

NEXT BEST ACTION: THE ONE-TO-ONE FUTURE

The Keys to Anticipating Customer Needs



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Targeting a segment of one

Marketing has two primary areas of impact on customers. First, good marketing results in positive perceptions of brand value to improve top of mind recall. Second, great marketing delivers conversions. Great marketing in turn depends on micro segmentation, providing instant gratification and enhancing customer experience.

A number of factors shape customer experience and deepen customer relationships. In a complex multi-channel environment, smart technology can be deployed to turn good marketing to great. It can enable a differentiated customer experience and enhance response rates in a predictable manner.

The conventional route to creating marketing strategy is to hand over data to statisticians to chew, turn it inside out, filter it and run it through various models until we have actionable insights. In most situations, “actionable insights” can be quite exasperating. By the time a business turns “actionable insights” into a tactical response, the customer and market conditions have changed. Such a marketing strategy that has inherent lag has limitations with respect to ROI.

The challenge in becoming customer centric is to market to the right customer at the right time with the right offering at the right place. An analytics driven approach that addresses each customer uniquely, based on customer profile, demonstrated habits, preferences, needs and location at the point of contact can amplify brand salience and even boost customer spend.

The ability to analyze and predict at the granular level what a customer may want at a particular point of time and place is a paradigm shift in marketing. It moves the focus from shaping promotions around products and services to letting customers subtly shape the promotion around their immediate needs.

'Next Best Action' in action!

An enterprise must consistently aim to meet the expectations of its customer. Actionable understanding of customer expectations can be enabled by data. Customer profiles, preferences, behavior and sentiment analysis, when accurately contextualized, facilitate an understanding of what an enterprise should perform as the Next Best Action. Making effective use of data can turn customers into loyal fans. For example, when a mobile customer has a persistent call drop problem, can the service provider deliver customer related data to the right department within the enterprise for swift corrective action before customer dissatisfaction issues manifest themselves? If the customer's call data records are analyzed and mapped (against the value of the customer), the provider may be able to immediately send an appropriate free talk time offer to the customer. In this example, if it is a customer who has been observed to make calls to his or her hometown, the offer could be an appropriate number of free talk time minutes to the hometown. Such customer-centric action has the potential to turn users into loyal customers.

It is interesting to note that in the example of the telecom customer who experiences call drops, the make-good offer was not drawn from a generic promotion or a pre-determined set of options. Rather, it was instantly crafted to the specific customer's needs at that point in time.

Assume that a customer places an order for an iPad with a store on the web. When the customer goes to pick up the iPad, the store makes a discounted offer on device accessories that enhance battery life. The customer immediately buys the accessory. How

did the store know that the customer would opt for that specific purchase? Again, it is data. The store looked up the customer profile, identified him as a traveling salesman and defined the Next Best Action for the store. The store could also have given the customer discount coupons for the same accessory in the event the customer did not make an instant purchase (another example of Next Best Action). The action would enhance the likelihood of a future sale.

Compare this with the conventional method of publishing coupons in a newspaper in the hope that customers will redeem them. Publishing coupons in the papers is the equivalent of blind carpet-bombing when the need is for a precise and targeted approach. Next Best Action enables a customized approach, improving sales and customer satisfaction. As a consequence it also reduces marketing campaign wastage.

Consider a person owning two homes, both funded by loans from a bank. Trying to sell the customer another home loan may be futile. The customer is unlikely to opt for another home loan, although data shows a high propensity to consume home loans. The customer profile and data may appear correct, but the time to sell another home loan is wrong.

In the gaming industry, the challenge is to make the gamer continue even after losing or getting stuck at a particular level. How old is the gamer? Should the gamer be given a cheat sheet or a free beer as an incentive to continue playing the game? Next Best Action technologies produce accurate and quick responses to such situations.

The heart of Next Best Action: what makes it tick

Data availability is no longer the problem faced by businesses. Intelligent devices, sensors, grids and networks are generating data at an unprecedented rate. These key sources of data provide granular insights that can be deployed to drive decision management engines that are at the heart of Next Best Action. Some of the sources are:

- Plants and production floors (machine2machine): sensors, meters, thermal devices, RFID tags, GPS devices, bar code scanners, surveillance cameras and microphones are capturing machine transactions in manufacturing plants. The Internet of Things is generating large volumes of

machine2machine data.¹

- Consumers using products (person2machine): The data exhaust from consumers using medical devices, digital TVs, smart cards, bank cards, cars, cameras, computers and mobiles. Device proliferation is at the centre of this real-time data explosion.²
- Consumers interacting with each other (person2person): Social data is proliferating as societies are networked and collaborate over voice and data networks. E-mails, SMS, videos, images, Tweets have sent person2person data on an exponential growth path.³

The challenge in becoming customer centric is to market to the right customer at the right time with the right offering at the right place.



Technologies enabling Next Best Action

The Decision Management Hub that lies between the Data streams and the Next Best Action (recommendation) is the 800-pound gorilla. This is a complex real-time decision management engine that uses mathematical representations of the data and combines it with business rules, event analysis, behavior analysis, sentiment analysis and knowledge to make predictions of what the customer is likely to want next (see representation below).

Next best action

- Onboard
- Cross sell/Up sell
- Retail/Grow
- Reduce Contact
- Send offer/proposal/massage

Customer Management

- Case History
- Conversation Management

Target Customer

- Email
- Direct Call
- Point to Url
- Point to Pos
- Snail Mail
- Mobile Message(SMS/MMS)

Data streams

- Historical data
- Website,mobile,credit card, loyalty card,etc
- Crm
- Bpm
- Erp
- Transaction data
- Social data
- Unstructured data
- Location data
- Syndicated data

Decision Management Hub

- Statistical Forecasting
- Predictive Models
- Big data Technologies
- Adaptive Learning
- Business Rules
- Real time event processing
- Behaviour Models
- Sentiment analysis
- Knowledge Base

Predictive models create patterns by crunching complex data sets. They discover signals in unstructured data from diverse sources. The patterns and signals can quickly identify if a person is likely to buy a box of cereals on the next visit to the store, wants a home loan, will accept a device accessory, or even default on loan repayment.

As an example of instantly connecting the dots using data, when our traveling salesman goes to pick up the iPad, data from his purchase history could reveal that he has a bias towards device protection accessories. Simultaneously the store system identifies the fact that the customer has almost the required number of points on his loyalty card to make a purchase of a protection accessory. Can the

two – demonstrated customer preference and availability of loyalty points – be used to create an instant offer that helps make another sale? Next Best Action technology is meant to do precisely this sort of thing.

Predictive models that are at the bottom of Next Best Action technologies create recommendations and prompts that anticipate what the customer wants even before the customer fully realizes the need.

These technologies can also be used in back office processes such as fraud detection, surveillance of capital markets, order fulfillment, and supply chain functions.

Moving towards Next Best Action

The possibilities presented by Next Best Action to improve customer interactions and impact bottom lines are unique. Successful implementation of processes and technologies that support Next Best Action can largely be centered on five key factors:

1. Developing use cases: What is it that the business wants to achieve? What are the KPIs that will measure the success of the Next Best Action initiative? It is campaign efficiency? Increased customer retention? Improved cross selling? Location-based marketing? Customer avoidance? Developing use cases and detailed business requirements for Next Best Action initiatives is the key to managing data and developing the tools to deliver against the KPIs.

2. Data capture and management: The profusion of data presents an equally large problem in terms of capturing and managing it. Data, especially historical, needs to be cleansed in order to become usable (ex: the marital status of people changes, their educational qualifications and the geographies they live in change, employment data is in constant flux, etc). Data also has a unique way of proliferating. In many enterprises, it is common to find the same data in over a dozen locations. How does the enterprise ensure that all copies of the data are identical at all times? Or that data is sourced from a single repository each time it is required? Data capture, cleansing, storage, shipment, security and deployment need to be carefully structured to minimize costs, ensure flexibility and guarantee data integrity at all times to meet regulatory requirements. For this, generic data may be in Hadoop, more important data in Oracle, and so on. As is apparent, it is equally possible to over engineer the quality of data adding an unnecessary and significant cost to operations. On the other hand, it is equally clear that traditional databases will prove to be inadequate for emerging needs. Somewhere in between lies the balance for each enterprise.

3. Change management: The approach to leveraging data for Next Best Action implies organization-wide changes and a heightened discipline that data management and usage demand.

Business processes need to be optimized and changes need to be communicated across the organization along with employee training. Organizations must be alert to – and must immediately address – undercurrents related to implementing such recommendation engines.

4. Science: The science behind Next Best Action is based on complex mathematical models, predictive analytics and forecasting, the ability to process real time events (such as birthdays, pregnancies, accidents, relocation), adaptive learning, behavior models, and sentiment analysis. These are then combined with business rules and integrated with recommendation engines and customer management tools. Traditional analytical skill sets are inadequate to meet the sophisticated needs of such techniques. Additionally, organizations may find it challenging to train and retain talent in this area of intelligent analytics. The solution is to outsource these skills to partners who specialize in analytics.

5. Technology: Technologies such as Hadoop and MapReduce will be needed to integrate to existing architecture. Appliances that integrate servers, networking and storage into a single enclosure to run analytical engines for near-real time extraction of insights and information are becoming popular. These require specialized technical expertise. The number of devices that generate and transmit data are growing. Each of them has their own characteristics that call for a deep understanding of the underlying technology. In addition, deploying Next Best Action initiatives could mean process automation and relooking at workflow, BPM practices and an understanding of in memory appliances such as Oracle's Exalytics In-Memory Machine and SAP's HANA that help run multiple queries on a variety of data types at speeds that are not possible with traditional databases.

Your Next Best Action

Enterprises are taking advantage of emerging technologies to create differentiators and bottom line impact. Next Best Action initiatives are in their infancy. This presents a challenge, as roadmaps, tools and techniques are not well defined. The ideal way to approach technologies that are evolving rapidly is to look for an end-to-end implementation partner who has domain specific expertise as well as proven technological capability. By helping create an intelligent implementation strategy for Next Best Action, the partner can put your business ahead of the curve, providing an immense competitive advantage.

About Wipro Technologies

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References

^{1,2,3} <http://www.wipro.com/documents/Big Data.pdf>



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