



## **A Warranty Management Survival Guide**

Understanding The Key Challenges Of  
Warranty & Returns Management, And  
How The Right Quality Software Solution  
Can Deliver A Significant Reduction In  
Warranty Costs.

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# A Warranty Management Survival Guide

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For manufacturers, surviving in today's fast-paced world requires more than just a solid business strategy, innovative technology, a skilled workforce, and a bit of luck. More and more, it also requires a close attention to quality throughout the entire product lifecycle. Warranty data can provide the manufacturer with a vital source of information regarding a product's operation and failures. It can even act as an indicator of customer satisfaction. But most organizations fail to adequately exploit this data to its fullest potential. In doing so, they put themselves at risk of massive losses in unnecessary warranty claims, bad production and customer dissatisfaction. By one estimate alone, American manufacturers reserve and will spend \$30 billion in 2006 on warranty reserves.

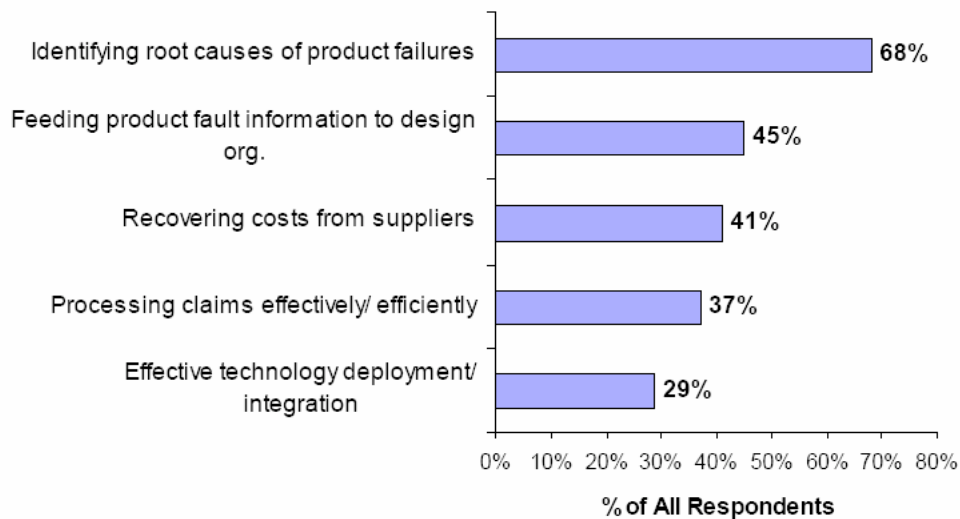
Manufacturing organizations must now find a way to enhance product quality while at the same time reducing warranty costs. Accomplishing the latter goal requires a reduction in the rate of returns or Returned Material Authorization (RMA). But with little access to, or comprehensive knowledge of, products returned by end users, accomplishing this is difficult at best. The answer to this dilemma lies in the adoption of a new approach to warranty management. As opposed to a supply chain accounting function, warranty data must now become a critical component of product quality lifecycle management. It must work hand in hand with a company's manufacturing and supply chain strategy to promote product improvement opportunities that yield the highest return. By exploiting warranty data in this manner, manufacturers not only improve their ability to detect and respond to problems, but also ensure that these problems are not passed from one product design to another.

## The Warranty Management Challenge

Why has effective warranty management become such a critical component to success for today's OEM (see Figure 1)? The answer lies in a number of industry trends which are redefining the very way in which today's manufacturers operate. These trends include:

- *The Outsourcing Trend*

It has become increasingly common these days for a company to outsource its design, manufacturing and service operations. In many cases, this approach offers a number of significant benefits, but it can also create some challenges – one of which is the inability for a company to easily and quickly identify the root cause of a problem. What happens, for example, when a product has a problem. Is the problem the result of a specific piece of electronics and if so, which one? If quality information and warranty data are not somehow tied together from all of the organizations involved in manufacturing the product, then how can the root cause of the problem ever be quickly and easily identified?



Source: [AberdeenGroup](#), June 2006

*Figure 1. This graphic, courtesy of AberdeenGroup, points out the top five warranty management challenges today's manufacturing organizations face. These challenges are making effective warranty management a critical component of any OEMs strategy for business success.*

- *Inability To Locate A Problem's Source*

Dealing with product returns is an extremely costly proposition – made even more so when the source of a problem can't be properly identified. Consider, for example, a technician sent on a product service call that is unable to find the source of a product's problem. The technician is forced to ship the product back to the factory at a cost of \$500. For one typical hi-tech company the cost of such “no trouble found” products equates to approximately 2 million dollars per quarter. In situations where even the factory is unable to find the problem, the product may be put back into inventory and eventually shipped to a new customer; only to be shipped back to the factory at a later date when the original problem resurfaces. Occurrences like this can have a significant impact on customer satisfaction as well as on a company's brand image.

- *The Disparate Views Across Multiple Organizations*

Within most companies today there exists multiple organizations (e.g., engineering, quality assurance, manufacturing, and field service), each typically operating independently of one another. The engineers don't talk to manufacturing who, in turn, doesn't talk to the field service who just talked to the end customer. This lack of communication means that when a product is returned, the company is generally at a loss as to the problem. Without a clear understanding of the problem, the manufacturer has little hope of reducing the rate of returns and therefore costs, or ensuring customer satisfaction.

- *Compliance Initiatives*

Over the last few years, compliance initiatives have begun to play a critical role in the way large and mid-size manufactures manage warranty costs. As an example, consider the Sarbanes-Oxley Act of 2002 which established new and enhanced standards for all U.S. public company boards, management, and public accounting firms. As part of this legislation, public companies must now make their warranty reserves public. The problem, of course, is that matching warranty claims and accruals to reserves has always been a balancing act. Because it must now be done in public, it is harder for companies to conceal spikes in claims.

Another compliance example stems from the enactment of the Restriction of Hazardous Substances (RoHS) directive which went into effect in July of 2006. RoHS is part of a growing wave of environmental regulations, or green initiatives, and requires that six hazardous substances, including lead,

be removed from all electrical and electronic equipment. Unfortunately, as companies transition their products from leaded to unleaded, they really have no way of knowing what, if any, impact there will be on the end product.

Each one of these trends has made it increasingly difficult for companies to manage product quality, especially considering that detecting and correcting field product failures and operational problems has not traditionally been their primary area of focus. In many instances problems are not identified until a product is in the hands of a customer. Even then, corrective action may lag 6 to 12 months behind the initial occurrence of product failure. The cost associated with this sluggish response, coupled with today's increasingly elaborate supply chain, outsourcing of manufacturing and support operations, and fragmented end-user manufacturer data processes, further complicates an already complex and costly problem.

Effective use of warranty data can play a crucial role in solving the challenges facing today's manufacturing organizations (see Figure 2). In situations where a company is dealing with multiple organizations, for example, or has a high rate of returns - many of which are "no trouble found" - access to the data provides them with the ability to quickly dig down to the source of a problem. Warranty data also can be instrumental in a company's quality improvements and claims reductions, which ultimately translate to bottom-line gains by reducing the need for warranty reserves.

### **Defining A New Solution**

Key to enhancing product quality, while reducing returns and warranty costs, is adoption of a software solution that utilizes warranty data as a central component in driving the product quality lifecycle of current and future products. Utilizing this approach, manufacturing organizations can quickly and more efficiently detect and respond to product problems. They can even gain better insight into predicting and avoiding future problems. In addition to achieving higher quality products and minimizing service and warranty costs, proper use of warranty data ensures organizations maintain an excellent reputation with their customer base.

Finding the right quality software solution is central to how successfully the manufacturer manages warranty data. The ideal solution must have the following functionality:

- *Must be web based.*

Rather than being based on the use of spreadsheets and manual analysis, the software solution should be web-based, available off-the-shelf and be capable of pulling together and analyzing data from disparate RMA databases in real-time. It should allow multiple organizations, including suppliers and subcontract manufacturers, to quickly drill down to a range of information regarding what failed in a product, when it failed and how the failure occurred.

- *Must be able to find & fix problems.*

The software must aggregate parts or product data from various RMA databases so that users can quickly learn the root causes of product defects – whether it's a problem with the design, process or supplier - and gain other statistical knowledge about product performance trends. With this type of information, OEMs can more quickly make product upgrades and notify their supplier and customers faster when recalls are required. Also, they can ensure that the right amount of spare parts or replacement inventory is available.

- *Must be able to predict/avoid problems.*

The software solution should incorporate appropriate corrective actions into the supply chain and manufacturing processes, so that the user can gain even better insight into predicting and avoiding future problems. It should correlate RMA data with supplier quality, design, manufacturing test data and genealogy to provide insight into the product lifecycle and create proactive, rather than reactive, service organizations.

- *Must be able to feed data into the design and manufacturing to improve and innovate.*

The solution should allow all information regarding tracking and reporting RMA, failure, and corrective action to be fed back into the design and manufacturing. Doing so, allows the user to perform real-time analysis to identify potential trends and innovative ways in which the design can be improved.

### **The SigmaQuest Value Proposition**

SigmaQuest is an on-demand software company founded in 2001. It develops solutions that bridge the "visibility gaps" between distributed design, manufacturing and field repair organizations created by

decentralization. The company's solutions provide global enterprises and their partners with unprecedented insight and actionable information throughout the product lifecycle to ensure product and process integrity. The result is optimized product design, cost and quality, along with a significant reduction in risk and liability. SigmaQuest therefore, is uniquely well-qualified to address the warranty management challenges facing today's manufacturers, enabling them to reduce warranty costs, improve product quality and increase revenue and profits.

To better understand the impact of those benefits consider that according to a recent article in Logistics Management magazine, warranty claims processing is believed to consume 2.5 to 4.5% of revenues for companies across all industries. Similarly, a recent Gartner study found that improperly handled returns erode 30 - 35% of a company's potential profits. With its innovative, on-demand software, SigmaQuest helps ensure a product's success in today's very competitive environment while plugging the leak from warranties and returns. In this age of increasingly tight margins where every revenue dollar counts, that savings alone can be dramatic.



*Figure 2. This graphic depicts the various components that comprise SigmaQuest's SigmaSure Enterprise Suite.*

SigmaQuest's premier quality software suite, the SigmaSure Enterprise Suite, is an on-demand, Web-based solution, which collects, aggregates, controls and analyzes quality data during the entire product lifecycle. With it, OEMs can more quickly learn when products are not conforming to desired specifications, along with the root cause of product quality issues. From there, they can make the changes necessary to enhance yields, lower cost and maintain brand loyalty and customer satisfaction.

SigmaSure is comprised of several key modules, including Manufacturing and Test Insight, RMA Insight, and Supplier Quality Insight (see Figure 2).

The Manufacturing and Test Insight module allows users to continuously monitor manufacturing chain product quality data, anytime and anywhere. With the Supplier Quality Insight module, OEMs can parametrically confirm and verify the quality of their suppliers' components before committing to the assembly of broader product offerings.



Figure 3. SigmaSure RMA Insight, from SigmaQuest, is a web-based software solution that enables OEMs to gain comprehensive knowledge of products returned by end users. Its web-based dashboard allows for management by exception.

The central module, RMA Insight, is specifically designed to allow users to correlate warranty data with supplier, design, and manufacturing test and repair data (see Figure 3). It can be used as a stand-alone product offering, or as part of the SigmaSure Enterprise Suite. Architected for the Web, RMA Insight can be accessed via any Web browser and can also be easily deployed across multiple sites with differing computing infrastructures as an on-demand solution. Consequently, manufacturers can now pull together and analyze data from disparate RMA databases in real time. Likewise, multiple organizations (e.g. suppliers and subcontractors) can now quickly drill down to a range of information regarding what failed in a product, when it failed, and how the failure occurred. Information regarding trends and root-causes of why products are returned by end customers are also available in real time (see insight module graphic Figure

3). Meeting all the previously defined criteria, RMA Insight not only helps to reduce service and warranty costs, but ensures OEMs maintain an excellent reputation with their customer base as well.

### **Conclusion**

Effective warranty management can be a daunting task for any manufacturer. Yet, despite this challenge, it remains not only a key component of any OEM's successful business strategy, but perhaps its very survival as well. Those manufacturers who make the necessary investment upfront to adequately deal with the challenge of managing and utilizing warranty data across multiple organizations will realize a long-term, competitive advantage. SigmaSure RMA Insight is one investment that promises to provide OEMs with the competitive edge they need by enabling effective interrogation of warranty data as a means of quickly detecting and responding to product problems. It is now on the frontline of helping manufacturing organizations to enhance product quality, reduce warranty costs, satisfy customers and, in general, to maintain a competitive advantage in the dynamically changing landscape of today's global business environment.

**About the Author**

*Al Alaverdi is the vice president of technology of SigmaQuest. Prior to co-founding SigmaQuest, Al was the President of CodeServ, a software consulting company helping companies like Anritsu, Sun and Solectron obtain real-time visibility into their Product Performance to expedite failure analysis and corrective action. Prior to that he held various engineering roles within Amdahl Manufacturing, helping the company achieve world class quality. Al has a BSCE from University of Illinois at Champagne-Urbana and MSCE from Santa Clara University.*

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