

THE SERVICE TRANSFORMATION JOURNEY

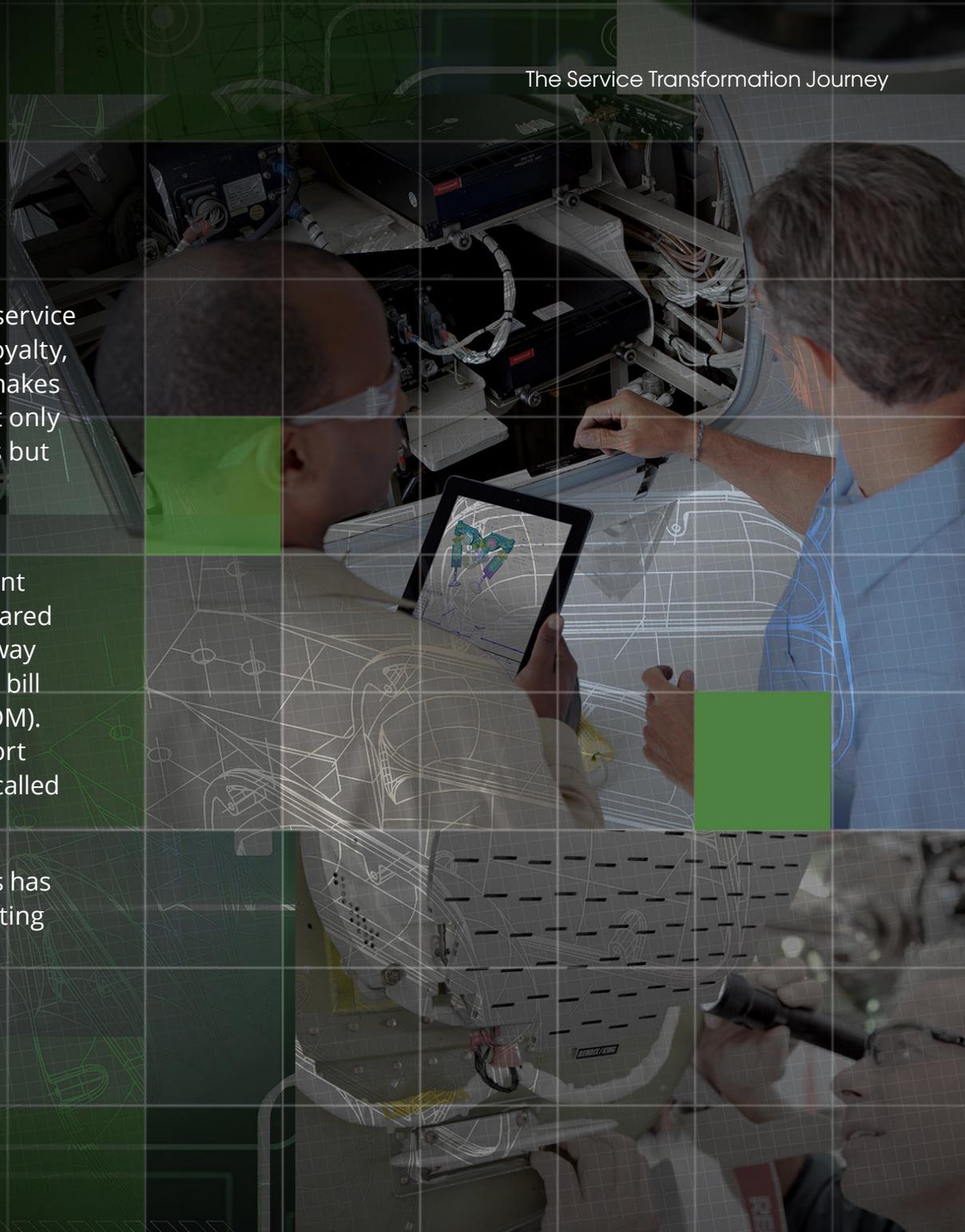
Transforming your eBOM to sBOM

Create a Competitive Advantage with Service

To surpass competitors, many companies utilize their service departments to connect with customers, earn their loyalty, and secure future revenue. Timely, reliable support makes customers feel valued, allowing manufacturers to not only sell them more products and renew service contracts but also establish service as a profit driver.

Achieving these goals entails increasing field service efficiency. Providing technicians with accurate, relevant product information is critical to ensuring they're prepared to address customer needs during service visits. One way to accomplish this goal is to transform the engineering bill of materials (eBOM) into a service bill of materials (sBOM). An sBOM is a BOM that has been reorganized to support how the product is serviced in the field. It may also be called a service parts list.

This eBook details how transforming eBOMs to sBOMs has benefited companies in the industrial sector, highlighting their experiences, lessons learned, and advice.



Why Transform the eBOM to an sBOM?

Service and support staff often waste hours searching multiple locations for product and parts information. Engineering and manufacturing departments do not always communicate product changes to service. As a result, technicians reference outdated product information and arrive with incorrect parts. In addition, many companies do not structure eBOMs in a manner that is easy for service to navigate. All of this leads to longer service visits, extraneous costs, and longer downtime, resulting in low customer satisfaction. What practices should you follow to overcome these challenges?



Defining Top Performers

To identify those best practices, Tech-Clarity defined Top Performing companies as those that significantly exceed their customers with:

HIGHER REVENUE GROWTH

GREATER PROFIT MARGIN EXPANSION

LARGER COST REDUCTIONS

Top Performing companies place increasing customer satisfaction as their number one investment goal for service. They achieve this objective by improving service productivity and eliminating repeat visits by ensuring technicians have the right parts. To accomplish this, their top initiatives involve streamlining product information for service teams. One of the best ways to accomplish this involves transforming eBOMs into sBOMs.

Manufacturer's Viewpoint: What Drove your eBOM to sBOM Initiative?

There are many reasons why manufacturers integrate their eBOMs and sBOMs:



Two major things drove us to integrate our engineering BOM with service. We wanted to automate the creation of the spare parts catalogue and publish the life limit of our components for our customers. With an integrated solution, there is no retyping of information and changes propagate not only to the design BOM, but also to the entire support and services BOM.”

– Nicolas de Mauroy, Core PDM Project Manager, Airbus Helicopters



We had an initiative to create a single source of truth with PLM. We have the intent to be integrated with service for numerous reasons. We were looking to improve productivity, reduce the cost of development for each new configuration, and reduce the number of part numbers. With this integration, we are also looking to enable new business opportunities for service and support.”

– Henrique Ladeira, PLM Program Senior Manager, Embraer



Where to Start?

Once you decide to move forward with the initiative, you must identify your starting point. Manufacturers recommend having a good sponsor who understands business needs. They also suggest being strategic about which program or product you start with:



We succeeded because we had a sponsor who cared about engineering, production, and service. Our sponsor came from the program organization so he oversees overall product profitability. Successful integration requires concessions from each group for the common good. A good sponsor can make this happen. You also want to be strategic about which program or product line you start with. We started with a new helicopter, which was not in service yet.”

– Nicolas de Mauroy,
Core PDM Project Manager, Airbus Helicopters



A strong sponsor is very important. That person should understand the needs of the users. It is very important to have someone that understands very well how the business runs. Our sponsor started as the Vice President of Engineering so it was seen as a process improvement project. Now he has been promoted to COO and has the full support of all teams involved. This has helped as we expanded to include the service department.”

– Henrique Ladeira,
PLM Program Senior Manager, Embraer

Consider Cultural Differences

Adopting technology, especially technology that integrates two different departments, often involves overcoming some resistance to change. Much can be learned from those who have already gone through this transformation and overcome the cultural differences across groups:



To support adoption, we embedded ourselves into the user community. When users had a problem, we were easily accessible. Being close to the users was key to our success so that we could do the tuning for all the different use cases. We also had to keep in mind the design office and support people have different tool requirements.”

– Nicolas de Mauroy,
Core PDM Project Manager, Airbus Helicopters



There should be proper communication between the engineering and service department. Also designate a bridge person to facilitate. This should be someone who is knowledgeable about both departments. It is better that the person already understands the problems on both sides. That will be a perfect way to be successful.”

– Service Technician,
European High Tech Company

Manage the Implementation

As you plan the project, consider the steps that will make the implementation successful:



As you work through the implementation, use a methodology such as Agile. By establishing strong deadlines, and delivering solutions bit by bit, you can tune the solution to specific needs. We built the solution in ten or eleven different steps, completing a step every six months. In the end, an Agile approach helped us a lot.”

– Nicolas de Mauroy,
Core PDM Project Manager, Airbus Helicopters

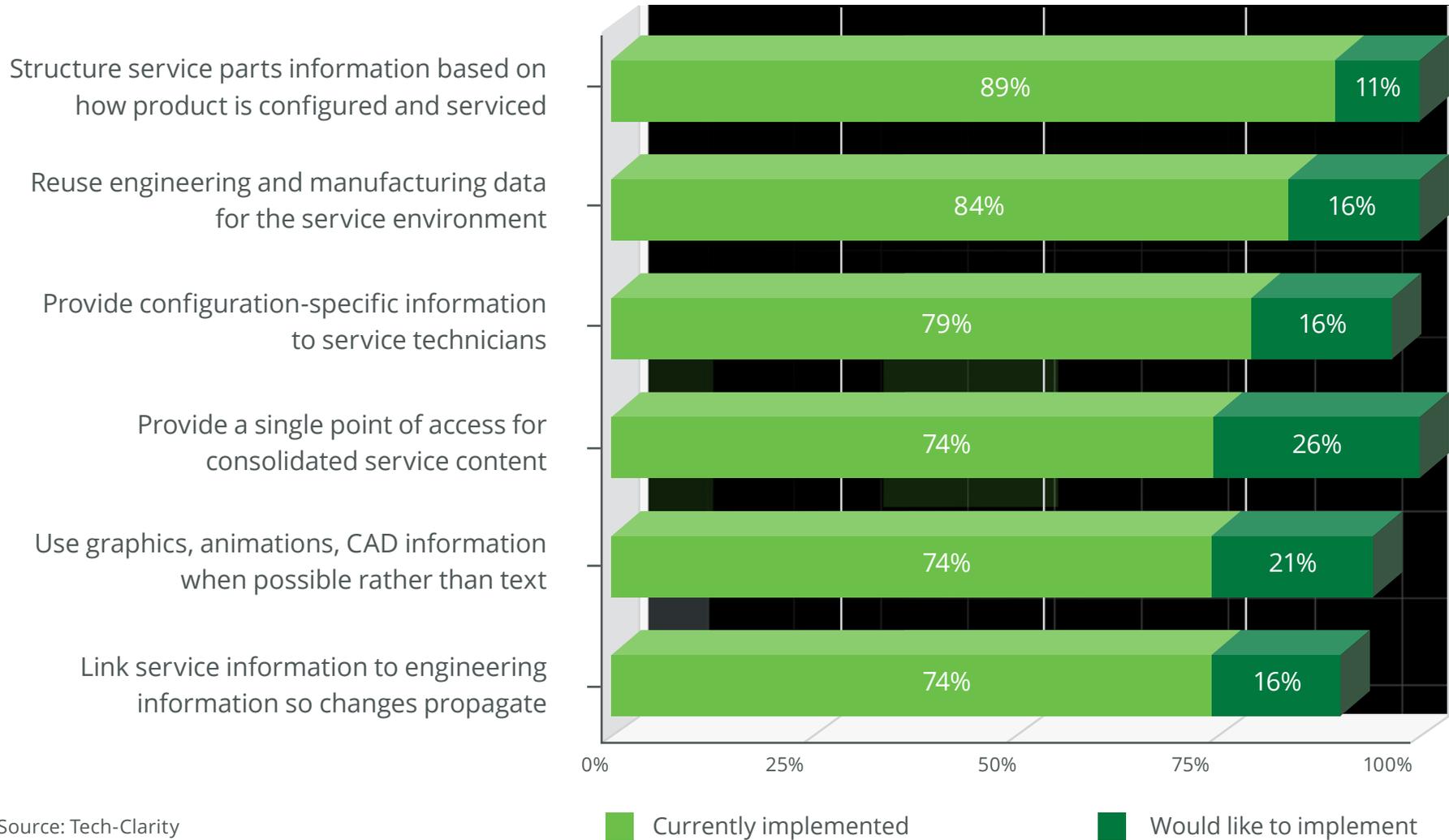


We have divided the sBOM project into 3 parts. In order to minimize risk and gain maturity, the scope of each phase can be adapted depending on business needs. To measure success, we are looking at the length of the feedback cycle with the field. There will certainly be more measurements as we progress, especially revenue related metrics, but we are not there yet.”

– Henrique Ladeira,
PLM Program Senior Manager, Embraer

Establish How to Create an sBOM

The graph shows how Top Performers create the sBOM. Overall, they take advantage of the information developed in engineering.



Consider Processes to Support the Transformation

Many reasons drive manufacturers to integrate the eBOM and sBOM:



By integrating engineering and service, we can synchronize them so our documentation is more accurate. We can also automate the sBOM creation. This provides agility to increase dramatically the frequency at which we publish technical data to our customer. With an integrated solution, it is synchronized in real time so it is fast and accurate.”

– Nicolas de Mauroy, Core PDM Project Manager, Airbus Helicopters



Start with an engineering BOM that includes EVERYTHING (including service-only kits). If service-only kits are not in your BOM structure, they are impossible to find later. The sBOM should originate from the eBOM with reference to the mBOM added parts.”

– Jonathan Gromatzky, North America Lead Special Vehicle Engineer, Automotive Company



Make the CAD and especially the ECN explanation available to service people. This includes what changed in the BOM with direct links to the CAD from the BOM.”

– Director of New Product Development, Consumer Goods Company



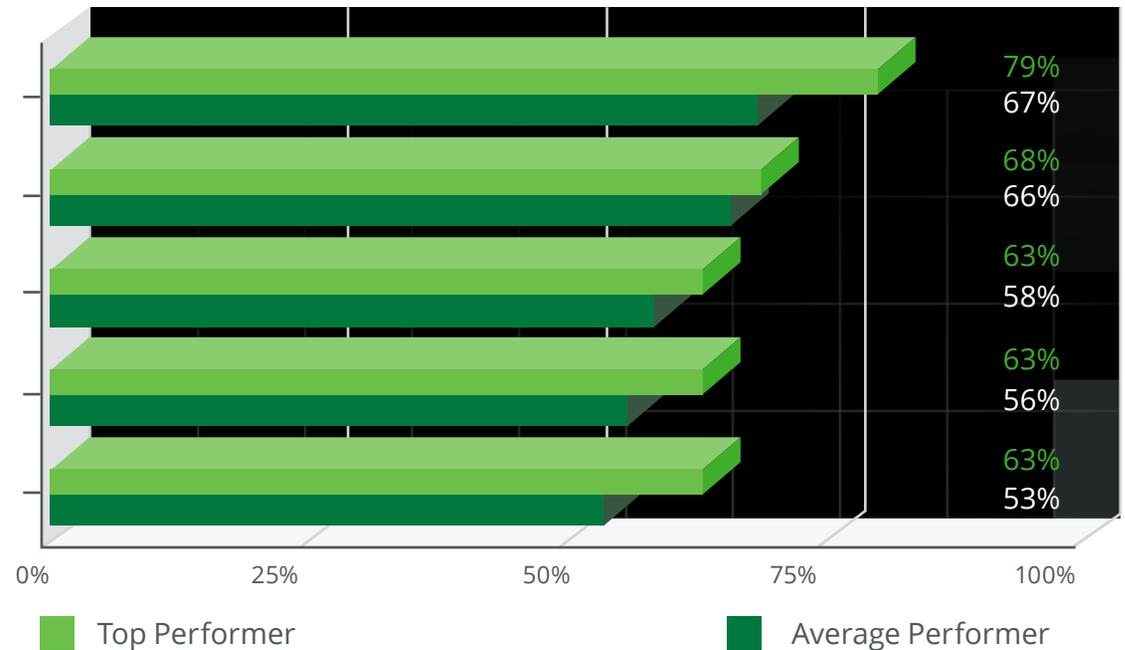
By linking engineering to the service BOM, you can better understand the service impact of upcoming changes.”

– Sr. Engineer, Consumer Goods Company

Identify What Should Go in the sBOM

To ensure your sBOM meets the needs of the service department, identify what information should be included. The graph shows what Top Performers include in their sBOMs:

- Identify what is serviceable vs. what is replaceable
- Identify part status (i.e. what's discontinued, superseded, etc)
- Identify genuine OEM components vs. manufactured components
- Configuration / model specific sBOM
- Group items together so they can be ordered / bought together rather than individually



Source: Tech-Clarity



Include interactive 3D graphical content in service documentation to provide a better understanding of the product and critical interfaces."

–Sr. Engineer,
Consumer Goods company



We can flag components by status to indicate early on the ones that should be replaced (e.g. a screw) and the ones that can be repaired (e.g. a pump)."

–Nicolas de Mauroy,
Core PDM Project Manager, Airbus Helicopters

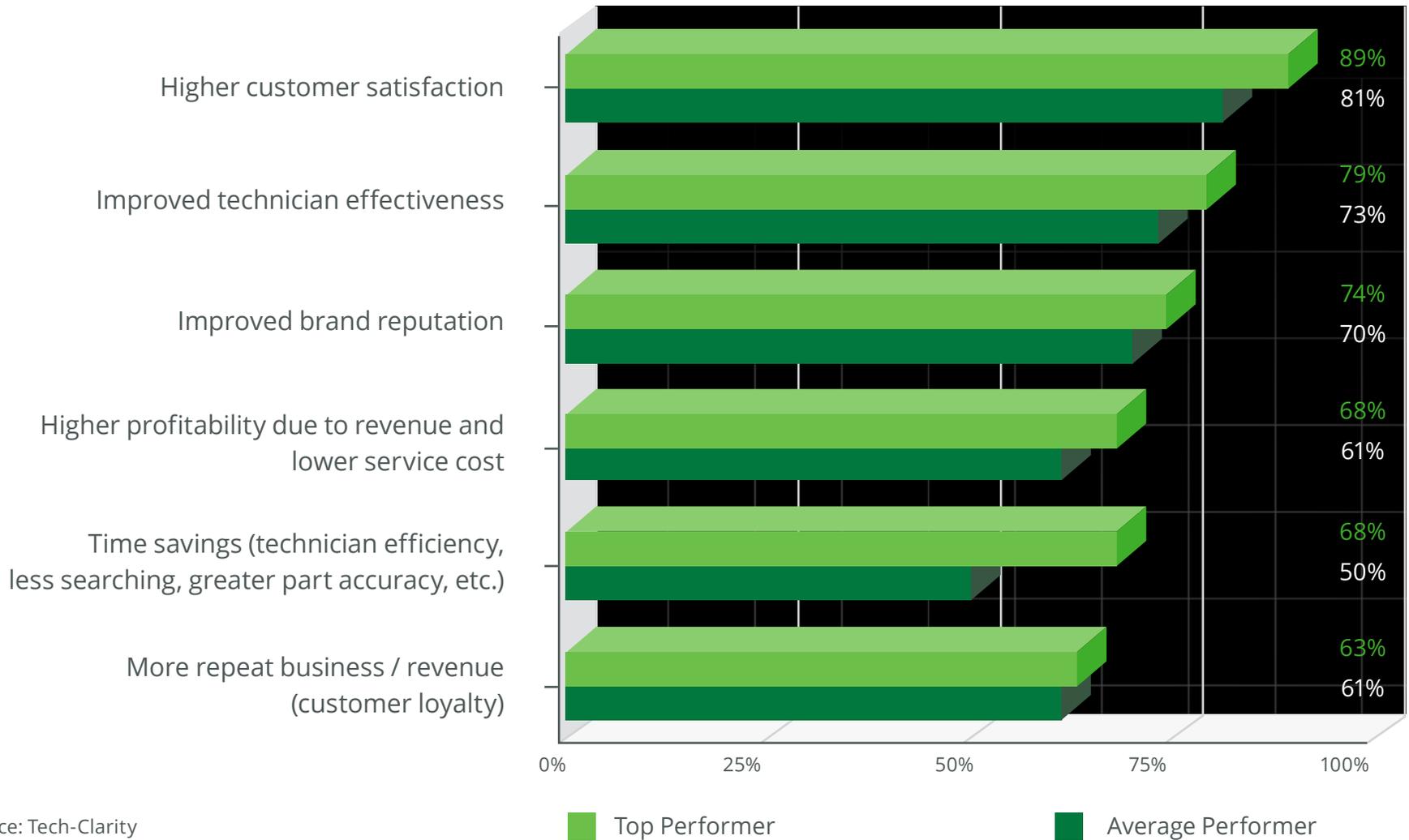


Include the availability of parts from manufacturers in the sBOM."

– Manager,
High Tech company

Win over Customers

As we discussed at the beginning, ultimately, the goal is about making customers happy. The graph shows the benefits that companies enjoy as a result of combining best practices with the right technology to support service and parts information:



What's Next?

Based on industry experience and research for this report, Tech-Clarity offers the following recommendations:

- 1 Integrate the eBOM and sBOM as a way to automate the creation of the sBOM and improve service technician efficiency, which will increase customer satisfaction.
- 2 Partner with a strong internal sponsor who is a business stakeholder and understands the needs of both service and engineering.
- 3 Understand the pain points you need to solve for both field technicians and engineers.
- 4 Consider a process methodology such as Agile to manage the implementation.
- 5 When developing the sBOM, include criteria that is critical to service such as what is serviceable vs. what should be replaced.

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Ready to find a solution that is right for your company? Download:

[Tech-Clarity's Buyer's Guide for Managing Service Information](#)

Checklist: Top 6 Criteria

1. Existing BOM Transformed to sBOM
Reduce time and ensure accuracy by leveraging the engineering BOM to provide technicians with service and parts information that has been intuitively structured for service.
2. Parts Illustrations Automatically Linked to CAD
Save time and improve communication, especially across translated information, with automated illustrations that stay up-to-date as engineering makes changes.
3. Parts Information Pulled from Engineering Data
Accelerate part catalogue creation by automatically deriving data from the engineering BOM to ensure parts information is continually updated.
4. Parts Information Delivered Digitally
Ensure service technicians always have the right information anytime, anywhere, on the device they need it at the point of service.
5. Breadth of Solution
Select a solution that supports the role of all stakeholders across the service network.
6. Compatible with Existing Systems
Consider existing solutions and keep what's working while putting in compatible solutions to solve challenges.

Learn More with Tech-Clarity's Buyer's Guide for Managing Service Information

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