

Technology Personified



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In Spike Jonze's highly acclaimed movie *Her*, the protagonist, Theodore (Joaquin Phoenix), falls in love with Samantha (Scarlett Johansson), the voice of the artificial intelligence behind his newly acquired operating system. This movie is very much about the personalization trend, and personalization, of course, is at the heart of customer relationship management and is a trigger of customer engagement.

There are many who cast doubt on whether consumers have love-type relationships with brands and while the brand love debate is beyond the scope of this column, we accept the premise that personalization can positively influence both the rational and emotional motives that drive customer loyalty. Moreover, we recognize that business analytics are the engine behind effective personalization.

That isn't exactly a novel insight. What is new is "analytics 3.0," or, as Babson professor Thomas Davenport puts it in his December 2013 post in the *Harvard Business Review*, the "embedding of data smartness into the products and services customers buy." We believe that this has the potential to take personalization and customer relationship management to an entirely new level.

A Data Revolution

Many marketing executives still remember their struggles with a previous data-centric initiative, namely CRM. By some estimates, 50% or more of these implementations failed to achieve their ROI expectations. While there are various reasons for those disappointing results, we see two important root causes: first, the

unwillingness or incapability of human sales or service agents to use the systems to their full potential, and second, that CRM applications are mainly limited to customer communications. "Analytics 3.0" overcomes these limitations by enabling built-in (as opposed to optional) marketing solutions that address the fundamental business concern of the "customer need/product attribute" fit.

The success of a number of Internet businesses underscores the fact that most traditional companies still face a wide gap in their customer knowledge and product-needs fit. By contrast, Google has virtually no knowledge gap as to how customers use its services. Those data are constantly being collected as customers interact with the search engine. Furthermore, Google's algorithms are able to analyze and interpret the data, act on it and improve the customer experience in real time. All of this occurs without the intervention of human employees.

Many firms would deny that gap and believe that they know how their customers are interacting with their products. They maintain marketing research departments that devote considerable effort to investigating customer-product interaction

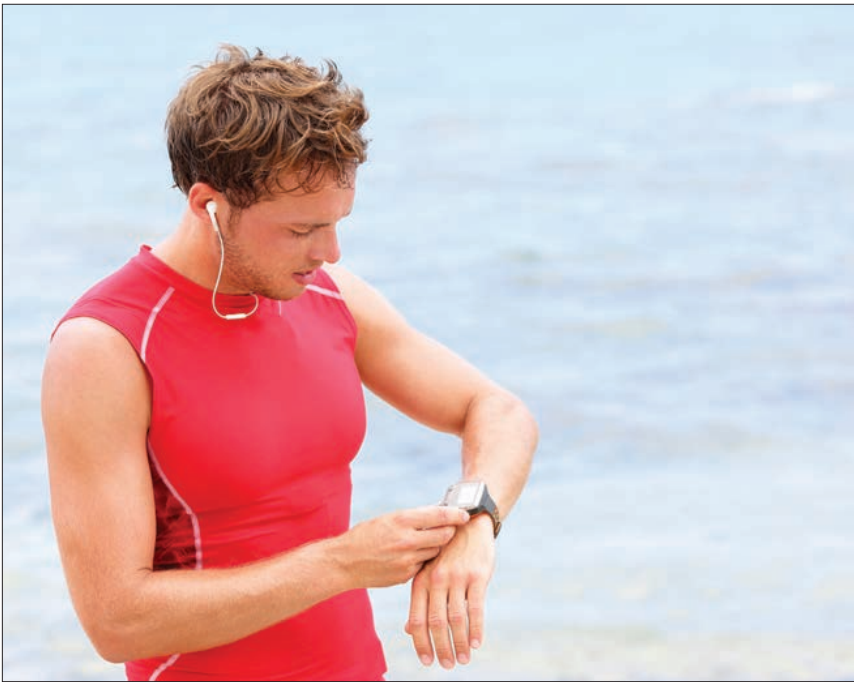
using various well-developed but perhaps outdated methods. Product research today often relies on small customer samples and typically is based on what customers say. Both sampling and survey measurement are prone to errors. We are all familiar with major marketing mistakes that occurred despite product research, such as the Ford Edsel and New Coke, to name just two.

There is scientific research to explain why this can occur. In 2002, Daniel Kahneman received a Nobel Prize in economics for his research on human judgment and decision-making under uncertainty. Kahneman's work revealed a split between the "experiencing self" and the "remembering self." He showed that surveys won't necessarily reveal actual experiences but rather the memory of them. Furthermore, his research indicates that peoples' memories seem to be biased toward the peak experiences and the end experiences. This makes it difficult to understand how customers are interacting with a product in everyday life using conventional marketing research.

Technological Solutions

A game changer that can move everyone's customer knowledge closer to Google is the emergence of sensors that allow for continuous and objective measurements. More specifically, it is the emergence of digital and connected sensors.

Today, instead of guessing or asking customers about their behaviors, it's increasingly possible to measure what customers are actually doing. Call it a sensor revolution. All around us, we're witnessing the proliferation of digital, connected sensors. There are personal fitness sensors, such as Nike+, Fuelband and Fitbit, which seem to have launched the "self-tracking" movement. There are motion sensors, such as Leap. There are sensors that get attached to existing products turning them into digital, connected devices, such as the Nest thermostat, a sensor-driven, Wi-Fi-enabled, smartphone-connected, self-learning and self-programming device. Besides controlling a room's temperature, the thermostat creates a record of how it is being used. Those data are analyzed to identify patterns and preferences, from which Nest



conveniently creates an energy-efficient heating and cooling schedule. (Nest recently was acquired by Google as part of its foray into the connected-home market.)

The new customer-product interaction data is winning, partly because it's more robust. Traditional surveys create categorical data—for example, five-point Likert scale answers. Sensor measurements generate ratio-type data with a true zero. Instead of pointing to scale-point differences across customer groups, ratio data can support statements like, “Gen Y customers use our product 50% less than Gen X customers.” Sensors also can make sampling obsolete. If sensors can be integrated into every product owned by every customer, the sample becomes the population. A pipe dream? Today Google can record every single interaction involving Chrome, Gmail and the Google search engine, and has access to sensors in the Android smartphone.

‘Vehicle Relationship Management’

These trends are very evident in the auto industry in the context of telematics or vehicle relationship management. Automakers have begun to install “black boxes” or event

data recorders into vehicles that work like flight tracking devices in airplanes. These data-logging boxes are valuable in many ways. First, they can provide customer-product interaction data that reflect the vehicle type, the driver and the environment. Second, they provide a new, interactive channel with potentially every single customer. Both the channel system and customer-product interaction data can be exploited to better manage the customer and vehicle relationship.

The black-box technology can enable automakers to monitor vehicle performance and provide remote diagnostics to improve vehicle uptime. Furthermore, it can establish how a given customer is using a vehicle—for example, how far the vehicle is being driven, at what speed and under what conditions, as well as what the customer actually is doing inside the vehicle, which buttons are being pushed, etc. In Google-esque fashion, onboard computers can process that data, interact with the driver and make vehicle performance adjustments.

Likewise, armed with such profile information, automakers can increase their return on features, investing in features that customers actually want.

Imagine testing new features in a customer's car while it's in operation (“Your car has downloaded a new feature that may be useful given how you use your car”) or upselling features for the next vehicle (“Your car usage suggests the following features for your next vehicle”).

These technologies also facilitate the re-engineering of product development to achieve market fit faster. For one, real feature usage measurements can reduce guesswork and long soul-searching loops. Decisions can be resolved with immediate customer input, thus front-loading problem-solving in product development. Moreover, with onboard black boxes, customer insights can be gathered on the fly, enabling data-loggers to provide instant market feedback at the push of a button without the need to commission a marketing research study.

Data become information when they are put to use. By uploading usage data and applying the tools of “analytics 2.0,” marketers are better able to design and develop products—and make offers—that satisfy the needs of micro-segments and, in some cases, individual customers. That's evolution. The revolutionary nature of “analytics 3.0” involves robust sensor data that are organized, processed and acted upon by artificially intelligent, “teachable” processors embedded in products or connected via the cloud. From that capability spring highly adaptable, customized, “personalized” products that customers can love. **m**

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