

CX AFTER THE SALE

How IoT Technologies Are Revamping the Post-Sale Experience

Reimagining the Contact Center with Digital Technologies

The Magic That Can Happen When Manufacturers Digitally Attach Themselves to Their Products

**Using IoT Technologies to Completely Rethink the Customer Experience:
Interview with Ric Merrifield**



How IoT Technologies are Revamping the Post-Sale Experience

Authors

Gill Hide

Managing Partner, Retail & CPG, Consulting & Service Integration, Tata Consultancy Services

Alex Prigojine

Global Managing Partner, Technology, Consulting & Service Integration, Tata Consultancy Services

Robert Perry

Consulting Partner, Technology, Consulting & Service Integration, Tata Consultancy Services

The next battle in the customer experience wars will not be the fight to win sales but the struggle to dominate the after-sale. The key weapon in that war will be systems built around Internet of Things (IoT) sensors and wireless communications that will enable companies to track their products, services, and—in many cases—their customers, after the purchase has been completed. The goal is to continue adding value to a company's product or service, thereby winning the customer's loyalty, and setting the scene for future revenue streams throughout the customer lifecycle.

IoT technologies are advancing rapidly. Global IoT spending will grow at a compound rate of 15.6% through 2020 when it will become a \$1.29 trillion market, according to

a 2017 IDC report.⁴⁴ IoT technologies are graduating from the experimentation phase and becoming central to business strategy. It is no longer a question of whether and when the technology will deliver value, but where they will have the greatest impact.

The post-sales experience, ripe for reinvention, will be one of those areas. For many products, the post-sale experience is the biggest driver of customer satisfaction—or dissatisfaction. Four out of 10 American consumers said their post-sale experience with a company was the most memorable aspect of the brand experience, and eight out of 10 said a positive post-purchase experience was important.⁴⁵

For many products, the post-sale experience is the biggest driver of customer satisfaction—or dissatisfaction.

In addition to post-sales brand impact, new technologies will have a major impact on the costs of taking care of customers throughout the product lifecycle. Clearly, the opportunity is enormous for companies across industries, to embrace IoT systems to transform the post-sales experience. The IoT can provide companies with the ‘ultimate truth’ on product performance: how their offerings are performing in the hands of customers.⁴⁶ Companies that leverage IoT technologies to reveal those truths most effectively will win the customer experience wars.

⁴⁴ International Data Corporation, Worldwide Semiannual Internet of Things Spending Guide, January 4, 2017, accessed May 17, 2017, http://www.idc.com/getdoc.jsp?containerId=IDC_P29475

⁴⁵ Connected Consumers and the Most Personal Brand Experience, Support.com, October 2015, accessed May 17, 2017, <http://pages.support.com/rs/629-ZQG-206/images/Connected-Consumers-Research-Report.pdf>

⁴⁶ Harvard Business Review, Using IoT Data to Understand How Your Products Perform, June 16, 2016, accessed May 17, 2017, <https://hbr.org/2016/06/using-iot-data-to-understand-how-your-products-perform>

Transforming the Post-Purchase World

IoT systems present companies with a wide range of opportunities to improve, or even reinvent, the post-sale experience for themselves and their customers—from increasing customer satisfaction to reducing costs to shortening response times. We have identified five key areas where IoT technologies can help transform this experience.

1. Getting ahead of pending product failures and service problems



One of the most obvious ways that IoT can improve the post-sale experience is using the technology to better understand how products are performing in the field. In doing so, companies can avoid frustrating, value-destroying equipment failures and costly service visits before they happen. This is especially important in high-tech and other industries where high-value assets are deployed.

Automated teller machine (ATM) maker Diebold Nixdorf Inc. has been using technology to diagnose and remotely repair its ATMs without having to dispatch a technician. This is a complete strategic transformation for the company, whose service processes were built around dispatching parts and labor whenever there was a problem with a machine.

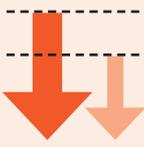
Diebold Nixdorf can now solve 17% of ATM problems remotely, which has reduced ATM downtime by 15% and whittled the turnaround time to fix an ATM from three hours to less than 30 minutes.⁴⁷

⁴⁷ RTInsights.com, Fixing ATMs – Remotely, Securely and in Real Time, accessed May 17, 2017, <https://www.rtinsights.com/atm-repair-predictive-maintenance-diebold-ptc/>

Coca-Cola Enterprise in Europe has been using sensors on its vending machines to track supplies and machine problems for several years,⁴⁸ and GE Healthcare is Internet-connecting two million medical imaging machines worldwide, including 500,000 of its own.⁴⁹

With IoT, companies from telecom equipment manufacturers to hardware vendors can monitor their devices for signs of impending problems, thereby reducing the number of customer repair visits, improving first-time fix metrics, and generally shortening the time-to-repair. Proactive maintenance, enabled by the IoT, is applicable in consumer electronics and other home goods, from hot water tanks to HDTVs, improving the customer experience and keeping companies in front of their customers after the sale. As the cost of IoT-enabled devices comes down, the scope will continue to increase.

2. Reducing the number and costs of returns

 Reverse logistics are a major cost in retailing and other sectors. According to the National Retail Federation, 8% of consumer products sold by retailers in the U.S. are returned annually, accounting for \$260 billion in merchandise.⁵⁰ And while it may be relatively simple to return a product on the front end, the process is extremely complex and expensive on the back end. IoT technology capable of diagnosing or preventing product issues could reduce the likelihood of product returns and the associated costs of returns handling.

Customers might be less likely to return items if they are fixed quickly and remotely, benefiting the customer (who retrieves greater value from his or her purchase) and preserving retailer revenues while reducing post-sale return costs. Remotely diagnosing problematic products that are beyond the point of repair will save companies from paying to have them returned; customers instead can be asked to dispose of the products themselves.

⁴⁸ The Wall Street Journal, How Coke is Leveraging the Internet of Things, June 25, 2014, accessed May 17, 2017, <http://blogs.wsj.com/cio/2014/06/25/how-coke-is-leveraging-the-internet-of-things/>

⁴⁹ Diagnostic Imaging, The Internet of Medical Imaging Things is Here, March 17, 2016, accessed May 17, 2017, <http://www.diagnosticimaging.com/pacs-and-informatics/internet-medical-imaging-things-here>

⁵⁰ National Retail Federation, 2015: Consumer Returns in the Retail Industry, accessed May 17, 2017, https://nrf.com/sites/default/files/Images/Media%20Center/NRF%20Retail%20Return%20Fraud%20Final_0.pdf

3. Increasing value and convenience throughout the product lifecycle



There are many ways companies can use IoT technologies to help customers make better use of their products post-purchase, as well as experience less frustration with them. GE Aviation's Predix software platform enables its customers to get better performance

(and greater value) from the jet engines it sells them. HP has turned its products into IoT hubs in its customers' homes. It fitted its printers with wireless sensors to monitor ink levels and trigger replacement cartridge orders before the customer runs out—providing both convenience and recurring revenue.⁵¹ Amazon has introduced an IoT button (based on its consumer Dash button for reordering products) which developers and programmers can use to access Amazon's cloud to count or track items, order services (from TV programs to pizza), or provide feedback.⁵² One company has even introduced 'Internet-connected' prescription bottles that sense how many capsules are left inside, how often an individual is taking the pills, and how changes in prescription regimen affect test results.⁵³

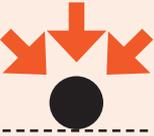
According to the National Retail Federation, 8% of consumer products sold by retailers in the U.S. are returned annually, accounting for \$260 billion in merchandise.

⁵¹ TCS, HP Turns Printers into IoT Hubs in the Home, accessed May 17, 2017, <http://sites.tcs.com/internet-of-things/case-studies/hp/>

⁵² Amazon Web Services, AWS IoT Button, accessed May 17, 2017, <https://aws.amazon.com/iotbutton/>

⁵³ Wired, The Pill Bottle is a Smart Phone Wannabe, March 25, 2013, accessed May 17, 2017, <https://www.wired.com/2013/03/adhere-tech-smart-pill-bottle/>

4. Informing R&D



IoT sensors can be a valuable source of data to inform the development of new or improved products and services. By analyzing the ways in which customers use their products and services, companies can determine which features are most useful and which customers consider less valuable. Common sources of failure can be addressed in future designs, and the data retrieved from products can significantly shorten the design-test-build development cycle, helping companies bring new products and services to market more quickly, thereby gaining a march on their competitors.

5. Increasing sales opportunities



Data gathered from IoT-connected devices enable companies to evolve from reactive to proactive selling, and not just of post-purchase services such as ink cartridges. Companies can analyze the ongoing performance of the products they sell to customers for trends that might indicate other product needs. A network equipment manufacturer might notice customer usage patterns that are straining the customer's existing infrastructure and use that data to sell the company more appropriate networking products to prevent future failures.

Applying IoT to the Post-Sales Experience

While there is clear value in implementing IoT infrastructure to improve the customer's long-term product or service experience, many companies struggle with deciding where to start. There are **five steps** a company can take to identify and begin pursuing these opportunities.



1. Determine the best use cases

Before thinking about investment, companies should seek to understand which products or services would benefit most from IoT enablement. Expensive goods and services, or those with a greater incidence of service issues, are good targets. 'Internet-connecting' a product that consumers are likely to throw away if it fails, is wasted investment. In fact, TCS research found that 54% of companies were using sensors to monitor products valued at \$1 million to \$10 million while just 6% were doing so with products valued at \$100 or less.⁵⁴



2. Calculate the impact

Creating robust business cases can be time-consuming and difficult since IoT is still an emerging area. But companies can use existing data to create proxy business cases to get a good idea of the financial impact of IoT on their product or service prior to making a large investment.



3. Conduct a mini proof of concept

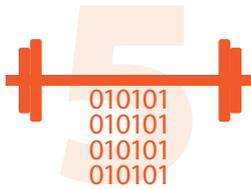
Begin by Internet-connecting one product or product line to make sure the technology works and is generating the benefits expected for the company and its customers. The outcome of this will help inform future business cases and validate the assumptions you make. Piggy backing on a new product release can be a good place to start rather than reverse engineering an existing product.

⁵⁴ TCS 2015 research on IoT, accessed May 3, 2017, <http://sites.tcs.com/internet-of-things/>



4. Make the case for customer data sharing

It's important to make it clear what customers can expect in exchange for sharing data with the company. HP offered customers savings of up to 50% for participating in its initial IoT-enabled printer launch.



5. Create a robust IoT foundation

Companies ultimately must implement the infrastructure required to support IoT-enabled transformation of the post-purchase experience. For many companies, obtaining the infrastructure (and technical know-how) through 'as-a-service' model may be the best approach, at least in early stages, if not indefinitely. Ocean shipping company Maersk Lines, for example, has been using Ericsson's cloud to host the real-time monitoring of its fleet since 2012.⁵⁵

Companies must, however, build and manage their own product usage databases to handle the torrent of real-time data at a scale and speed never encountered before. In fact, they are very likely to need artificial intelligence systems to make sense of it all. For instance, in the months after launching its IoT-enabled Cat Connect service in 2014, heavy equipment maker Caterpillar was receiving a million terabytes of data a day from its equipment.⁵⁶ The next year, the company invested in a big data predictive analytics company and, in 2016, it bought M2M, which creates hosted solutions for monitoring and managing assets remotely.⁵⁷

⁵⁵ InternetWeek, A New Go-to-Market Model for the Industrial Internet, October 8, 2015, accessed May 17, 2017, <http://www.industryweek.com/growth-strategies/new-go-market-model-industrial-internet>

⁵⁶ Caterpillar, Caterpillar and Uptake to Create Analytics Solutions, March 5, 2015, accessed May 17, 2017, <http://www.caterpillar.com/en/news/corporate-press-releases/h/caterpillar-and-uptake-to-create-analytics-solutions.html>

⁵⁷ Caterpillar, Caterpillar Acquires M2M Data Corporation Expanding Cat® Connect Suite of Offerings, 2016, accessed May 17, 2017, http://www.cat.com/en_US/news/engine-press-releases/caterpillar-acquires-m2m-data-corporation-expanding-cat-connect-suite-of-offerings.html

The Ultimate Differentiator

Customer experience is becoming the ultimate competitive differentiator, and the post-sales period is rapidly emerging as the most critical aspect of that experience. Companies that want to continue to win in their markets need to act now to explore the opportunities IoT-related technologies are creating to transform the post purchase experience to help retain and build long lasting customer connections.