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IDC TECHNOLOGY SPOTLIGHT

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Warranty management is an untapped opportunity for many manufacturers and service organizations to drive enhanced customer value, new revenues, and product innovation.

Warranty Management Drives Service Innovation and Product Quality

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Introduction

Innovation is driving disruption across manufacturers. No longer is the status quo good enough to support a changing landscape of rising customer expectations and more complex service networks. However, manufacturers continue to struggle to connect data across their organizations to support excellence in service and new paths to customer value. This divide is being closed through the implementation of technologies such as the Internet of Things (IoT), artificial intelligence (AI) and cognitive intelligence, cloud, mobile, and social.

This transformation is not relegated to the back office. Manufacturers are beginning to leverage these tools to transform functions that have a direct impact on the end customer, such as warranty management. Historically, warranty management has been primarily looked upon as a way to drive down the cost of service, but that perception is changing in this era of disruption. This IDC Technology Spotlight highlights how manufacturers must enhance capabilities to support warranty management to improve service execution and product innovation with the goal of delivering more value to customers, newer paths to revenue, and greater visibility for suppliers, dealers, and internal teams.

AT A GLANCE

KEY STATS

- By 2023, as a result of demand for hypercustomized customer experiences, 30% of manufacturers will provide personalized dashboards for customers to schedule service, learn about products, and collaborate.
- By 2021, 90% of manufacturers will leverage real-time equipment and asset performance data to self-diagnose issues in advance and trigger a service intervention to avoid unplanned downtime.
- By 2023, 40% of manufacturers will leverage IoT-connected products and artificial intelligence tools to validate warranty claims, preventing claims submitted in error by 80%.

Definitions

The following terms are used in the customer service and customer support space specific to managing warranties, claims, and service contracts:

- **Service life-cycle management (SLM)** includes customer support, call center, field service management, service parts information/documentation, spare parts inventory management, service scheduling, and warranty.
- **Servitization** refers to the delivery of the product as a service, which includes selling usage, uptime, and power by the hour.

- **Internet of Things (IoT)** is a network of uniquely identifiable endpoints (or "things") that autonomously connect bidirectionally using IP connectivity.
- **Connected products** are physical products that contain software, sensors, and IP-enabled connectivity.
- **Predictive maintenance** is a process/activity that uses advanced analytics to predict when equipment failure might occur and to alert asset managers and service management to take steps to prevent the failure from occurring. Some advance systems add an element of automation via artificial intelligence or machine learning to initiate maintenance activities without prompting.
- **Warranty management** refers to the stages of the warranty process, including registration, claim capture, claims validation, customer support, early failure detection, fraud detection, recalls, parts returns, adjudication, supplier recovery, extended warranty service, and reserve optimization.

A Focus on Warranty Management Is a Focus on the Customer

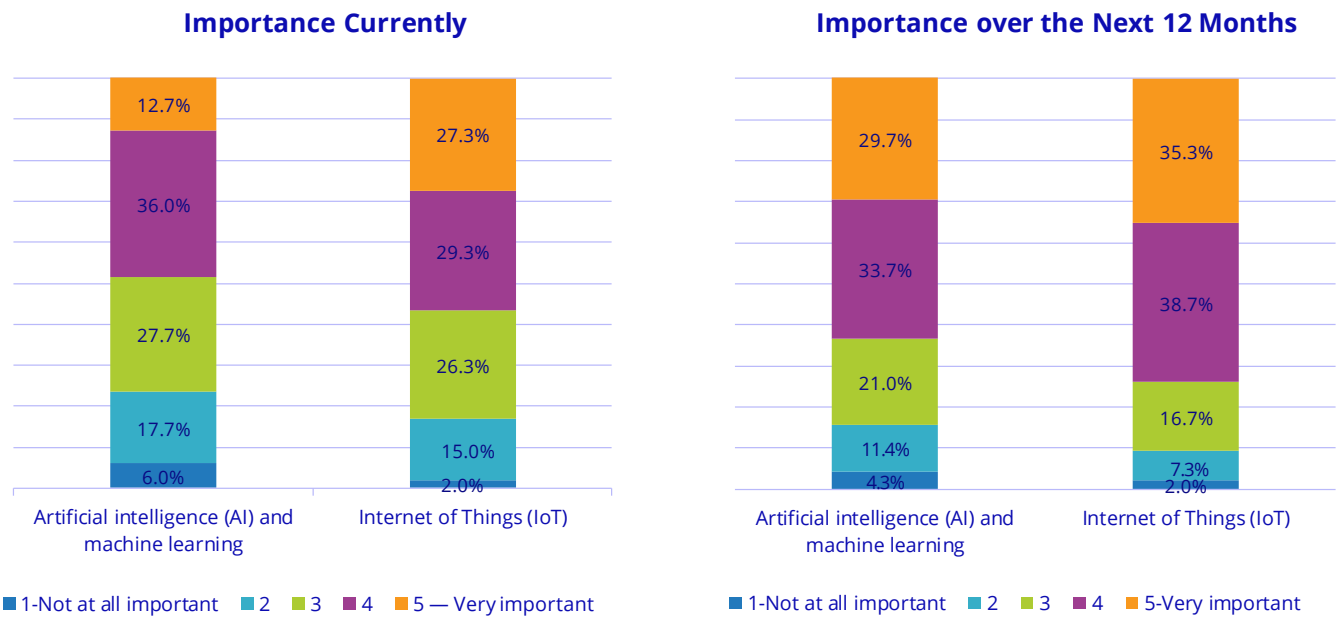
As manufacturers establish avenues to interact with customers and find new ways to deliver sustained value, warranty management is an opportunity that should not go unexplored. Establishing an integrated warranty management technology process and infrastructure will enable manufacturers to realize several benefits that go beyond the bottom line. Key benefits of transforming warranty management from a cost-containment exercise to a driver of differentiation for manufacturers include the following:

- **Closed-loop service-to-product innovation.** Historically, manufacturers have been challenged with silos of information across their organizations. The product team primarily focuses on the quality and design of new products. The service team often focuses on reacting to customer issues in the field, but there is all too often limited visibility into how these issues can or will be corrected in the future. This disconnect between the product and service teams leads to a missed opportunity to continuously innovate, improve, and deliver enhanced customer value. The warranty management process is a key linchpin in connecting the service experience with the product function. But too often, warranty management is backward looking with regard to products and doesn't consider how defects, fraud, and claims processing can positively impact the product design or current and future quality of a product, such as with the following actions:
    - Leverage data from service events and resolution to enhance product offering (future, current)
    - Leverage connected product data to design for serviceability
    - Determine fraudulent claims
    - Validate claims faster due to usage visibility

» **Connected customer value.** Manufacturers no longer assume that consumer-grade experiences are found solely in business-to-consumer (B2C) engagements. Each interaction is a chance to deliver a "wow" experience — even those that seem of negligible value. The warranty management process can encompass claims submission, claims processing, claims review, return material authorization (RMA), service parts ordering to resolve a defect or a claim, customer support to better understand whether a claim is valid, reporting, collaboration between suppliers, and dispatching of a technician to service a product, among other touch points. Each of these events can be a chance to deliver an efficiency engagement, while mishandling the event could drive a customer to let a service contract expire or buy a future product elsewhere. As manufacturers look to connect to customer value, the ability to leverage the IoT will become ever more critical. As noted in Figure 1, manufacturers recognize the increase in importance of the IoT and making this connected data actionable through artificial intelligence and machine learning. To varying degrees, these technologies will enable manufacturers to turn products and equipment into better future products and improved service experiences today.

FIGURE 1: ***Turning Technology into Innovation (% of Respondents)***

Q ***Using a 5-point scale where 1 is not at all important and 5 is very important, please rate the importance of each of the following new technology areas for your product and service innovation efforts currently and over the next 12 months.***



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Source: IDC Manufacturing Insights' Product and Service Innovation Survey, 2017

Turning existing products and equipment into better future products and improved service experiences may seem a daunting task, but manufacturers can seize an opportunity through the warranty process and the linkage between the valuable data gleaned therein and product improvements to drive a new value proposition, which competitors will be hard-pressed to match. This point can't be overstated: The OEM designed, manufactured, and sold the equipment or product. Therefore, it *must* leverage insight that others won't have to deliver value.

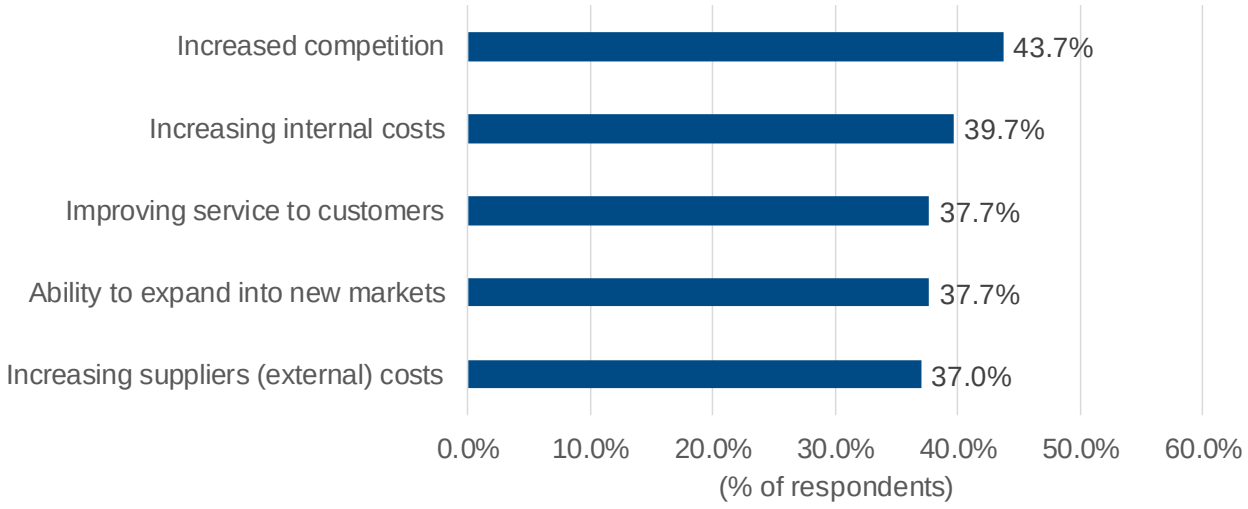
» **Service revenue.** Manufacturers in IDC Manufacturing Insights' *Product and Service Innovation Survey* stated their top priorities in the coming three to four years were to improve sales and revenue generation and move into new markets. The IoT is a path to gathering more information on customers, but it also should be a path to additional value that can display to customers a reason to engage in more lucrative contracts for the OEM. Using connected IoT data from equipment and products in real time provides a truly innovative ability to understand how customers are using equipment as well as why the equipment is underperforming or overperforming, why it may have failed, and how it can be improved. The competition can't replicate this value, and the warranty process should be a key to the following levels of insight and connection between service, product improvement, and customer value:

- Upsell based on knowledge of how customer is using the product
- Extend warranty in advance based on notification of pending expiration — automated outreach
- Productize service — contract is based on service outcomes
- Create performance-based service products

As noted in Figure 2, manufacturers now have to deal with competitors and rising internal costs and at the same time provide more value in each interaction. However, manufacturers face key business concerns.

FIGURE 2: ***Primary Business Concerns Driving Service Innovation***

Q ***What are the primary business concerns for your organization?***



n = 300

Source: IDC Manufacturing Insights' Product and Service Innovation Survey, 2017

» **Service collaboration.** The ecosystem of service suppliers is quite complex. Manufacturers work with dealers, distributors, technology vendors, third-party service providers, warehouse and repair staff, internal employees, and customers. Each of these stakeholders depends on having access to real-time data, regardless of where it resides or its origins, to make critical decisions. Shortening the time from when the appropriate stakeholder gains access to warranty data ensures not only faster claims processing but also an increased ability to collaborate in a myriad of approaches to support the following new ways of thinking, servicing, and innovating:

- Leverage connected product data to empower dealers and suppliers with real-time customer data — personalization of the experience for customers in the next level of service excellence
- Educate dealers and suppliers of waste/fraud — ensure costs can be contained
- Leverage analytics to accurately determine the appropriate amount of reserves to allocate for claims
- Automate to avoid dealer/supplier errors and to expedite warranty process — streamline process to mitigate delays and have the right answer without manual errors or searching for information

Service Excellence Defined by Connection to Product Innovation and Customer Value

To connect the service execution function and the product function of warranty management, manufacturers must think differently about how technology can support the business. Individual investments that look to optimize individual processes are not good enough. To attain the benefits outlined previously, OEMs must revisit the technology infrastructure needed to enable warranty management and service excellence:

- Closed-loop integration between service life-cycle management and product life-cycle management — enabling collaboration, product improvements, innovation
- Automated support and service execution
- Advanced analytics, data and information flows — the right users with the right access and answers

Some technology vendors disregard the need for an integrated view into data that extends beyond islands of insights. Excellence in a silo provides limited value, but intelligence that can be provided across the organization can spark innovations that could not be thought of previously. Individual stakeholders are often incented by key performance indicators (KPIs), which don't necessarily account for a broader impact of activities. However, OEMs that have begun to look to warranty processes and the impact that gathering insights from this function can have on other business groups are seeing rewards in profitability, efficiency, and customer value being created.

Considering PTC's iWarranty

PTC Inc. is a global computer software company specializing in design software, product and service life-cycle management, IoT, and augmented reality offerings. Founded in 1985, PTC is headquartered in Boston, Massachusetts, and reported FY2018 revenue of over $1.2 billion.

PTC's iWarranty products have a more than 20-year history in warranty management and analytics, spanning industries such as automotive, farm, construction and industrial machinery, aerospace and defense, high tech, and consumer products. iWarranty automates warranty chain processes, from initial product registration to the end of the standard or extended

warranty period. As an industry leader in IoT connectivity, and a prominent player in the PLM space, PTC is in a unique position to deliver real, demonstrable value to customers by providing applications that deliver closed-loop life-cycle management for products and services that are increasingly connected. Innovations of this type are exemplified in the latest release of the iWarranty product that implements interconnectivity to PTC's Windchill quality management system (formerly known as Relex).

Challenges

The opportunity for manufacturers to leverage interactions during the warranty process is immense. However, service is still an afterthought for many OEMs relegated to a byproduct of selling something to a customer. The importance comes into focus when a customer is upset or after equipment has failed. This disconnected strategy hinders OEMs from having the motivation to truly maximize the impact that warranty management and the service experience can have on the organization and the customer.

Manufacturers continue to leverage different technologies to support the product and to execute on service. This siloed approach will maintain the status quo for many manufacturers and lead to valuable service data remaining in the field or the heads of the front line. Products such as PTC's iWarranty can break these silos and connect the service team with the product team, but manufacturers must understand that opportunity and build a strategy around this new way of doing business around a product and service innovation loop. Closing this gap depends on OEMs' investing in tools that provide a real-time data view of the product regardless of its location or condition. As OEMs move from homegrown, manual systems to more robust platforms, this will continue to be a challenge.

Differentiation can come from the experiences being delivered and not just the products being manufactured. Service and warranty management should not be an afterthought in this regard.

Conclusion

For too long, the warranty management process has been considered something that must be done as opposed to an opportunity to deliver "wow" experiences for customers. As OEMs continue to search for new ways to create consumer-grade experiences for customers with the added benefit of technology such as the IoT, AI, and collaboration tools, the road map is evident. However, to achieve true differentiation, OEMs can't treat warranty management as a silo unto itself; service excellence must be coupled with product improvements that display to the customer a continuous loop of innovation and value.

About the Analyst

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As Program Director, Service Innovation and Connected Products, Aly Pinder Jr. leads IDC research and analysis of the service and customer support market for the manufacturer, which includes topics such as field service, warranty operations, service parts management, and how these service areas impact the overall customer experience.

MESSAGE FROM THE SPONSOR

PTC's Products Help Clients Address the Entire Product Life Cycle from a Holistic Point-of-View

Each of PTC's solutions, on their own, provide world-class functionality to help design, manufacture, service, and manage the products our customers build. And as the leading supplier of IoT technology, PTC is helping companies break-down the barriers between disparate enterprise applications to provide a more complete picture of products throughout their lifecycle. PTC's iWarranty not only delivers superior warranty management features, but does so with a product-centric perspective. It understands the product structure (as-maintained product configuration) and provides a feedback loop into quality management and engineering, aiding in product improvement and innovation, while enabling cross-system visibility to improve organizational and operational excellence.

To learn more about how PTC's iWarranty can deliver higher quality products and better customer satisfaction, visit: ***https://www.ptc.com/products/ptc-warranty***

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