



Aberdeen *Group*

Winning with Integrated Warranty Management

Managing the Pulse of Product Quality and Performance

June 2006



Executive Summary

At most manufacturing companies, warranty management draws partial attention and resources from a multitude of business units, including financials, product design, manufacturing, quality and reliability, service chain, sales, and marketing. As such, warranty management is often typified by a fragmented “chain” of events.

Recognizing the untapped opportunities for efficiency gains, revenue recapture, and improved customer satisfaction within the warranty chain, best-in-class companies and their service network partners are taking steps to gain greater visibility into and control of their warranty chain processes and performance.

Key Business Value Findings

- Best-in-class companies, on average, spend 0.9% of annual revenues to support warranty claims, take 1.4 business days to process a warranty claim, and get 2.5% of their products returned for repair during the initial warranty period.
- In claim processing and product returns, small companies outperformed large companies by at least a margin of 2 to 1.
- The four overall best performing sectors in warranty management were industrial manufacturing, aerospace and defense, consumer goods, and telecommunications/utilities.

Implications & Analysis

- At 52% of best-in-class companies Aberdeen surveyed, a senior service director or executive oversees all aspects of warranty management, including contract definition, claims processing, and analytics.
- Best-in-class companies rely on a combination of four separate systems to automate warranty management processes, on average.
- The top three key performance indicators used by best-in-class companies to monitor warranty chain performance are warranty incidents per product, total warranty expenditures, and in-warranty product returns.

Recommendations for Action

1. Account for cultural nuances when defining warranty terms across multiple geographies.
2. Invest the time and resources required to establish trust among supplier base.
3. Leverage third parties where appropriate for warranty chain execution.
4. Maintain custom product configurations through repair operation.
5. Do not limit your warranty data management approach to just “reporting.”



6. Evaluate next generation technologies like RFID and RPS as potential warranty chain facilitators.



Table of Contents

Executive Summary	i
Key Business Value Findings.....	i
Implications & Analysis	i
Recommendations for Action.....	i
<i>Chapter One: Issue at Hand</i>	1
What is the Warranty Chain?	1
Drivers and Strategies	3
<i>Chapter Two: Key Business Value Findings</i>	5
By the Numbers.....	6
SMBs Dwarf G500s	8
Industrial Manufacturing, A&D Lead Pack	9
Net Benefits of Warranty Chain Improvement.....	10
<i>Chapter Three: Implications & Analysis</i>	11
Integrated Processes Pay Off.....	12
Leading Organizations Centralize Warranty Control	13
Data Reporting is Just the Beginning.....	13
Warranty Leaders Mix Technology Types	14
Performance = Warranty Processes and Outcomes.....	15
<i>Chapter Four: Recommendations for Action</i>	17
Tips for OEMs and Warranty Service Providers.....	17
Author Profiles.....	19
<i>Appendix A: Research Methodology</i>	20
<i>Appendix B: Related Aberdeen Research & Tools</i>	22
About AberdeenGroup	23



Figures

Figure 1: Warranty Mgt. <i>Importance</i> and <i>Satisfaction</i> Levels Out of Sync	2
Figure 2: Top Warranty Management Challenges	3
Figure 3: Percentage of Total Revenues Spent on Warranty Claims.....	6
Figure 4: Percent of Products Returned for Repair within Initial Warranty Period	7
Figure 5: Average Warranty Claim Processing Time	8
Figure 6: Top Benefits of Warranty Management Improvement	10
Figure 7: Customer Complaints Top Data Sources For Analyzing Product Failures	14
Figure 8: Best-in-Class Companies Rely Most on Claims Processing Systems.	15
Figure 9: Product Warranty Incidents & Expenditures Top KPIs for Best-in-Class.....	16

Tables

Table 1: Top 5 Market Drivers and Best-in-Class Strategies for Warranty Mgt.....	3
Table 2: Companies With Top Performance Scores Earn “Best-in-Class” Status.	5
Table 3: SMBs Outperform Larger Counterparts on All Counts	8
Table 4: Industrial Manufacturers, A&D Companies Best Warranty Performers ...	9
Table 5: Warranty Management Competitive Framework.....	11
Table 6: Process Structure Impacts Product Quality and Claims Processing Time	12

Chapter One: Issue at Hand

Key Takeaways

- U.S. businesses spend more than \$2 billion per month on warranty claims, and as much as 15% of these expenditures stem from fraudulent or inaccurate claims.
- Fully 86% of polled companies said that effective warranty management is important to overall company performance.
- Very few companies are more than marginally satisfied with their approach to adjudicating warranty procedures, with only 23% reporting they are very or extremely satisfied.

By some estimates, U.S. businesses spend more than \$2 billion per month on warranty claims, and as much as 15% of these expenditures stem from fraudulent or inaccurate claims. To provide adequate cushion for such cash outlays, most original equipment manufacturers (OEMs) amass warranty reserves as part of their standard budgeting procedures.

Even though these reserve dollars subtract handsomely from the bottom line, most OEMs do not adequately forecast or measure their “warranty chain.” In fact, nearly one-quarter of companies Aberdeen surveyed admitted to having limited to no measures in place to monitor warranty management effectiveness. And another 40% reported that they rely on ad hoc, reactionary measurement, primarily after the fact (e.g. warranty costs; claim rates).

What is the Warranty Chain?

At most OEMs, warranty management draws partial attention and resources from a multitude of business units, including financials, product design, manufacturing, quality and reliability, service chain, sales, and marketing. Still, for 63% of the best-in-class companies participating in this study, a single senior service director or executive oversees all aspects of warranty management, including contract definition, claims processing, and analytics.

This helps to corroborate the notion that effective warranty management is a comprehensive chain of events that deserves holistic oversight. This “chain” includes the following critical links:

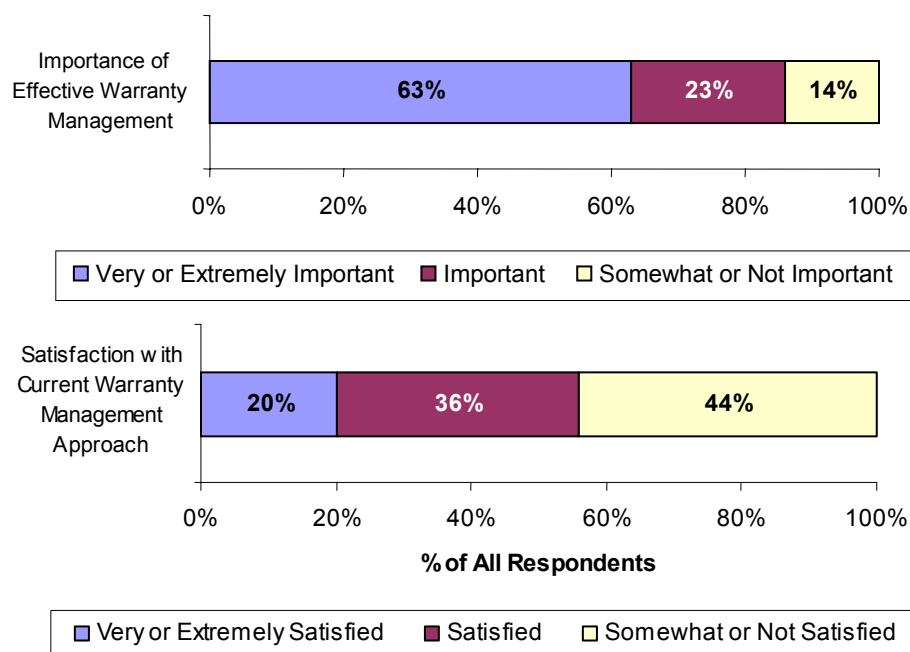
- **Finance:** Accurately allocating appropriate reserve funds to cover anticipated warranty expenses
- **Contract Management:** Defining warranty terms at the contract stage to support service chain continuity and overall profitability
- **Claims Processing:** Expediently processing warranty claims submitted by customers and service partners
- **Product Quality:** Accurately analyzing root cause of product and part failures to support recovery of warranty costs from liable suppliers



- **Design-for-Serviceability:** Effectively communicating in-warranty return and repair incidents from service organization to product design and quality teams
- **Upside:** Marketing and upselling extended or renewal warranties to existing customers
- **Reporting & Analytics:** Analyzing historical and anticipated warranty expenses, processes, and organization for ongoing performance improvement

Most companies do not lack a basic awareness of the opportunities to dramatically improve service chain and overall business performance hidden within their warranty management processes. Fully 86% of polled companies said that effective warranty management is important to overall company performance (Figure 1). And nearly half indicated that this level of importance is higher than it was two years ago.

Figure 1: Warranty Mgt. Importance and Satisfaction Levels Out of Sync

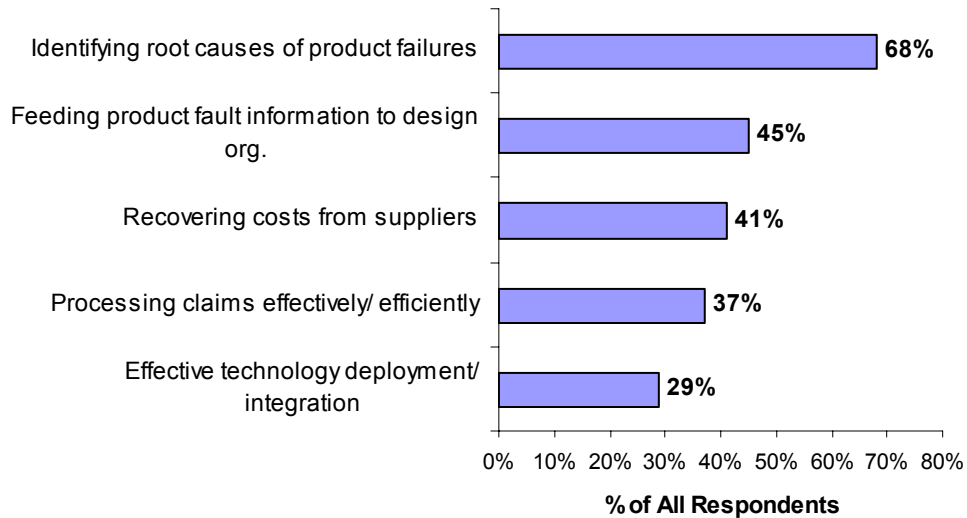


Source: [AberdeenGroup](#), June 2006

Despite this recognition of importance, very few companies are more than marginally satisfied with their approach to adjudicating warranty procedures, with only 23% reporting they are very or extremely satisfied.

What's behind this malcontent? One of the challenges noted by more than two-thirds of survey respondents was accurately identifying the root causes of product and part failures (Figure 2). Without adequate measures and procedures in place to accurately diagnose failures, OEMs will continue to struggle through ad hoc negotiations with their supplier base regarding which entity is responsible for warranty coverage.

Figure 2: Top Warranty Management Challenges



Source: AberdeenGroup, June 2006

Drivers and Strategies

The factors driving OEMs to redouble their warranty chain improvement efforts are primarily three-fold: 1) customer satisfaction, 2) product quality, and 3) profitability (Table 1).

Table 1: Top 5 Market Drivers and Best-in-Class Strategies for Warranty Mgt.

Market Drivers	Best-in-Class Strategies
1. Customer satisfaction issues	1. Integrate service organization more closely with design and/or manufacturing
2. Product quality improvement requirements	2. Recover more costs from suppliers
3. Profitability mandates	3. Integrate service organization more closely with marketing and/or sales
4. Escalating warranty-related costs	4. Restructure service organization with higher-level oversight and accountability
5. Regulatory requirements	5. Curb suspect claims

Source: AberdeenGroup, June 2006

In response to these drivers, best-in-class companies are undertaking specific strategies to improve their warranty management effectiveness. Interestingly, two out of the three top strategies involve integrating the service organization more closely with other value chain units like design, manufacturing, marketing, and sales.



Indeed, many of the leading companies Aberdeen interviewed attributed a large part of their warranty chain success to having a resident representative from quality, engineering, or finance working as an integral part of the service chain team. This organizational alignment supports a more pre-emptive approach to such tasks as warranty reserve forecasting, designing for serviceability, and mitigating product recall risk.

Chapter Two: Key Business Value Findings

Key Takeaways

- Best-in-class companies, on average, **spend 0.9% of annual revenues** to support warranty claims, **take 1.4 business days** to process a warranty claim, and **get 2.5% of their products returned** for repair during the initial warranty period.
- In claim processing and product returns, **small companies outperformed large companies** by at least a margin of 2 to 1.
- The four overall best performing sectors in warranty management were **industrial manufacturing, aerospace and defense, consumer goods, and telecommunications/utilities**.

Strategies to improve warranty management procedures are only as good as the results they deliver. As such, Aberdeen used three key performance criteria to distinguish best-in-class companies from average and laggard companies. These key performance indicators (KPIs) represent *financial measures* – with percentage of annual revenues expended to support warranty claims; *process measures* – with average warranty claim processing time, and *quality measures* – with percentage of new products returned for repairs within the initial warranty period (Table 2).

Based on aggregate scores that incorporated all three of these metrics, those companies in the top 20% achieved “best-in-class” status, those in the middle 50% were “average,” and those in the bottom 30% were “laggard.”

Table 2: Companies With Top Performance Scores Earn “Best-in-Class” Status

Definition of Maturity Class	Mean Class Performance
<p>Best-in-Class: Top 20% of aggregate performance scorers</p>	<ul style="list-style-type: none"> • Percentage of annual revenues expended to support warranty claims = 0.9% • Warranty claim processing cycle time = 1.4 business days • Percentage of new products returned for repairs within initial warranty period = 2.5%
<p>Average: Middle 50% of aggregate performance scorers</p>	<ul style="list-style-type: none"> • Percentage of annual revenues expended to support warranty claims = 2.2% • Warranty claim processing cycle time = 6.5 business days • Percentage of new products returned for repairs within initial warranty period = 5.1%



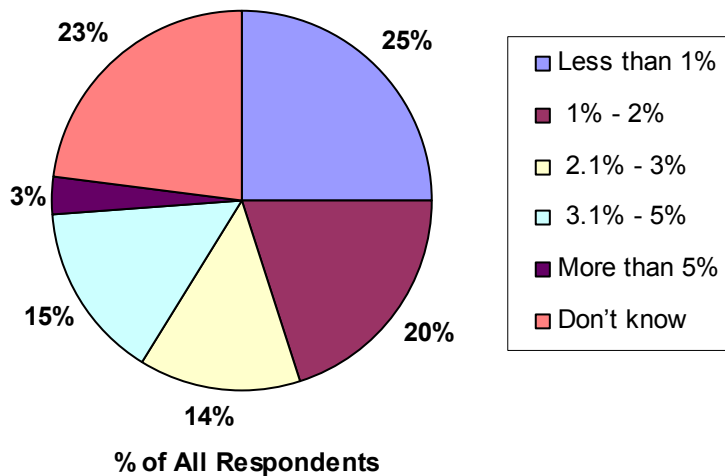
Definition of Maturity Class	Mean Class Performance
<p>Laggard: Bottom 30% of aggregate performance scorers</p>	<ul style="list-style-type: none"> Percentage of annual revenues expended to support warranty claims = 3.4% Warranty claim processing cycle time = 10.8 business days Percentage of new products returned for repairs within initial warranty period = 22.5%

Source: [AberdeenGroup](#), June 2006

By the Numbers

Among the most telling findings in these three performance areas is that nearly one-quarter of polled companies do not know how much they spend on warranty claims, serving as further corroboration of the warranty chain performance management deficiencies noted earlier (Figure 3).

Figure 3: Percentage of Total Revenues Spent on Warranty Claims



Source: [AberdeenGroup](#), June 2006

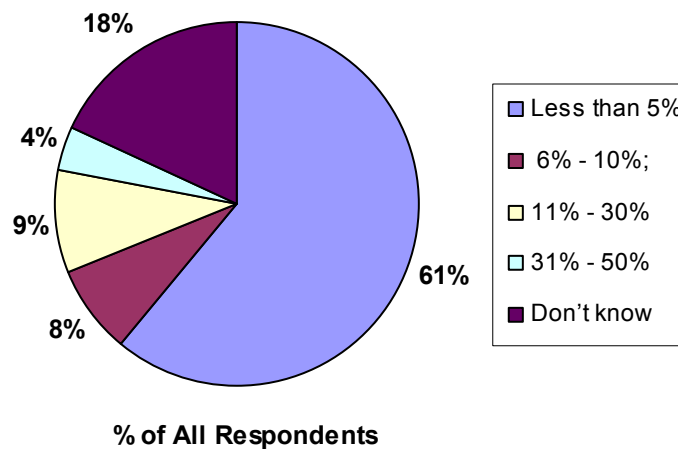
The largest proportion of respondents (25%) indicated their companies spent less than 1% of total revenues on warranty claims, while another 20% reported spending between 1% and 2%.

While these percentages are small, they can amount to significant dollar amounts for large, multi-national OEMs. For **Whirlpool Canada** – the more than US\$1 billion limited partnership (LP) of the home appliance giant – its 1% to 2% allocation for warranty expenses represents a hearty US\$13 million to \$26 million.

“Customers do not expect to have a warranty-related interaction on a new product, so when it happens, it is a significant customer satisfaction challenge,” said Whirlpool Canada’s director of consumer and appliance care.

Indeed, one of the leading indicators of customer satisfaction is the frequency of product returns during the initial warranty period. As such, it bodes well that 61% of the companies Aberdeen surveyed reported that less than 5% of their products are returned for repairs within the first warranty period (Figure 4).

Figure 4: Percent of Products Returned for Repair within Initial Warranty Period



Source: AberdeenGroup, June 2006

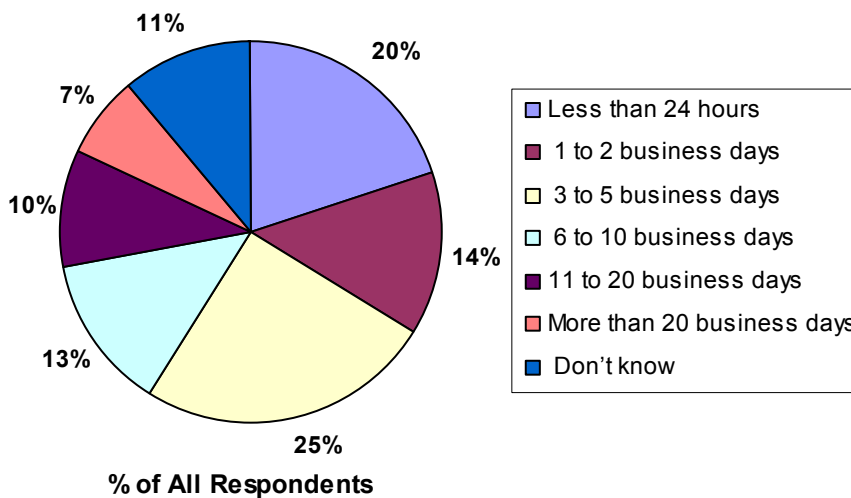
As noted earlier, nearly 40% of companies view effective and efficient warranty claims processing as a key challenge. Processing a warranty claim includes three main process steps:

- 1) *Submission* of a claim, with all pertinent information on product, parts, labor, and the like;
- 2) *Validation* of entitlement and coverage, under the warranty terms; and
- 3) *Settlement* of the claim, including authorization of in-warranty deliverables and/or payment of required funds to service network partners or end-customers.

The majority (59%) of companies Aberdeen surveyed complete this cycle in 5 business days or less, on average (Figure 5).



Figure 5: Average Warranty Claim Processing Time



Source: AberdeenGroup, June 2006

For **Scotsman Ice Systems** – a best-in-class mid-size manufacturer of consumer and commercial ice makers – effective claims processing relies on a disciplined approach to adjudicating claims.

“Every product we ship has a unique serial number,” said Scotsman’s warranty cost and supplier quality manager. “Validating claims involves confirming the serial number and the agreed-upon warranty period, which is keyed off of the original ship date or the product registration date.”

As is the case with 68% of the companies Aberdeen surveyed, Scotsman uses a warranty claims processing system to capture submissions, flag duplicate and suspect claims, and process settlements.

SMBs Dwarf G500s

Scotsman and its peers in the small and mid-sized categories of respondents turned out to be better performers than their larger counterparts, across several key performance indicators (Table 3). In fact, in claim processing and product returns, small companies outperformed large companies by at least a margin of 2 to 1.

Table 3: SMBs Outperform Larger Counterparts on All Counts

	% of Revenues Spent on Warranty Claims	Avg. Claim Processing Time (business days)	% of Products Returned w/in 1st Warranty Period
Small (Less than \$50M)	1.8%	5.0	4.7%
Mid-Size (\$50M - \$1B)	2.1%	6.0	6.4%
Large (\$1B+)	2.6%	10.0	11.1%

Source: AberdeenGroup, June 2006

One possible explanation for this marked difference is that the smaller organizations Aberdeen interviewed were much more successful in executing on the number-one strategy for effective warranty management (as noted in Table 1) – integrating the service organization more closely with design and/or manufacturing.

In Scotsman’s case, the executive sponsor of the warranty team is the vice president of engineering, and there is a designated “captive engineer” who serves on the warranty team full time.

“We work hand-in-hand with the engineering team, so all the accumulated knowledge we have on product reliability and performance serves as critical input into new product design,” said Scotsman’s warranty cost and supplier quality manager.

Industrial Manufacturing, A&D Lead Pack

From an industry perspective, aerospace and defense companies boasted the lowest percentage of products returned within the initial warranty period, as well as the lowest percentage of revenues spent on warranty claims. High-tech manufacturers lead all other industries with an average claim processing cycle of just 2 business days (Table 4).

But using the same aggregate scoring method we used to determine overall maturity, the four overall best performing sectors in warranty management were industrial manufacturing, aerospace and defense, consumer goods, and telecommunications/utilities.

Table 4: Industrial Manufacturers, A&D Companies Best Warranty Performers

Performance Tier	Industry Sector	% of Products Returned w/in 1st Warranty Period	% of Revenues Spent on Warranty Claims	Claim Processing Time (business days)
1	Industrial Mfg.	4.4%	1.4%	5.5
	Aerospace & Defense	3.2%	1.1%	10.7
2	Consumer Goods	6.7%	2.5%	4.0
	Telecom/Utilities	8.4%	2.8%	6.3
3	High-Tech Mfg.	12.1%	3.7%	2.0
	Automotive	11.8%	2.0%	12.6
	Transportation/Distribution	9.0%	2.5%	6.3
4	Medical Mfg.	4.6%	2.3%	2.9

Source: AberdeenGroup, June 2006



Net Benefits of Warranty Chain Improvement

Not surprisingly, the top three benefits of warranty chain improvements cited by best-in-class survey respondents were 1) improved customer satisfaction, 2) improved product quality, and 3) reduced service costs (Figure 6).

At Whirlpool Canada, the service and warranty team has been instrumental in redefining how quality is measured. Historically, product quality was directly correlated with frequency of engineering defects. Headed by a product quality manager who reports directly into the service organization, Whirlpool's measurement of quality has evolved significantly over the past two years.

“A lot of factors that drive warranty claim volume cannot be classified as product defects by definition,” said Whirlpool Canada's director of consumer and appliance care. “Claims often stem from a mismatch between a customer's expectation and our product's design, packaging, performance, or user interface.”

In this case, improving customer satisfaction has a direct impact on the overall product quality metric, and vice versa.

Figure 6: Top Benefits of Warranty Management Improvement



Source: [AberdeenGroup](#), June 2006

Chapter Three: Implications & Analysis

Key Takeaways

- At 52% of best-in-class companies Aberdeen surveyed, a **senior service director or executive** oversees all aspects of warranty management, including contract definition, claims processing, and analytics.
- Best-in-class companies rely on a combination of **four separate systems** to automate warranty management processes, on average
- The top three key performance indicators used by best-in-class companies to monitor warranty chain performance are **warranty incidents per product, total warranty expenditures, and in-warranty product returns.**

As noted earlier, surveyed companies’ aggregated warranty management performance determined whether they ranked as best-in-class, industry average, or laggard. In addition to performance parity, each of these maturity classes also share attributes and characteristics in five key categories – process, organizational structure, knowledge management, technology usage, and performance management (Table 5).

Table 5: Warranty Management Competitive Framework

	Laggards	Industry Average	Best in Class
Process	<i>Ad hoc</i> approach that begins with <i>vague</i> warranty definition in service contract, <i>relies on manual</i> claims processing and <i>limited to no</i> financial reconciliation or analytics procedures.	<i>Ad hoc</i> approach that begins with <i>vague</i> warranty definition in service contract, and <i>includes manual</i> claims processing, financial reconciliation, and analytics procedures.	Systematic approach that begins with clear warranty definition in service contract, and includes semi-automated claims processing, financial reconciliation, and analytics procedures.
Organization	No dedicated oversight for warranty management	Finance owns accruals; Service owns claims processing; Quality/Manufacturing owns analysis; Marketing owns extended warranty sales/pricing.	Senior service director or executive oversees all aspects of warranty management (incl. contract definition, claims processing, and analytics).
Knowledge Mgt.	Limited to no historical or warranty trend data is systematically captured.	Aggregated warranty data is captured over time, housed within the service organization, and periodically shared with value chain counterparts.	Customer- and product-specific warranty data is captured and analyzed over time and is systematically shared with value chain counterparts (e.g. design, marketing, manufacturing, sales).



	Laggards	Industry Average	Best in Class
Technology	Primary automation tools are spreadsheets.	Primary automation tools are financial and accounting systems.	Primary automation tools are warranty claims processing, warranty reporting and analytics systems.
Performance Measurement	Limited or no measurement	Ad hoc measurement primarily of the outcome (e.g. warranty costs; claim rates)	Systematically measure the process (e.g. time to process a claim; detection-to-correction time) AND the outcome (e.g. warranty costs; claim rates).

Source: AberdeenGroup, June 2006

Integrated Processes Pay Off

Those companies with a systematic approach to warranty management that begins with clear warranty definition in the service contract, and includes semi-automated claims processing, financial reconciliation, and analytics procedures reported significantly differentiated performance in both product quality and claims processing cycle times (Table 6).

Table 6: Process Structure Impacts Product Quality and Claims Processing Time

Warranty Management Process Profile	% of Products Returned w/in 1st Warranty Period	Avg. Claim Processing Time (business days)
Systematic approach w/ clear warranty definition in service contract, and includes semi-automated claims processing, financial reconciliation, and analytics procedures	4.0%	4.3
Ad hoc approach w/ vague warranty definition in service contract, and includes manual claims processing, financial reconciliation, and analytics procedures.	6.0%	6.8
Ad hoc approach w/ vague warranty definition in service contract, relies on manual claims processing and limited to no financial reconciliation or analytics procedures.	7.0%	6.1

Source: AberdeenGroup, June 2006

For the Education and Productivity Solutions division of **Texas Instruments** – a \$500M business unit of the consumer electronics behemoth – supporting a standard 1-year parts and labor warranty begins with the call center at 1-800-TICARES. If product problems cannot be resolved over the phone by a customer service analyst, a returned materials



authorization (RMA) is initiated in the ERP system. Texas Instruments intentionally does not publish an address for returns, in order to funnel all calls through its call center and minimize the return of non-defective devices.

A third-party logistics provider (3PL) receives and processes all returned units, including screening for accurate diagnosis and resolution. The 3PL enters all pertinent data directly into Texas Instruments' ERP system, which is monitored by the quality and reliability team.

“My primary job is to define and improve our warranty and service chain processes, and then our 3PL executes on the agreed-upon process,” said Texas Instruments' worldwide service manager.

Leading Organizations Centralize Warranty Control

Of course, processes are only as good as the people who follow them. At 38% of polled companies, a senior service director or executive oversees all aspects of warranty management, including contract definition, claims processing, and analytics. Another 38% rely on a more decentralized approach, where finance owns accruals, service owns claims processing, quality or manufacturing owns analysis, and marketing owns extended warranty sales and pricing. And the remaining 24% admit that they have no dedicated oversight for warranty management.

Fully 52% of best-in-class companies Aberdeen surveyed employ the centralized approach, with the remaining group equally split between decentralized and no warranty management approach.

In addition to the centralize/decentralize decision, most OEMs, like Texas Instruments, must also decide if outsourcing portions of warranty management makes sense for them. In addition to 3PLs, other third party entities like repair specialists and distribution partners can play critical roles in the warranty chain.

For instance, outfits like **POSData** in electronics and **Triumph Group** in aerospace specialize in the design, repair, and refurbishment of products, components, and assemblies, as well as the attendant warranty processing and reporting procedures.

One **major high-tech OEM** Aberdeen interviewed relies on its network of distribution partners for a large portion of its warranty chain. These partners perform the repair work, validate warranty entitlements via an integration with the OEM's ERP system, and submit claims back to the OEM after the fact.

“We have established labor rates for our partners, but we also pay out bonuses to top performing partners,” said this company's manager of business partner warranty programs.

Data Reporting is Just the Beginning

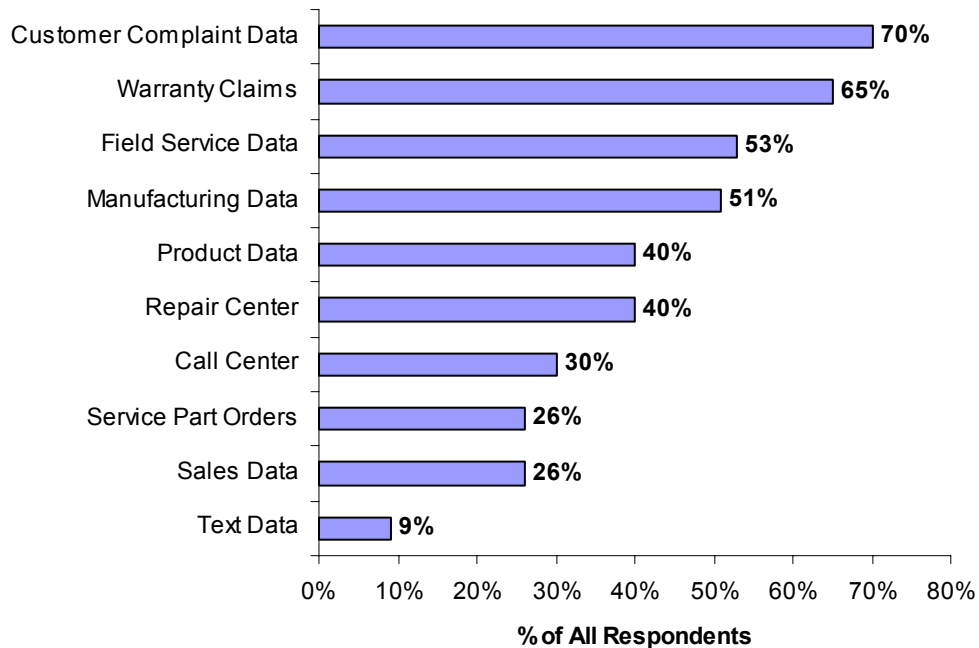
Effective knowledge management in the warranty chain begins with capturing and recording both in-warranty and out-of-warranty product and part failures. The top three

At 52% of best-in-class companies Aberdeen surveyed, a senior service director or executive oversees all aspects of warranty management, including contract definition, claims processing, and analytics.



sources of data used to analyze product failures, according to survey respondents, were customer complaints, warranty claims, and field service data (Figure 7).

Figure 7: Customer Complaints Top Data Sources For Analyzing Product Failures



Source: [AberdeenGroup](#), June 2006

But capturing warranty-related data is just the beginning. Systematic analysis of warranty data can enable OEMs to improve product performance and reliability over time, reduce service costs, and reduce warranty reserve variance.

The warranty team at Whirlpool Canada utilizes business intelligence tools to gain increasing clarity regarding which of their products and parts drive the most unit sales, warranty claim volume, and profitability. Using this analytics approach, the team discovered that although one of their brands accounted for a relatively low proportion of total sales, it drove a disproportionately large volume of warranty claim volume. Insights like this have allowed Whirlpool Canada to proactively flag and remedy product quality issues.

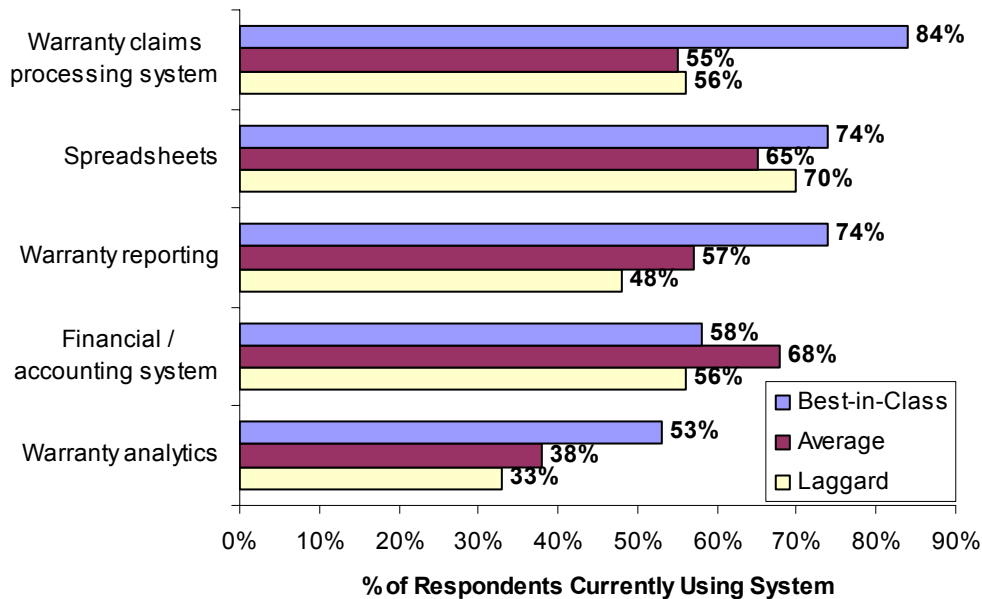
At Texas Instruments, a member of the finance team is assigned full-time to work with the supply chain team on such issues as accurate warranty reserve allocation. Almost every month, this individual collaborates with service and supply chain leaders to analyze historical product and warranty claims data in order to reset reserve amounts.

Warranty Leaders Mix Technology Types

Due to the fact that the warranty chain impacts and is impacted by so many segments of the product value chain, there is a collage of technology solutions available to OEMs and their warranty chain partners. The top three solutions utilized by best-in-class companies

are warranty claims processing systems, spreadsheets, and warranty reporting systems (Figure 8).

Figure 8: Best-in-Class Companies Rely Most on Claims Processing Systems



Source: AberdeenGroup, June 2006

But rarely does a company rely on just a single IT system to support warranty chain activities. In fact, best-in-class companies rely on a combination of four separate systems to automate warranty management processes, on average.

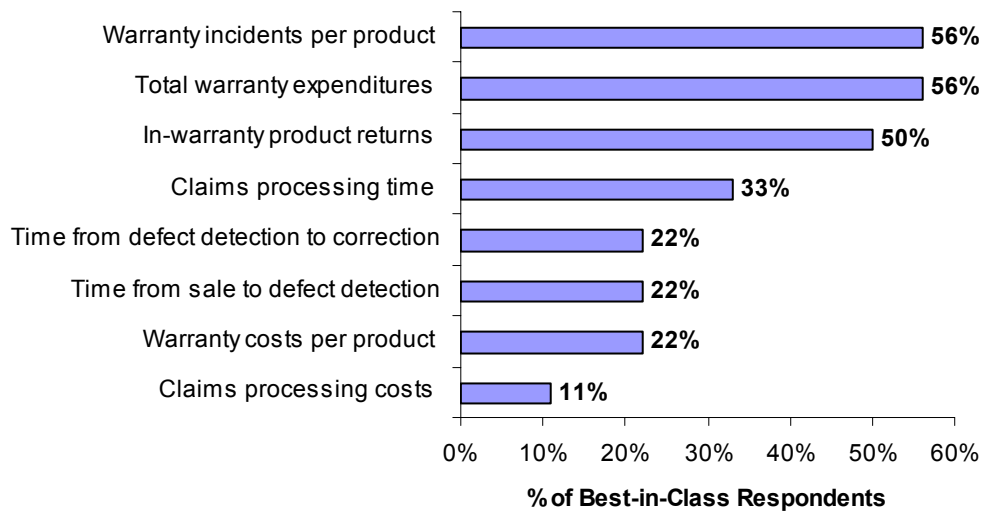
In the case of Scotsman Ice Systems, for instance, a warranty claims processing system accepts, validates, and settles claims, while an integrated business intelligence tool crunches historical and trend data, advising service managers of exceptions worth handling via a dashboard interface.

Performance = Warranty Processes and Outcomes

The primary purpose for collecting and tracking warranty-related data is to monitor and improve performance. The top three key performance indicators used by best-in-class companies to monitor warranty chain performance are warranty incidents per product, total warranty expenditures, and in-warranty product returns (Figure 9).



Figure 9: Product Warranty Incidents & Expenditures Top KPIs for Best-in-Class



Source: [AberdeenGroup](#), June 2006

“If you are going to measure something, it must be actionable,” said Texas Instruments’ worldwide service manager, part of whose job it is to track such metrics as rate of product return and product receipt-to-redispach cycle times.

And in those cases where service network partners fulfill some or all of the warranty chain functions, OEMs must not only keep tabs on the end customer experience, but also on partner performance over time.

“One of our goals is to help our business partners to get better at what they do,” added Texas Instruments’ worldwide service manager.



Chapter Four: Recommendations for Action

Key Takeaways

- Account for cultural nuances when defining warranty terms across multiple geographies.
- Invest the time and resources required to establish trust among supplier base.
- Leverage third parties where appropriate for warranty chain execution.
- Maintain custom product configurations through repair operation.
- Do not limit your warranty data management approach to just “reporting.”
- Evaluate next generation technologies like RFID and RPS as potential warranty chain facilitators.

In this age of outsourcing, off-shoring, and on-demand service, OEMs must take care to retain their best customers, while acquiring new ones. And the effective marketing, selling, and fulfilling of warranties go a long way toward meeting these goals. The following are recommendations for OEMs and their warranty and service chain partners to consider as potential means for warranty chain improvement.

Tips for OEMs and Warranty Service Providers

1. Account for cultural nuances when defining warranty terms across multiple geographies.

While North America has seen increasing emphasis on self-service in recent years, expectations for high levels of service are still high in other geographic regions like Europe and Asia-Pacific. For instance the large high-tech OEM mentioned earlier plans and budgets for higher warranty costs in countries like Japan and Korea for this very reason. Likewise, while Texas Instruments offers a one-year warranty to its North American customers, it offers a longer warranty period for customers in Europe.

2. Invest the time and resources required to establish trust among supplier base.

Fully 41% of polled companies said that recovering warranty costs from liable suppliers was a significant challenge. In order to hold suppliers financially accountable for the performance of their parts and components without painful negotiations, OEMs need to instill confidence in their suppliers that root cause analysis procedures are sound and fair. Best-in-class companies actually involve their suppliers in the on-going process of refining quality assurance procedures and setting issue resolution workflows so they have a vested interest and trust in the process.

3. Leverage third parties where appropriate for warranty chain execution.

As best-in-class OEMs continue to lean harder on their service organizations for profits, revenues, and competitive advantage, they are opportunistically seeking service chain performance spikes by outsourcing parts of their service operations. As



evidenced by several of the examples given in this report, 3PLs, distributors, and other service network partners can cost-effectively lessen or remove the burden of warranty chain execution from the OEM's shoulders. Companies that choose this route, however, must take careful steps to monitor network performance, as 63% of companies surveyed in a related Aberdeen study noted that third-party performance management was the number-one challenge in service chain outsourcing.

4. Maintain custom product configurations through repair operation

Oftentimes when asset owners or operators return products to be repaired, OEMs or their warranty chain partners will run the product through a high-volume, low-cost screening, diagnostic, and repair process. The input into this process is often a custom configured version of the product, but the output frequently is a standard or generic configuration. At that point, the product needs to be retooled to match the original configuration before it can be shipped back to the customer, which adds time and cost.

5. Do not limit your warranty data management approach to just “reporting”

As alluded to earlier in the Whirlpool Canada example, there is a monumental difference between data reporting and data analysis. This is illustrated by the fact that 69% of the companies Aberdeen surveyed currently employ warranty reporting solutions, while only 46% use warranty analytics solutions. Detailed analysis of information like claim rates by product, part, region, and other attributes can uncover near- and long-term opportunities for additional service cost savings, incremental revenue, improved product quality, and of course, improved customer satisfaction and retention.

6. Evaluate next generation technologies like RFID and RPS as potential warranty chain facilitators.

Most of the technologies noted by polled companies are fairly “mainstream.” Some of the emerging technologies like RFID and remote product service (RPS) hold the potential to dramatically improve how OEMs and their service network partners manage the warranty chain. For instance, Texas Instruments is evaluating ways to leverage RFID technology to support its environmentally-sound asset disposition policies. RFID tags could contain information on the composition of a product and provide guidance on safe disposal methods.

In addition, RPS solutions – where intelligent devices embedded within products transmit health and performance information over the Internet – can assist in timely root cause analysis and accurate supplier recovery efforts. Just 11% of companies Aberdeen surveyed are currently using RPS solutions for this purpose, but as the cost of outfitting products with these sensors continues to fall, more companies will be able to take advantage of this technology.



Author Profiles

**Mark W. Vigoroso,
Chief Research Officer
& SVP, Service Chain Management Research
AberdeenGroup, Inc.**

(617) 854-5278

mark.vigoroso@aberdeen.com

Mark Vigoroso spearheads primary market research in field service management and assesses software and services that automate and streamline these and other value chain processes.

Vigoroso's current efforts include quantifying Global 5000 executives' strategies, experiences, and deployment plans in the area of field service optimization.

He has published research in the areas of strategic sourcing, supplier performance measurement, enterprise spending analysis, total cost management, global trade management, and asset management.

Vigoroso has spent years covering electronic procurement, supply chain, and logistics management trends as a journalist, editor, speaker, and columnist for various industry publications. Specializing in e-business applications and strategies, he was an editor at *Purchasing* magazine and *Manufacturing Marketplace*. He has also been a columnist and feature writer for *The E-Commerce Times*, *ZDNet TechUpdate*, and *Workz.com*.



Appendix A: Research Methodology

In April and May 2006, Aberdeen Group examined the warranty management procedures, experiences, and intentions of more than 150 companies in high-tech, industrial and medical device manufacturing, consumer goods, telecommunications, as well as other industries.

Responding manufacturing, customer service, quality, field service operations, and other executives completed an online survey that included questions designed to accomplish the following:

- To document how best-in-class service organizations are cutting costs, mitigating risk, improving product quality, and bolstering revenues with warranty management strategies and technologies.
- To profile best-in-class contract and warranty management approaches, based on processes/workflows, organizational structure, data management, technology usage, and performance management.
- To recommend specific best practice companies in multiple industry segments can take to better manage warranty costs and enhance service chain performance.

Aberdeen supplemented this survey effort with interviews with select survey respondents, gathering additional information on warranty management strategies, experiences and results.

The study aimed to identify emerging best practices for warranty management and provide a framework by which readers could assess their own warranty management capabilities and opportunities.

Responding companies included the following:

- **Job function:** The research sample included respondents with the following job functions: manufacturing (19%); customer service (18%); quality (13%); field service operations (9%); procurement (5%); IT (4%); marketing (4%); logistics/supply chain (4%); sales (2%); finance (1%); other (21%).
- **Industry:** The research sample included respondents from the following industries: Industrial manufacturing (31%); consumer-facing industries (21%); Business services (9%); Automotive (7%); Telecom/utilities (7%); Transportation/distribution (6%); Aerospace/defense (5%); High-tech manufacturing (4%); and Medical equipment manufacturing (4%). Six percent of respondents did not provide industry data.
- **Geography:** Survey respondents from North America represented 81% of the survey sample; from Europe, 9%; from Asia-Pacific, 8%; from South/Central America and Caribbean, 1%; and from the Middle East, 1%.
- **Company size:** About 22% of respondents were from large enterprises (annual revenues above US \$1 billion); 34% were from midsize enterprises (between \$50



million and \$1 billion); and 44% of respondents were from small businesses (\$50 million or less).

Solution providers recognized as sponsors of this report were solicited after the fact and had no substantive influence on the direction of *Winning with Integrated Warranty Management*. Their sponsorship has made it possible for **AberdeenGroup** to make these findings available to readers at no charge.



Appendix B: **Related Aberdeen Research & Tools**

Related Aberdeen research that forms a companion or reference to this report includes:

- [*Best Practices in Mobile Field Service*](#) (June 2006)
- [*The Remote Product Service Solution Selection Report*](#) (June 2006)
- [*The Convergence of People and Parts in the Service Chain*](#) (March 2006)
- [*Industry Traction of Strategic Service Management*](#) (December 2005)
- [*The Emergence of the 'Chief Service Officer'*](#) (September 2005)

Information on these and any other Aberdeen publications can be found at www.chiefserviceofficer.com, or inquire by e-mail at memberservices@aberdeen.com.



About AberdeenGroup

Our Mission

To be the trusted advisor and business value research destination of choice for the Global Business Executive.

Our Approach

Aberdeen delivers unbiased, primary research that helps enterprises derive tangible business value from technology-enabled solutions. Through continuous benchmarking and analysis of value chain practices, Aberdeen offers a unique mix of research, tools, and services to help Global Business Executives accomplish the following:

- IMPROVE the financial and competitive position of their business now
- PRIORITIZE operational improvement areas to drive immediate, tangible value to their business
- LEVERAGE information technology for tangible business value.

Aberdeen also offers selected solution providers fact-based tools and services to empower and equip them to accomplish the following:

- CREATE DEMAND, by reaching the right level of executives in companies where their solutions can deliver differentiated results
- ACCELERATE SALES, by accessing executive decision-makers who need a solution and arming the sales team with fact-based differentiation around business impact
- EXPAND CUSTOMERS, by fortifying their value proposition with independent fact-based research and demonstrating installed base proof points

Our History of Integrity

Aberdeen was founded in 1988 to conduct fact-based, unbiased research that delivers tangible value to executives trying to advance their businesses with technology-enabled solutions.

Aberdeen's integrity has always been and always will be beyond reproach. We provide independent research and analysis of the dynamics underlying specific technology-enabled business strategies, market trends, and technology solutions. While some reports or portions of reports may be underwritten by corporate sponsors, Aberdeen's research findings are never influenced by any of these sponsors.

AberdeenGroup, Inc.
260 Franklin Street, Suite 1700
Boston, Massachusetts
02110-3112
USA

Telephone: 617 723 7890
Fax: 617 723 7897
www.aberdeen.com

© 2006 **AberdeenGroup, Inc.**
All rights reserved
June 2006

Founded in 1988, **AberdeenGroup** is the technology-driven research destination of choice for the global business executive. **AberdeenGroup** has over 100,000 research members in over 36 countries around the world that both participate in and direct the most comprehensive technology-driven value chain research in the market. Through its continued fact-based research, benchmarking, and actionable analysis, **AberdeenGroup** offers global business and technology executives a unique mix of actionable research, KPIs, tools, and services.

The information contained in this publication has been obtained from sources Aberdeen believes to be reliable, but is not guaranteed by Aberdeen. Aberdeen publications reflect the analyst's judgment at the time and are subject to change without notice.

The trademarks and registered trademarks of the corporations mentioned in this publication are the property of their respective holders.