



## **Supplier Financial Risk**

How to proactively manage supply base risk in economic downturns

Applied Value Knowledge  
Cost Efficiency

April 2020

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# Introduction

Supplier financial risk management has long been an important topic on the agenda for purchasing organizations. Many companies however lack the tools and skillsets to dynamically and proactively manage their own supply base to mitigate disruptions resulting from suppliers not being able to meet their financial obligations. Today's just-in-time, low inventory, globally integrated supply chains are highly vulnerable to rapidly changing market environments. Traditional monitoring of suppliers' financial statements is no longer sufficient to ensure stability when macroeconomic factors change rapidly – the importance of accurately being able to predict cash flow stability of suppliers has increased. Dynamically assessing company financial risk requires a different set of metrics as well as the ability to project how different business realities may change a supplier's financial picture. Ultimately it is imperative to understand a supplier's ability to survive.

Shutdowns or disruptions in manufacturing operations can result in significant increases in cost bases for companies, both in terms of direct operative costs and alternative costs:

- › Reactively responding to supply chain disruptions is associated with high unexpected direct costs, such as production stops due to lack of certain supply
- › Part costs can increase if there is a need for supplier change due to lack of time to conduct proper sourcing processes and concentration on maintaining supply
- › Prices can increase in order to save distressed suppliers if no alternatives are viable in the short term
- › Labor at production facilities can become idle due to supply disruptions from bankruptcies
- › The quality of the product can be negatively affected if alternative suppliers cannot fulfill standards, which can harm company reputation

In addition, when new suppliers must be identified and onboarded quickly, the purchasing organization can become overloaded, creating a need for other resources to engage in screening, risk assessments, quality assurance, process creation and tool moves.

Increasing costs due to supply chain disruptions can be avoided by dynamically and continuously evaluating financial stability and predicting cash flows of suppliers. The connected supply chain world shows the importance of having an agile supply risk team with advanced skills that can quickly execute on strategies before the actual disruptions occur.



# Supplier financial risk methodology

## Introduction

A proactive supply base strategy requires multi-tier supply chain mapping and a dynamic supplier evaluation model. Many organizations have complete understanding of the tier 1 supply base, but lack insight into tier 2 and tier 3 suppliers, even though disruptions for second- and even third-layer suppliers can indirectly impact a company's supply chain significantly. It is also common that organizations lack forward-looking analyses and scenario modelling in their financial risk evaluation models and instead only focus on static, historical data updated on a quarterly basis at best. Data is not only sourced from public financial statements and credit agencies such as Dun & Bradstreet, Equifax and Experian – data collection also requires many interactions and discussions with the suppliers. It is a long process to become an approved supplier from a financial risk perspective, which requires interactions and paperwork with the finance division as well. Despite the extensive approval process, basing risk decisions on static historical data can cause unexpected interruptions in the supply chain that could have been easily mitigated.

Applied Value recommends a four-step process when advising organizations to create proactive supply base strategies that are robust enough to weather economic downturns, unexpected macroeconomic changes and mitigate operational disruptions that otherwise would have devastating effects.



Figure 1: Applied Value's financial risk evaluation process overview

## Conduct supply chain mapping

The first step in the process is to map out the complete supply chain, creating transparency of supply and helping to identify and mitigate disruption risk. The mapping should go beyond tier 1 suppliers and include second- and third-layer suppliers in order to completely cover the financial risk of each supplier.



Applied Value conducts supply chain mapping in 8 steps:

- 1 Determine critical components and origin of supply – map tier 1 suppliers
- 2 Identify tier 2 and tier 3 suppliers – requires engagement from tier 1 suppliers
- 3 Look at geographical spread of tier 2 and tier 3 suppliers
- 4 Estimate the percentage of the supplier's business that the company accounts for
- 5 Estimate the supplier's number of customers
- 6 Determine the supplier's split of top 5 customers and who they are (if feasible)
- 7 Assess level of diversification of both customer and industry base
- 8 Look at the diversity the supplier's business

The goal of the multi-tier mapping is to identify the points in the supply chain whose interruptions would affect the business the most – by focusing on the suppliers with the largest potential effect, an influential and workable supplier risk mitigation strategy can be created. Mapping tier 1 suppliers, and the layering beyond that, will enable identification of where risks and opportunities lie. Conducting supply chain mapping beyond tier 1 suppliers requires engagement from tier 1 suppliers, if the information is not already known.

The mapping should also create understanding of the supplier's diversification in customer base, industry base, geographical spread and top customers exposure. High exposure to similar customers operating within the same industry increases the risk of financial default for the supplier if macroeconomic factors change. Similarly, a concentrated geographical focus makes the supplier more vulnerable to rapid market changes. Collecting information on the number of customers and top customers will enable stress-testing of the financial stability of the supplier in relation to potential volume drops.

In general, close communication with key suppliers is highly important. An open relationship in discussing supplier financial status can be a great benefit for both parties. It can help with proactively anticipating potential changes and issues, but also make it easier for suppliers to manage their business and react to changes by getting the information the purchasing organization has.

Based on the collected data, the strategic importance of the supplier should be defined. The suppliers with critical roles in the supply chain, for which the company accounts for a large part of the business, should be placed high on the strategic importance scale.



## Create a dynamic evaluation model

A dynamic supplier evaluation model is necessary to proactively avoid disruptions from financial instability or default of suppliers. Most companies have connected supplier portals where financial information is gathered and analyzed. The data is however mainly collected during supplier onboarding processes, and credit agencies serve as the main information source of financial strength after that, which limits the relevance of the database.

Chosen risk metrics should be updated on an ongoing basis and should be tailored to the organization's risk level and preferences. Ratios that capture the most important and common financial performance measurements are described in the following subsection.

### **Liquidity ratios:** *Quick ratio, current ratio, cash ratio, cash to sales*

Liquidity ratios show the firm's ability to meet its current obligations without raising external capital. Liquidity ratios are important indicators for whether a company can handle sudden and rapid economic downturns, or if the liquidity will take an immediate hit.

### **Profitability ratios:** *Operating profit margin, return on equity, gross margin*

Profitability ratios measure a company's ability to generate earnings relative to revenues, costs, balance sheet assets and shareholders' equity. It also assesses the ability to control expenses and to earn a return on the resources committed to the business.

### **Leverage ratios:** *Debt to assets, debt to equity*

Leverage ratios evaluate the firm's capital structure in terms of the mix of its financing sources and the ability of a firm to satisfy its longer-term debt and investment obligations.

### **Efficiency ratios:** *Fixed asset turnover, days sales in receivables, days payables outstanding, days in sales inventory*

Efficiency ratios provide information about the management's ability to control expenses and to earn a return on the resources committed to the business, similar to profitability ratios. A very efficient company can easier handle periods of a tougher economic environment.

### **Cash access indications:** *third-party credit ratios, additional support opportunities during sudden economic downturns*

Cash access indications show a company's ability to raise cash when needed. Bank reevaluation of lending practices and credit covenants are important evaluation metrics that can rapidly change during economic downturns. Decreasing physical assets can severely impact a supplier's access to credit. Credit institutions also become more risk adverse during troubled times, making strong financials even more important. On the other hand, additional cash accesses might arise during economic downturns – understanding if suppliers are qualified for support channels of cash is also important for the stability assessment.



### Cash flow predictions: forecasts of cash burn rate based on revenue and cost assumptions

In addition to financial ratio and cash access analyses, it is critical that organizations predict the cash flow stability of the supplier to create risk mitigation strategies. Conducting cash predictions based on both historical data and forecasts will help companies see which suppliers will survive in the long run. By analyzing different forecasting scenarios, full understanding of supplier default risk can be achieved, which will be important input for the creation of the supplier compression strategy.

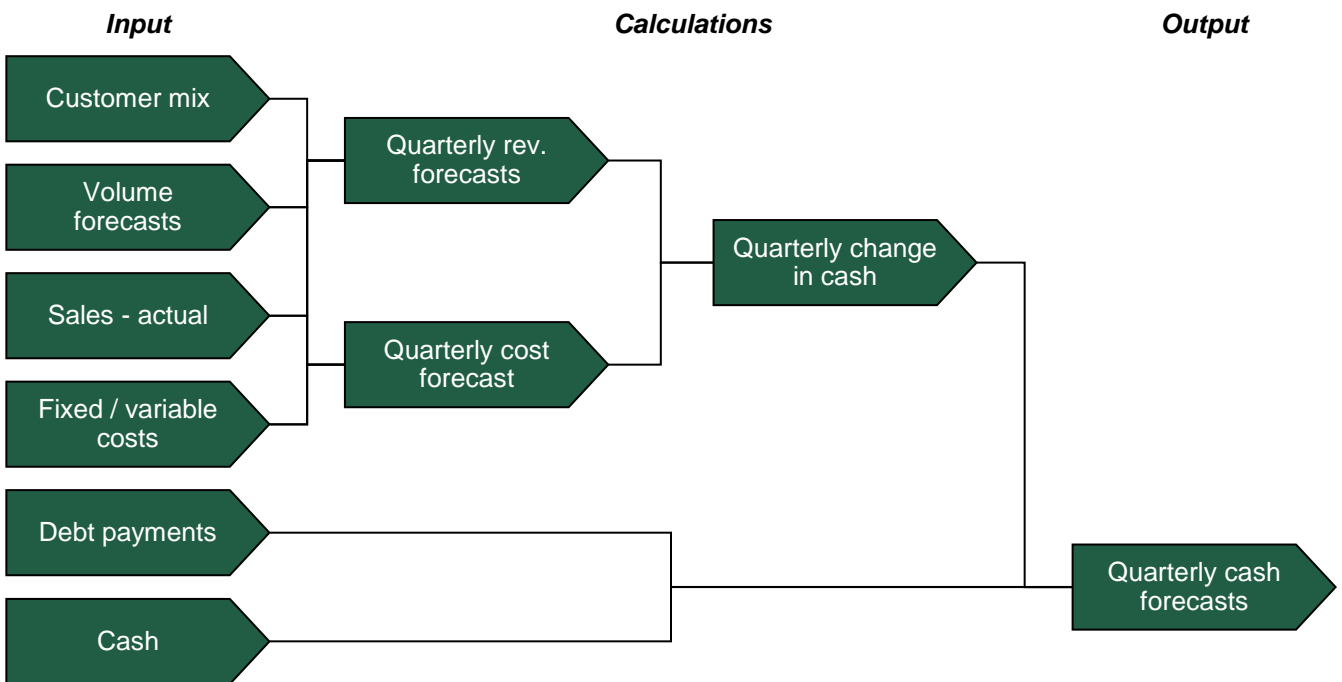


Figure 2: Dynamic evaluation model – cash flow predictions

### Evaluate suppliers – on a regular basis

Chosen financial metrics will create scorecards that assess and visualize the performance of the suppliers. This allows for a relative comparison of suppliers and helps identify risks that should be eliminated. It is recommended to make a weighted average of the metrics based on the relative importance of each to tailor risk preferences and specific focus areas of the company and its supply chain. The evaluation model should be updated continuously after regular interactions with the supplier and monitoring of the supplier.



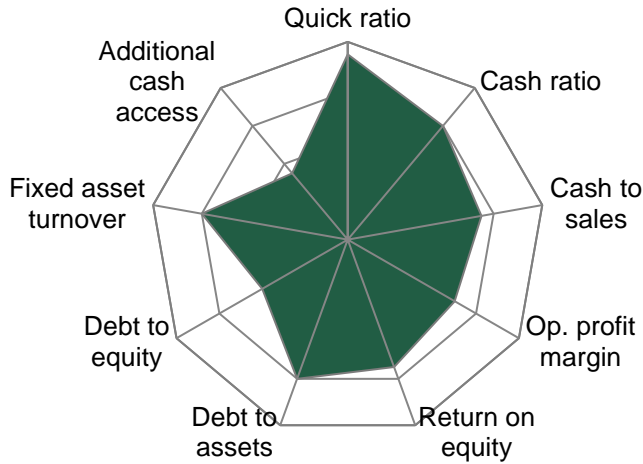


Figure 3: Supplier score card

In addition to the supplier score cards, an estimated cash burn walk should illustrate the financial stability of the suppliers. This will clearly illustrate when suppliers will run out of cash and where the highest disruption risks are located in the supply chain. There should be ongoing discussion with the suppliers on projects, specific programs and new business awards to ensure accurate data input. The extensive mapping of the suppliers will also allow for scenario analyses and their impact on the cash burn rate. By having estimations of the company’s importance for the supplier’s business, the supplier’s top customers and industry spread sensitivity analyses can be run based on different assumptions, such as volume drops, loss of customers and shifting industry demands. This will allow for stress testing and ultimately a broader understanding of the supplier’s financial strength. If the model shows a near-term default under modelling different scenarios, necessary mitigation actions should be taken.

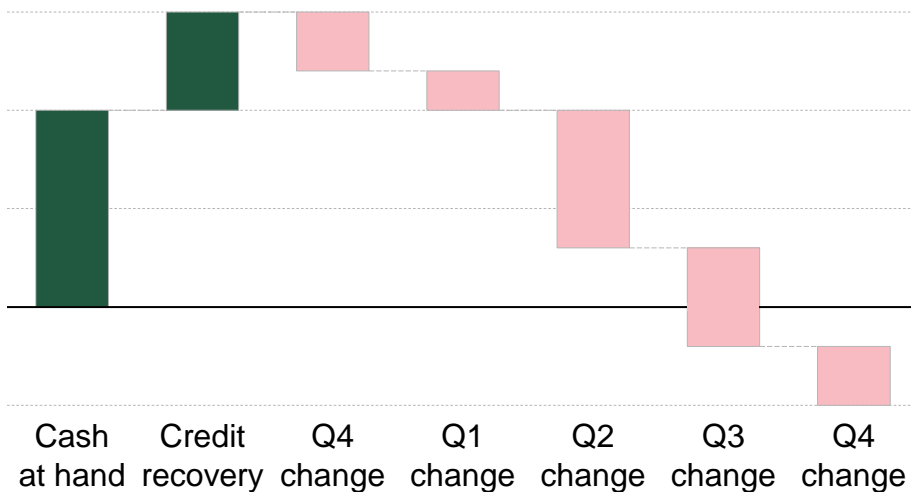


Figure 4: Estimated cash burn walk



It is further necessary to put the financial evaluation and the cash flow predictions in relation to each other to completely evaluate the financial position. An overall financial stability rating is allocated to each supplier based on the supplier scorecards and the cash flow predictions, which will serve as basis for supplier segmentation and finally the creation of a rigid supplier compression strategy.

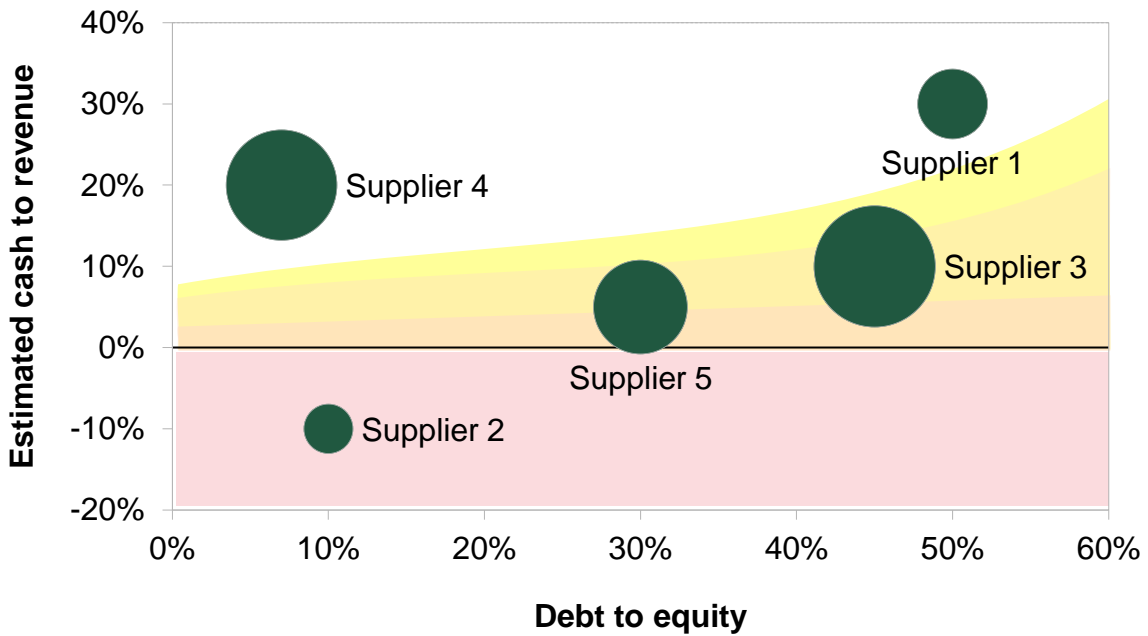


Figure 5: Model output for strategic decision making

### Conduct supplier compression

Based on the output from the dynamic evaluation model, the suppliers should be segmented into different categories. The strategic importance of the supplier, defined from the supplier mapping, is evaluated in relation to financial stability, segmenting the suppliers into three categories:

- > **Grow suppliers:** important, financially stable suppliers that should be nurtured and improved
- > **Fix suppliers:** financially distressed or less strategic important suppliers that can be fixed through assigning more volume
- > **Exit suppliers:** financially distressed and not important suppliers that should be exited

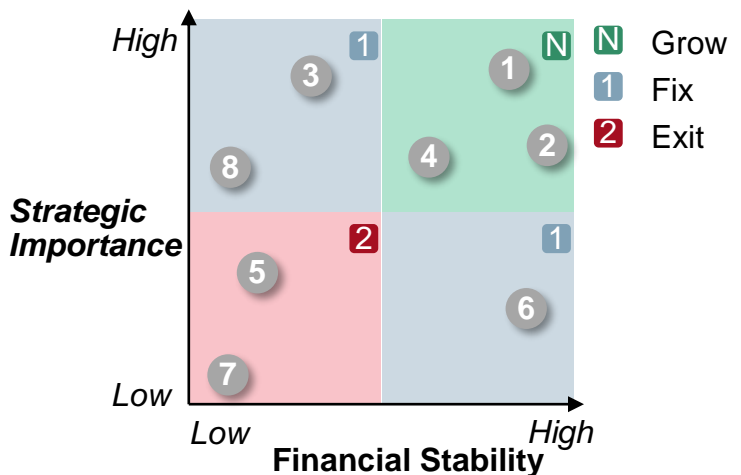


Figure 6: Supplier segmentation and supplier compression





It is important to note that the supplier tail should not be the sole improvement lever when compressing the supply base. Financially distressed suppliers with lower strategic importance, even if having high spend, should be removed to create the long-term sustainable supply base that is needed to avoid disruption in drastic economic downturns. Exited volumes from these suppliers should instead be leveraged to strengthen the position of grow suppliers and completing the fix position of others.

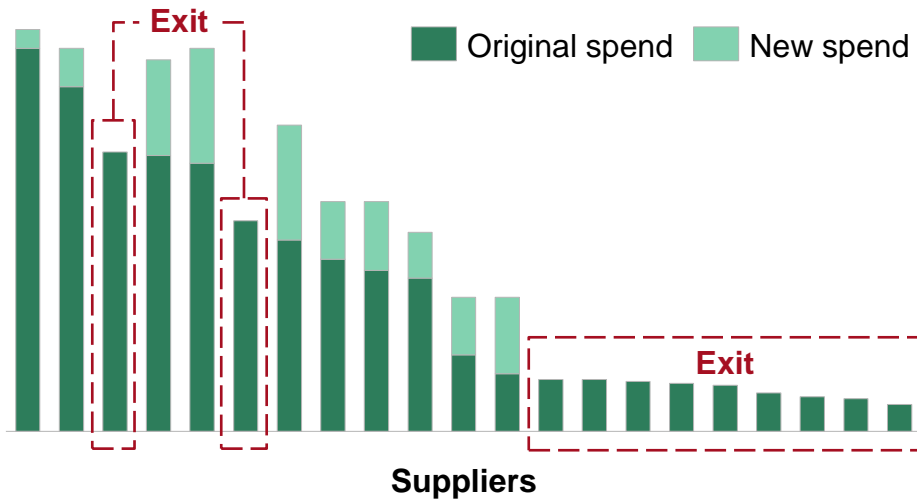


Figure 7: Supplier tail

The supply base should be rationalized accordingly, and appropriate mitigation strategies based on impact level and practicality of moving utilized.

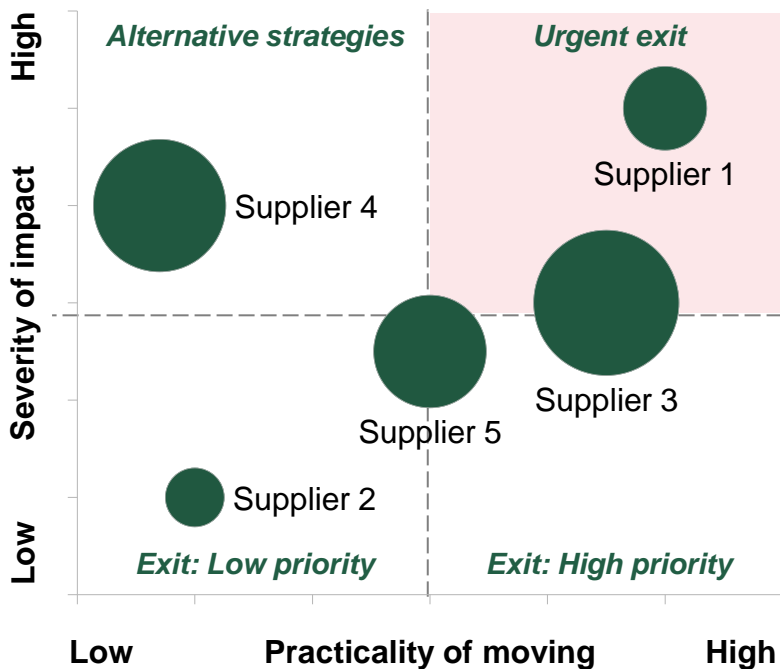


Figure 8: Prioritization of exit suppliers



# Applied Value case study

## Supplier evaluation and compression for global automotive OEM

Applied Value's client, a global automotive OEM, needed help to compress its supply base in order to keep financially stable, reduce complexity, and avoid production disruptions.

### Applied Value approach

The project kicked off with an initial assessment of the suppliers' financial stability, including cash on hand, credit line and credit utilization, exposure to the automotive industry and fixed and variable cost structures to identify which suppliers that potentially created production disruption risks. The robustness for the suppliers were tested through cash flow predictions, including scenario analyses with reduced production rates and changes in the automotive industry.

### Analysis

The financial risk analyses were conducted on over 1,000 of the client's suppliers. Data was collected from external reporting and extensive surveys where detailed supplier financial information were given, including information on customer and industry exposure. The information was in addition complemented with face-to-face discussions on expected future cash flows and financial position over the upcoming year. Suppliers were asked to show cost and capital improvement plans, plans to adapt to changes in the market and their long-term strategy regarding industries, customers, technologies and growth plans. The supplier's ability to raise cash was also part of the financial risk assessment, based on credit sources, bank debt terms, debt to equity ratios and shareholder loans.

Based on the risk analyses, in combination with the complexity of changing supplier and impact on the OEM business, the supply base was prioritized to identify a range of suppliers with required actions:

- › **Urgent exits:** financially distressed and non-strategic
- › **Growth suppliers:** strategic and in need of increased production volume

### Project result

Applied Value supported in drafting the process, building consensus on identified exit suppliers developing a timeline for prioritized exit suppliers, and driving the process forward with each commodity team. By formalizing the process and collaborating with several groups at the OEM, Applied Value helped ensure that all suppliers were covered, and that the supply base was re-sized by over 50%.



# Immediate actions to mitigate supplier risk

## Keys to successful supplier financial risk management

The key to creating a successful supplier risk organization is to create strategic and operative solutions before financial distress problems occur – the supply base should be managed efficiently to avoid reactive costly solutions to already existing problems.

Applied Value recommends organizations to start with the following concrete actions to initiate the development of a robust and stable supply base:

1. Identify critical components and map tier 1 suppliers
2. Conduct financial evaluation of the suppliers based on publicly available data
3. Make cash flow predictions based on current cost base and revenue assumptions

Having an initial understanding of the supply base and the financial strength of tier 1 suppliers is a good starting point for identifying the disruption risks in the company's supply chain. Doing a complete multi-tier mapping and predicting future financial stability of a supplier however requires engagements across organizations and firms and a more comprehensive set of dynamic evaluation metrics.

## Benefits from supplier evaluation and compression

Creating a proactive supply base strategy based on a dynamic evaluation model will create both direct and indirect efficiency increases and avoid unnecessary costs:

- ✓ Risk mitigation that avoids cost increases
- ✓ Supply base stability
- ✓ Volume aggregation
- ✓ Fact based action plan for each supplier – which to grow, support and exit

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