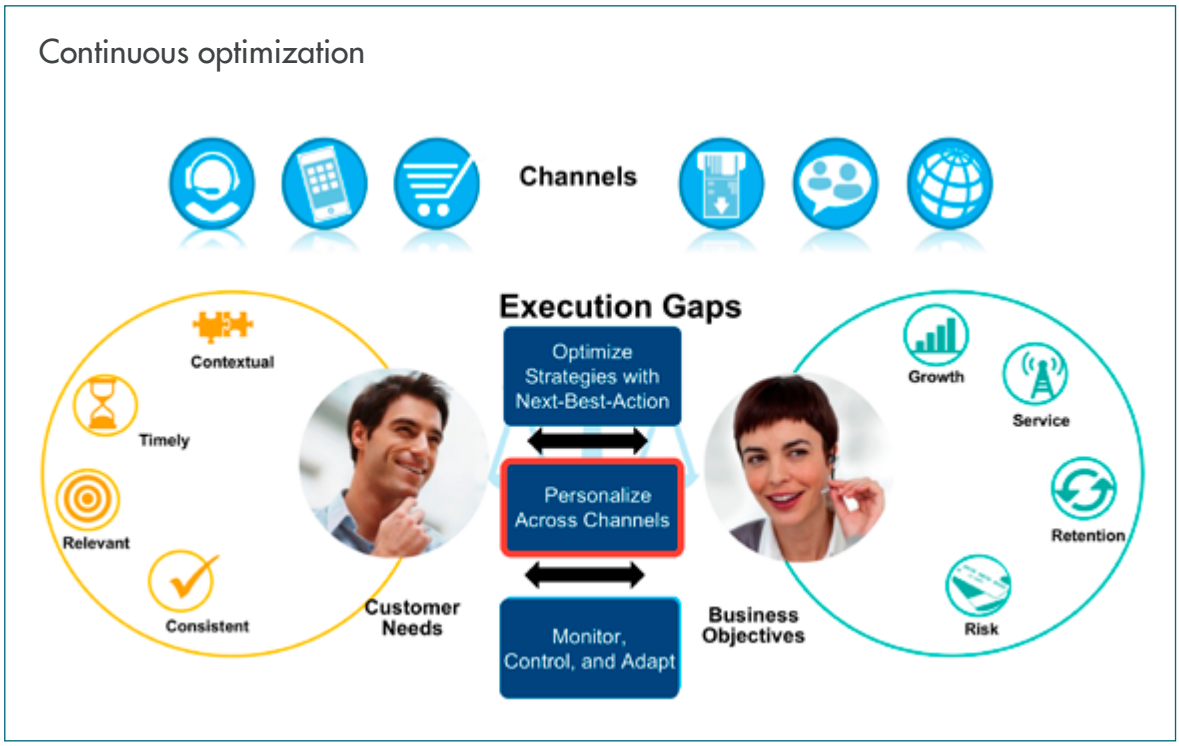
From a business strategy viewpoint, the next best action strategy means that the marketing people or communications people will look at the attrition risk and decide whether to try to retain her. Is there a service the company needs to address or should it try to sell and find the next best offer? Those are sub-strategies to the next best action strategy.

For Troy, assume that he browsed the website (and by registering every click, the company knows that he was interested in the iPad but that he didn't convert). He can be sent an outbound email to remind him, which means re-targeting him in a different channel, because it's all connected.

For Barbara, the company is going to negotiate in the contact centre. She receives very specific offers based on her customer value. This is where the company wants to retain her and it has also decided on the budget available to retain her. This is the level of sophistication that is already in place with many of our clients in the communications industry and also quite a few in banking. It's a very sophisticated approach to the omnichannel game. Finally, using mobile, the company can also try to get her into the branch or shop, based on her proximity.

3. If there's a centralised engine in the middle, this also has a big side benefit. The bank will have the ability to monitor everything that's happening and to control this, because if it makes a change to its strategy, suddenly that change will be live in all of the different channels. Some of our banking customers have weekly or monthly meetings at which they adjust the strategy. They deploy it from the marketing department and then run it against all of the different channels.

Continuous optimisation: evolving with customers and driving long-term relationships



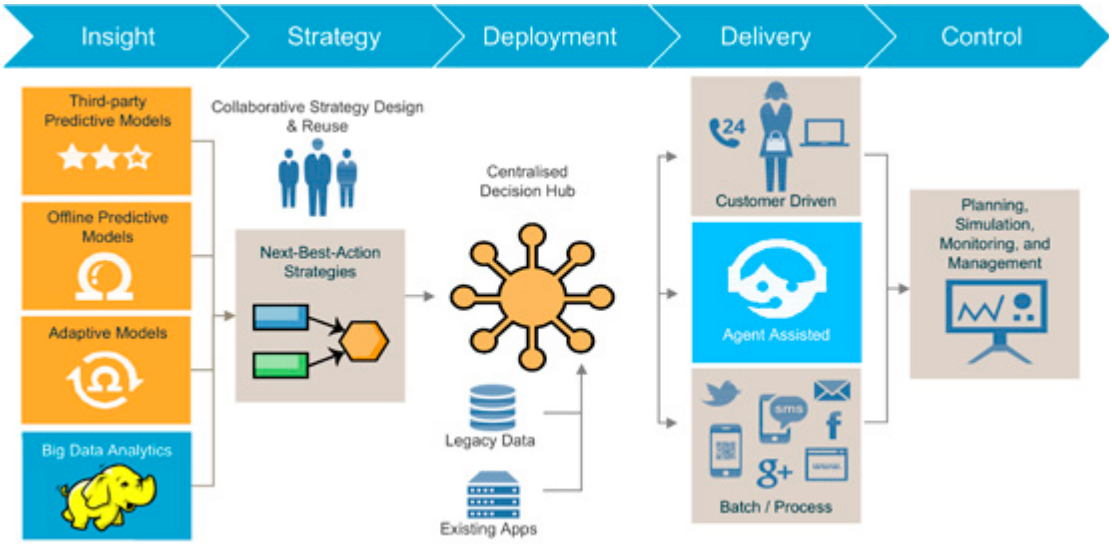
This diagram was used earlier to show how 'next best action' by its very definition is incredibly customer-centric. We can now focus on the execution gaps that haven't been addressed yet. The context and relevance are clearly of crucial importance to a next best action strategy: they help to drive it. A considerable amount of predictive analytics is needed to decide on the next best action.

However, are banks making full use of analytics? Are the marketers or the business in control of that area? Are there enough models? The other aspect of next best action is the metrics around the business objectives. For every single conversation, the bank needs to develop a strategy based on the rules for leveraging the analytics. It then might need to decide on whether it should be cross-selling or upselling. Is there a service that needs to be given a higher priority? Is this about attrition, or is it about risk management?

So, this is a higher level for next best action – which is NOT just about the next best offer. It isn't just about selling, even if it starts there. **It's about the right action to take to evolve the relationship to its maximum potential.** One of the aspects that we haven't addressed so far is that once there is an effective strategy running in every interaction in all of the channels in the bank, how can that be monitored and controlled? How can the bank make sure that it can continually adapt those strategies, because there might be a new strategy or new products on the market?

Where do banks see their predictive analytics capability, and is it sufficient? Next best action relies very heavily on predictive analytics. The 'best' in next best action almost always involves arbitrating between various predictions. For instance, if there's a prediction that somebody will leave the bank or become inactive, the bank might need to execute an activation strategy or a redemption strategy.

End-to-end customer decision management



So, there's a lot of predictive analytics and we see this area as having four different families of analytics:

1. We need to be able to run third party models, which from the bank's perspective means the models it already has, which represent a lot of effort. There is probably a large team working on those, and they decide which models have a value that we need to be able to leverage.

2. Typically, when visiting banking customers, we find that data scientists are expensive, there probably aren't enough of them and the business doesn't get all of the predictive analytics that it wants, so this usually needs to be complemented by a model factory approach.

3. Another option is adaptive or self-learning models. These aren't used for everything in banking – certainly not for risk, compliance or fraud – but they are used to calculate propensities because so many of these are needed. As mentioned previously, using this type of framework, Citibank would execute a thousand predictions just to make a single decision. So banks need a lot of these models: they don't have enough data scientists so they use adaptive models.

4. The final family is big data analytics. Essentially, this is like batch processing of much more data than was previously available in the data warehouses. It might include clicks or tweets or posts or locations, so a slightly different type of analytical approach is needed.

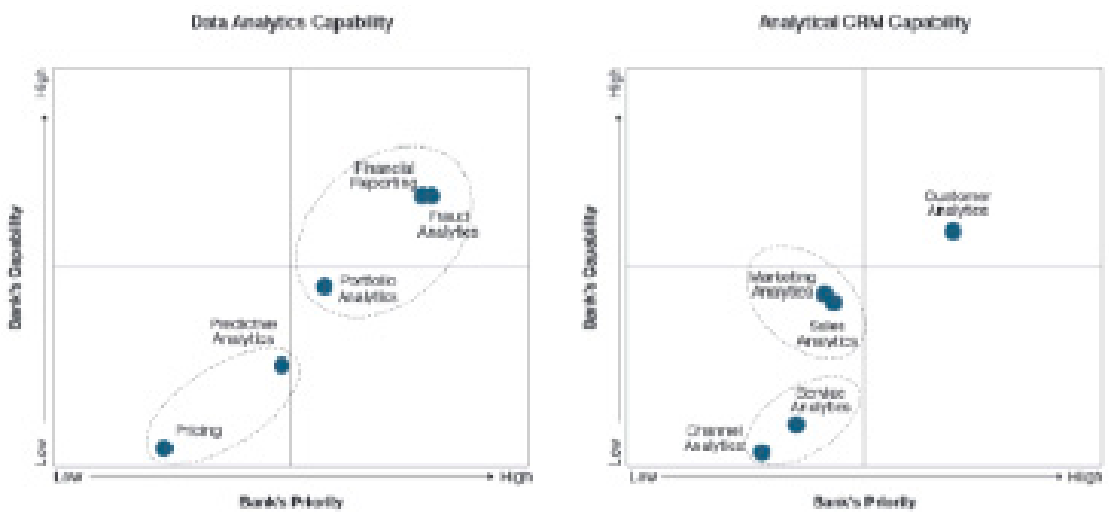
The bottom line is that all of these models feed into the strategy, so this is where the business or marketing decides on the next best action strategy, based on all of these analytics. The rules in next best action depend very heavily on leveraging predictive analytics.

This is then deployed in the channels. There is ideally a single customer decision authority, although it might not start like that. It might start small, perhaps just in sales, or attrition, or collections, in one or two channels. However, the bigger picture for next best action should be that there is a single decision hub so that the bank can be consistent, can leverage what it learns from different channels and then use this in other channels.

The bank also needs to have control. If it wants to make one change to the strategy in this decision hub, all of its channels should start to behave differently. This can be seen in practice in the example used earlier, PNC Bank. This has a decision hub concept powering all of its channels and any change by the marketing organisation is directly reflected in all of the channels on the delivery side.

The last phase is planning and simulation, and monitoring and management. In terms of predictive analytics capabilities, the customer journey from awareness and consideration through to evaluation, the eventual sale and then to the experience, loyalty and efficacy – it is a closed loop. It's not about selling a product, it's about optimising customer value over time, and increasing wallet share. This is a loop that keeps on running and analytics are needed at every point in this journey to nudge the customer in the right direction by finding the next best action.

Banks priorities



Source: Capgemini Analysis 2013, 2013 Retail Banking Executive Interview Survey, Capgemini

The diagram above is an analysis by Cap Gemini, one of our partners, who conducted executive interviews and looked at where analytics are used in the banks. There is a lot of focus on compliance – regulations such as Basel II and Basel III have a lot of portfolio analytics and compliance and reporting, but predictive analytics don't seem to receive a particularly high priority.

So where do the analytics for marketing live within a bank and are banks leveraging them? Do they get enough predictive analytics and if so, can they apply them in real time? Looking at the banks' priorities, customer analytics is fairly high on the list and most banks think that their capability is good. However, issues such as service analytics, channel analytics and cross-sales analytics are rather low on the list. In a next best action context, customer analytics are important but there's much more that is also needed.

For example, a Western European bank has developed a Marketing Analytics and Control department. All of the customer analytics are centralised there and various cross categories are established and are available to each product or channel manager. This gives the bank both analytical and functional excellence and ensures that it has an integrated customer perspective across all products and channels.

However, the challenges that the bank is working on are two-fold. First and foremost, it needs to model the customer journey across online and offline channels and identify the effectiveness of the various touch points and the response of customers to various activities. The second challenge is to do all of this in real time.

Another Western European bank organises the analytics around its client segments. It decided that analytics is the base of its marketing and future sales activity. The analysts are in the client teams and are working together with marketers. The bank's key challenge is data management. It's a difficult aspect to get right and it's not really in the bank's DNA.

Financial institutions have a lot of data and from a risk perspective the bank has organised this properly. However, from a marketing and sales perspective it might want to combine all of the data, whether it's product-related, behaviour-related or client-related, and carry out an analysis from that. That can be very hard to do. The bank believes that it's also important to find the right type of analysts, as there are some new analytical methods involved.

Banks are at different stages of this process. For instance, a Southern European bank is currently a step behind in terms of being able to put all of the analytics into a contextual perspective for the customer. It is still in the process of learning and internally putting all of the technology it requires in place so that it will all make sense in a more collaborative way.

Meanwhile, a Middle Eastern bank is currently looking into the best models for CRM analytics and is reviewing current best practices. However, the 'best' model depends on the data that a bank has, the brand and various other factors.

There is generally a strong business need for predictive analytics, especially in banks that want to become customer-centric. They need a lot of analytics to predict issues around customer behaviour but this bottleneck needs to be removed. Data scientists are hard to find and are expensive but aren't particularly fast, so a bank would need a lot of models, many of which are predictive models.

The models and data scientists are often dedicated to risk management because there is a lot of science involved in that aspect – and marketing and the customer experience and even customer value might come second to that.

In terms of insight, whatever environment is chosen as the decision management layer (where the bank actually makes decisions) must be able to include predictive analytics from various sources that should be really seamless. It should preferably have an option of a model factory for all of the models that perhaps aren't as business-critical as risk but where a lot are needed quickly.

Therefore, the self-learning models or adaptive models have become very popular. Many companies use this approach to address the bottleneck of data scientists. It's a very straightforward process. They aren't used for risk or compliance, because these models are learning all the time and a company doesn't want a risk model that constantly changes. However, they are very popular for marketing and now banks are using them as well. Meanwhile, virtually all communications companies use these models.

Execution

These models can be executed contextually. The really big gap that banks need to address is that scoring customers and putting information into a data warehouse and then retrieving the scores isn't sufficient. It's better than nothing because it provides some predictions but it can't be applied contextually.

What is the contextual execution of the models? If the bank talks to a customer in the contact centre or in the branch and the customer said "No" to an offer, this should instantly mean that all of the predictive models or attrition models are recalculated. That makes a big difference in the commercial benefits that the bank will realise and also in factors such as the NPS score and customer satisfaction – because it means that the bank is responding instantly, smartly and intelligently to customer feedback.

In relation to the centralised decision hub, architecturally, if a bank starts small, the solution it chooses must be able to grow to support every channel – inbound and outbound. It's also important that the bank realises that there are different shareholders in the customer experience. So if it wants to become customer-centric, the decision hub must be not only architecturally but also organisationally ready.

If the bank is seeking to be customer-centric, it must discuss its priorities. If it wants to sell, how is it looking at that? Is it looking at margins, or at net present value across five years? How does it decide upon the most important thing to talk about? This is where the analytics come in. If somebody wants to make a change because they'd like to sell more of a certain product, the bank can run the simulation and this would show how it could be done – but it would also show, say, that this might be at the expense of many other products and it would in fact be bad for the bank.

A Central European bank has a small team of about six people who just focus on analytics and CRM. But it was actually quite difficult to deploy as many models were needed in order to address all of the priorities. It's even harder if the bank wants to have dedicated people in order to update models according to the result.

One option might be current software that provides a combination of a learning engine along with the ability to make these decisions. But are current software products a solution that can address and accelerate the development of the models and as well as making wise decisions? We can give some general guidelines of what to look for, starting with the modelling side. Whatever solution is taken for the decision hub, it needs to be able to use and apply in real time all of the internal or external models that the team has and to run them in real time. Many vendors have solutions that are very specific to their own analytics and that represents a really big compromise.

The other aspect is the adaptive models: look for a solution that can do self-learning because with a small team, there is a bottleneck that needs to be addressed. Data scientists are hard to find and the bank will need a lot of different models. So look for a solution that in addition to the more statistical approaches also has tooling for the less critical models. Look for an environment where somebody who isn't a PhD physicist in statistical analysis can provide a reliable, high performance model in less than a day. If it takes more than a day, it isn't the right software.

For adaptive models, take clues from other industries such as communications, from propensity models specifically, and some issues around segments. These industries use adaptive or self-learning models to take away a lot of the pressure related to producing a high volume of predictive models. It's a proven technology, the models are highly reliable and will often give better results than data scientists because they are always learning from every interaction.

If there's a competitive action or different regulations or people behave slightly differently, these self-learning models will instantly pick this up, so the small team can then concentrate on the more challenging modelling exercises.

The real profit distribution that a bank can get by moving to next best action and true customer centricity is amazing. That's why all of these projects go well, so if a bank actually dares to make the change in the organisation and perhaps even goes against the cultural and political constraints, it will be successful. The numbers it will generate and the profitability and the customer satisfaction will immediately increase. Even if it starts in just one or two channels or perhaps only in sales or attrition, or a combination of these, it will make a big difference to the bank.

The future is clearly in analytics: predictive analytics is everywhere. People still sometimes believe that they know better than the data but in my experience of hundreds of projects, that has never been the case. If a bank doesn't actually make a decision based on analytics, it's just a hobby. It's crucial to have the architecture in place that allows the bank to get those analytics.

There are a lot of analysts doing a lot of analysis but the decision is the point at which it really makes an impact. Most of the time it's hard to get the decisions right. One of the secrets to success is that next best action is a complete concept. It's easy to explain to senior management because customer centricity makes sense. It's a very straightforward conceptual philosophy about how to deal with customer engagement. It's a relentlessly top-down approach so that when someone has to decide on the next best action, it's like mind-mapping the organisation.

It's a very intuitive process, so the bank might have the different stakeholders sitting at the table – the marketing people, the risk personnel, channel managers etc. They can always come to an agreement because the metric in the end is about customer value, so it's very hard to argue against it.

Culturally, the way to do this is to start at a high executive level because both the next best action and customer centricity make sense. The successes are very high, so use references for next best action for both very large and also smaller banks that have been incredibly successful with this approach: some of them are happy to talk about it.

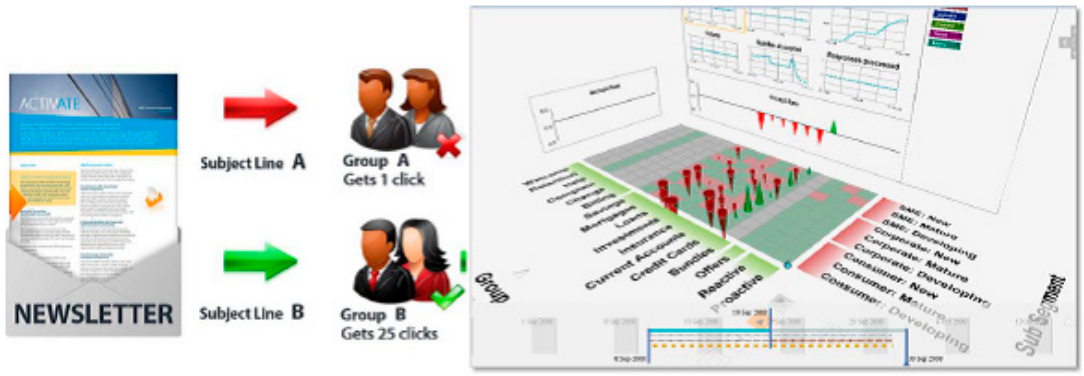
However, it's important to remember that predictions are useless unless they are embedded into decisions and actions, which is also a top-down process. Don't ask data scientists what to model – it needs to be a directive from the bank's strategy. So the next best action strategy comes from that. It needs to be a top-down process, it can never be bottom-up. The bank can leverage its analytics centrally to run in all of the different models and in all of the different stages of the customer journey, ideally.

But start small, prove it and show the money – and the rest of the project will follow, because at every stage there are measurable benefits. At all stages of the customer journey, it's a case of trying to get into the best position to create customer value.

Simulation

The final point is about simulation, because it impinges on all of the other issues – both the cultural aspects and the benefits, and the need to have a single decision engine, rather than a federated system of decision engines.

Test, simulate, optimize



Here's a small example relating to some newsletters that were sent out with a different subject line or a different graphic for different customer groups. This was tested first. One of the reasons why it's so important that the marketing people own the customer strategies is the need to be able to experiment constantly. Changes need to be very straightforward. So one best practice is never to decide upon any action with the customer unless there is a challenger action. If the challenger works better and that becomes the new champion strategy, a new challenger will be needed. That provides a really good cultural regime for continuing to innovate.

With a decision hub, such things are very easy to do. In the example above, there are two different subject lines to experiment with by running the simulation. With the decision hub in place, all of the data and all of the decisions are fed through that centralised decision hub, which could lead to the development of a dashboard. This can show where changes in the strategy might be necessary. In a bank, different elements can be changed to see the effects upon the different dashboard components.

Banks can run a simulation on every single interaction they've had over the last quarter or the last year, because of the centralised decision hub. They can simulate a change in strategy and show, for instance, that it isn't feasible because it will cost too much money (rather than finding this out three months later from the campaign analytics).

Best practice: constantly monitor, control and adapt

This is part of the power of the next best action decision hub, because it's an holistic approach. It's a place where a change can be made and then simulated before it is deployed. And that culturally makes a big difference. Finally, adaptive models can also make a huge difference. If a customer accepts or rejects a proposition, that response should immediately make a change in how the models work, because they learn on the fly. And that in turn will make a big change to the number of data scientists that the bank needs.

About us

As a global not-for-profit organisation, Efma brings together more than 3,300 retail financial services companies from over 130 countries. With a membership base consisting of almost a third of all large retail banks worldwide, Efma has proven to be a valuable resource for the global industry, offering members exclusive access to a multitude of resources, databases, studies, articles, news feeds and publications. Efma also provides numerous networking opportunities through working groups, webinars and international meetings. True to its vocation, Efma has recently developed an Innovation portal which aims to identify and award the most innovative projects in the retail financial services arena.

For more information: www.efma.com

Pegasystems (NASDAQ : PEGA) develops strategic applications for sales, marketing, service and operations. Pega's applications streamline critical business operations, connect enterprises to their customers seamlessly in real-time across channels, and adapt to meet rapidly changing requirements. Pega's Global 500 customers include the world's largest and most sophisticated enterprises. Pega's applications, available on-premises or in the cloud, are built on its unified Pega 7 platform, which uses visual tools to easily extend and change applications to meet clients' strategic business needs. Pega's clients report that Pega gives them the fastest time to value, extremely rapid deployment, efficient re-use and global scale.

For more information: www.pega.com

‘Next best action’ in an omnichannel environment

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