

Explanation DOA Calculator

They are high in the top 10 annoyances of high-tech manufacturers: Defect On Arrivals (DOAs). Customers who receive defective components, are a source of difficult discussions about system availability, service level agreements and claims. Remarkably often DOAs are not high on the priority list of manufacturers. Even though addressing these problems can lead to a quarter more profit.

To quantify this, FPC did a research regarding the DOA topic together with the University of Groningen at a number of high-tech manufacturers. The main conclusions of this research are:

- Only a small part of DOAs is registered as such; from thorough analysis the actual DOA% appears to be 0.5-2% of the total number parts.
- The calculated costs related to DOAs amount up to 4% of the total revenue!
- The actual costs related to DOAs are even higher because the research did not look at all cost components (organisatory expenses, packaging, fines, reputational damage, etc.)
- For 20 to 40% of DOAs the cause can be found in logistics, whereby the packaging is designated as the culprit. Analysis shows that the packaging is fine, but the treatment of the part or the way of packing is the real cause of the DOA.

Use our DOA calculator to calculate what DOAs actually cost you.

On the basis of the research a calculation model has been developed to easily calculate the DOA impact for your organization.

Percentage DOAs

Within the companies that were part of the research a DOA% of 0.5-2% was found. Sometimes these values were different from the companies own figures because of a difference in definition or an inaccurate registration. Please fill the value within our definition: the percentage of parts or products delivered to the customer in an unusable state.

Average part value

Fill in the average sales value of the sold parts and components.

Number of parts sold

Fill in the total number of parts and components that are sold in a year.

Field service engineer cost per hour

What does a field service engineer cost you per hour on average?

Average repair cost per hour

What are the average repair cost per hour?

Average transport cost per part

What is the average amount of transport cost for a part looking at the standard, most used, transport method?

Why tackle DOAs?

The improvement of packaging processes in the supply chain helps to reduce the number of DOAs. This will directly impact your profitability! Spare parts are becoming more and more an important part of the revenue model within service and after-sales and also directly impact your reputation. Therefore it makes sense to have this sorted out. FPC helps with determining a thorough packaging policy and stops the improvising in your supply chain. By implementing PackAssist we take care that your packaging policy will be secured across your complete supply chain.

Explanation model

The DOA calculator contains a lot of variables with standard values on the background, which were part of the result coming from the research.

The “damage” component contains the total calculated financial damage caused by material damage and repair cost. DOAs often are the more sensitive (and more expensive) parts. The value of a DOA part is therefore substantially higher than the average part value. The repair part accounts for the cost involved in determining and repairing the damage. Next to this, when the damage is irreparable, the cost for dispatching or scrapping the part is accounted for. The “transport” component is for a large part determined by the fact that not all DOA replacement parts can be sent using regular transport. In a lot of cases an emergency transport will be necessary, which is much more expensive than a normal transport.

The “stock” component is a part of DOA damage that should not be underestimated. Because your stock system generates demand (whether or not automated) on the basis of mutations, handling and depreciation needs to be accounted for per part. Next to this repaired parts often get back on your shelf, which increases your stock value, often in an unseen way. Depending on your SLA the stock component of DOA damage could be a of high impact.

The outcome of the DOA calculator only gives you an indication based on assumptions coming from the research. But maybe this gives you enough reason to further investigate this subject in your own organization. Contact us if you want a more specific analysis or advice regarding the tackling of DOAs in your organization.