CODEXX WHITEPAPER

Monitoring performance in your inbound supply chain to drive improvement

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Introduction

How can you establish a system for improving supplier performance by using monitoring and measurement – and do it in a way that is both effective and practical?

A previous whitepaper[1] explored the practices needed to build a high performing set of suppliers. One key practice is to regularly monitor and measure performance of both suppliers and the Lead business's supply chain management. However this can be challenging for businesses to do effectively given the existing workload on the relevant personnel in Procurement, Supply Chain and Logistics functions.

> *Monitoring the performance of suppliers is a key aspect of Purchasing & Supply management, but one which can easily be under-resourced and neglected. When performance monitoring is undertaken post-contract, the purpose is twofold: a) to ensure that the supplier is meeting the performance criteria, e.g. service levels and quality, laid down in the contract b) to identify room for improvement.*
>
> (Source: Chartered Institute of Procurement and Supply[2])

This paper focuses on the practical details of measuring inbound supply chain performance in an effective way to help drive performance improvement for product-based businesses. Our focus is on the broader effectiveness of the inbound supply chain rather than CIPS' focus on individual supplier contract conformance. In doing so I'm going to refer to the thinking and methods we developed in building our new *zuppli* cloud-based service for driving supplier improvement as an example. This paper is structured to explore and answer the following key questions that readers are likely to have about measuring and improving the inbound supply chain:

1. Which suppliers should be monitored?
2. What should you measure?
3. How should you measure?
4. Who should do the measuring?
5. How do you use measurement to drive improvement?

1. Which suppliers should be monitored?

As discussed in the previous paper, enabling high-performing suppliers requires actions in both suppliers and in your own business as the manager of the inbound supply chain. Poor practices in supply chain management will result in sub-optimum supplier performance. So it is not just suppliers who should be monitored – but also the performance of the 'Lead' business in managing the operation of its inbound supply chain. So an open 'two way' monitoring approach should be adopted to review performance and identify improvement needs in both your own business as the supply chain lead and your selected suppliers.

[1] *How do you enable high-performing suppliers,* Codexx Whitepaper, September 2020
[2] *Monitoring the Performance of Suppliers,* Chartered Institute of Procurement & Supply, 2013

Turning to the suppliers, which suppliers should you monitor and measure? There are two perspectives to consider here: 1. Supply chain improvement and 2. ISO9001 compliance. The first perspective is the focus of this paper. But the latter is also very relevant. Businesses seeking to maintain ISO9001 compliance need to ensure that they can demonstrate effective processes and procedures for monitoring supplier performance. The latest (2015) update of ISO9001 has increased the requirements in this area:

In ISO 9001:2008 sub-clause 7.4.1, it was required to keep records of the criteria for selection, evaluation and re-evaluation of the suppliers. In ISO 9001:2015, there is now an explicit requirement to ensure monitoring and measurement activities are undertaken at appropriate points. The organisation is required to record not only the criteria, but also the results of these activities, including performance and monitoring. This has many implications for you if you haven't previously maintained records of the results of supplier performance activities. (Source: Qualsys[3])

1.1 Selecting suppliers for monitoring

Returning to our focus on improving the inbound supply chain, which suppliers should a business focus its performance monitoring on?

Let's first challenge that question and ask 'Why can't a business cover all of its suppliers?' It's a fair question. The answer is that monitoring suppliers requires time and effort from employees working in the Lead company in functions such as Procurement, Production, Logistics and Supply Chain Management. But these people are already busy doing the daily business – so freeing up time of such improvement activities is always a challenge. In addition every business will have a 'long tail' of suppliers that are only occasionally used or have low levels of spend on commodity items so are less critical to the business. So do such suppliers merit monitoring effort?

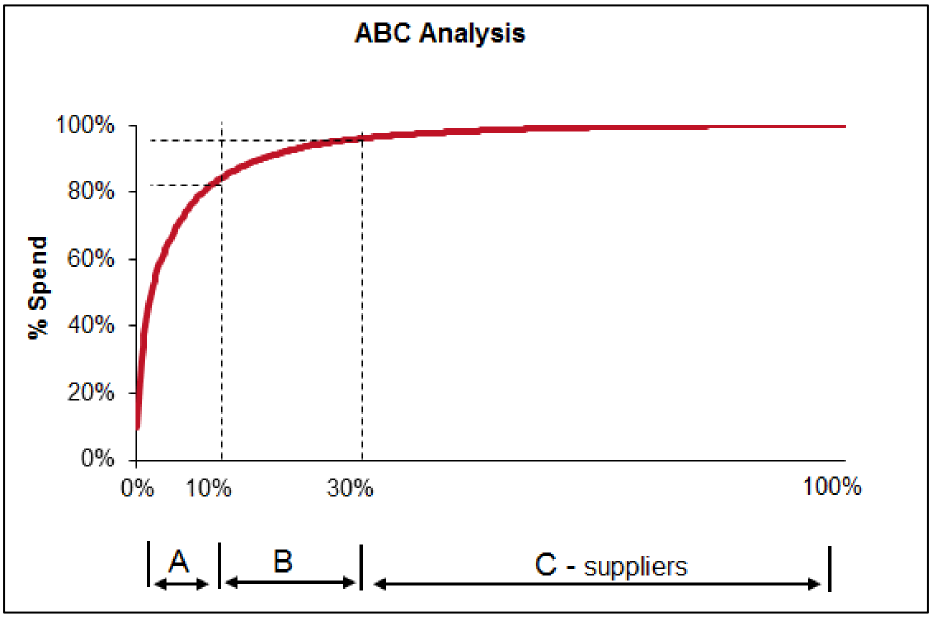


Figure 1: Supplier classification model.

(Source: Procurement-academy.com)

[3] https://quality.eqms.co.uk/blog/iso-90012015-clause-8.4-control-of-externally-provided-processes-products-and-services

So businesses need to select a subset of their supply base for performance monitoring that can be done with the limited resources available. How should they do that? There are two important criteria for supplier selection:

1. *We spend a lot of money with them.*
2. *They are strategic, due to the parts, materials or technologies they supply.*

The first selection criterion that can be applied is the level of spend, utilising conventional A/B/C spend categorisation (see Figure 1) based on the pareto principle. *Category A* suppliers provide parts/materials that typically account for around 10% of suppliers but 70-80% of spend. They should be included in performance monitoring due to their cost contribution to your products. *Category C* suppliers typically cover 50% of suppliers and only 5% of spend. Suppliers in this category should not be included in a focused performance monitoring programme unless some are identified as strategic. For a manufacturer many commodity fastenings for example will be covered in this C category and due to their low relative value extra inventory can be held to buffer any supply issues.

The key question then becomes which *Category B* suppliers should be monitored? This group will typically cover 30% of suppliers and about 15%-20% of spend. This selection will be a balance between the resources that can be made available for supplier performance monitoring and the importance of the suppliers to the business – so a judgement needs to be made. The second selection criteria – the strategic nature of the supplier to the business – can be a factor used in this judgement. Thus the final suppliers selected for monitoring will be all the 'A' and many if not most of the 'B' category suppliers.

Supplier view of your performance:
Metric
Demand Management
Payment performance
Cost of doing business
Problem support
Additional value
Improvement suggestions

Your view of supplier performance:
Metric
Delivery performance
Product/Service quality
Cost of doing business
Responsiveness to change
Additional value
Improvement suggestions

Figure 2: Assessment metrics – zuppli example

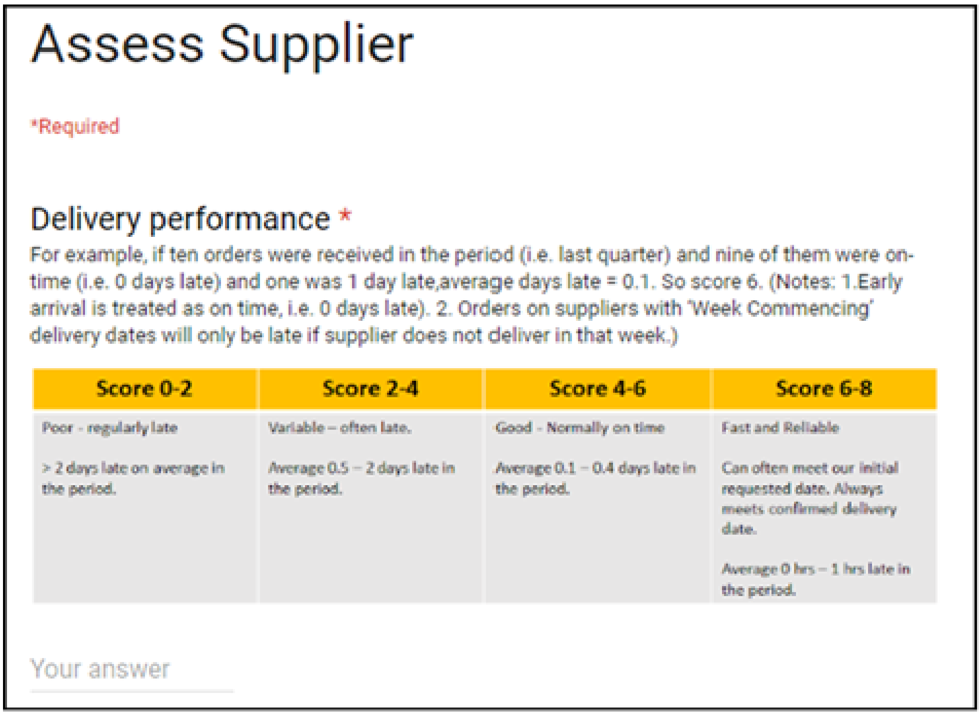
2. What should you measure?

This is where practical approaches need to be applied. A monitoring approach is required that gathers just enough information - and no more. The constraint is the time and resources available to be spent on supplier monitoring activities. A detailed questionnaire might provide lots of data – but will require a lot of time to complete and so runs the risk of a low level of participation or just 'tick box' completion.

You want an assessment approach that encourages assessors to score effectively and add valuable insights and suggestions in their comments. In developing *zuppli* we spent a lot of time honing the metrics we believed were core to assessing the inbound supply chain performance. We reviewed these with businesses and supply chain professionals. We narrowed the metrics down to just five to assess supplier performance and another five to assess the performance of the supply chain lead business in managing its suppliers. We gave assessors the ability to add comments to explain their scoring and also to provide overall improvement suggestions. The metrics are shown in Figure 2 – and were discussed in detail in the previous paper[4]. These metrics cover the critical aspects of the inbound supply chain operational performance and are independent of the business sector.

3. How should you measure?

We must never forget that measuring supply chain performance is not an end in itself. We are doing so to identify performance weaknesses and thus trigger focussed improvement activities. In developing *zuppli* we were guided by our extensive experience in benchmarking over the last 20 years - and the positive way it has catalysed improvement in businesses. This benchmarking has proven to us the effectiveness of a 'maturity-level' scoring approach; with a performance or practice described in a number of levels from 'poor' to 'excellent'. The benchmarking assessor determines which level best matches the current situation in the company being assessed.


Assess Supplier

*Required

Delivery performance *

For example, if ten orders were received in the period (i.e. last quarter) and nine of them were on-time (i.e. 0 days late) and one was 1 day late,average days late = 0.1. So score 6. (Notes: 1.Early arrival is treated as on time, i.e. 0 days late). 2. Orders on suppliers with 'Week Commencing' delivery dates will only be late if supplier does not deliver in that week.)

Score 0-2	Score 2-4	Score 4-6	Score 6-8
Poor - regularly late > 2 days late on average in the period.	Variable – often late. Average 0.5 – 2 days late in the period.	Good - Normally on time Average 0.1 – 0.4 days late in the period.	Fast and Reliable Can often meet our initial requested date. Always meets confirmed delivery date. Average 0 hrs – 1 hrs late in the period.

Your answer

Figure 3: zuppli assessment screen

[4] Parameters such as the negotiated price and terms for the purchase of the supplier's parts or services are not included as these relate to the supplier selection, not operation. A business considered these terms acceptable when it selected the supplier.

We took this approach in developing the *zuppli* scoring method as shown in the example in Figure 3 for assessing a supplier on its delivery performance. Four maturity levels are defined for each metric and assessors can determine which level the supplier is performing and within that level whether the supplier is nearer the top or the bottom to enable further scoring precision. The same logic is used in the assessment screens for the other metrics and in the form for suppliers to assess the lead company's performance in managing the supply chain.

This approach links evidence to scoring and thus makes the assessment as objective as possible. Assessors will use relevant data from their business systems (e.g. ERP reports) and get feedback from relevant personnel to provide an appropriate score for the assessment period.

Our benchmarking experience had also taught us the importance of enabling cross-sector comparison. Finding and applying better practices and performance from other sectors is a powerful way to drive higher performance. Thus we defined the *zuppli* metrics to be <u>sector neutral</u> so that they could be applied across a mixed supplier base – but also over time enable cross-sector supply chain comparisons. Supplier 'Delivery Performance' is a good example of this. The metric covers businesses working to specific hourly delivery slots – as in automotive factories using 'Just in time' delivery – and also chemicals businesses working to weekly delivery schedules. We use SIC (Standard Industry Classification) codes in *zuppli* to enable sector-specific comparison to be made if needed.

The frequency of monitoring is another important factor to consider. In our experience a quarterly frequency is the most practical. It is regular enough to maintain a good view of performance and identify emerging issues early. There is also enough time between quarterly assessments to enable improvement activities to be performed to address problems identified in the assessments. This is why we consider that a monthly assessment frequency is too high and a yearly one too low.

4. Who should do the measuring?

It's important that people are engaged in the monitoring and measuring process - as ultimately supply chain improvement is based on people and relationships. Whilst digitalization of supply chains is a foundation of today's global supply chain operation and efficiency, people are needed to drive operational improvements. It can be easy to think that you can understand a supply chain from just the data provided by ERP and supply chain management software. However there is much information that is not digitised - that is important to the effective and efficient operation of supply chains. For example a supplier's responsiveness to change requests, additional value added through improvement ideas, the ease of working with a supplier's people are all important aspects which cannot easily be digitised today.

For this reason the assessment scoring should be performed by people. So suppliers will be assessed by selected personnel drawn from Procurement, Logistics and Supply Chain functions. The Lead business will be assessed by supplier personnel working in functions such as Order Management, Planning and Production. There is also the opportunity to engage more personnel in supplier monitoring and improvement activities – especially shop-floor staff in areas such as Goods Receipt, Quality and Production. These personnel have direct day-to-day experience of supplier parts and materials and thus can provide useful feedback on supplier performance. In our *zuppli* service we plan to include this so-called 'monitor' functionality in future releases to bring this 'real life' experience to the assessors for them to factor into their quarterly scoring.

5. How do you use measurement to drive improvement?

We now come to the purpose of our monitoring and measuring activities. Without achieving performance improvement following these activities we have failed. The time and cost of monitoring and measuring performance must be more than equalled by the benefits gained in performance improvement. So making use of information gathered from the assessments to effectively define and execute improvements is critical. How do you effectively do this? We've identified six key success factors that need to be addressed for a successful supplier performance assessment & improvement programme:

1. **Suppliers need to be motivated to take part**
   It should be easy to participate & they should get value from the programme.
2. **The assessments should be quick and simple to complete**
   Too onerous or complex and there will be low or 'tick-box' participation.
3. **Measurements need to focus on key areas of performance**
   This will help ensure that assessments can be completed relatively quickly.
4. **Reports need to be clear to read and identify needed improvements**
   These enable suppliers and your business to identify improvement actions.
5. **Improvements need to occur across the inbound supply chain**
   Don't think that root cause supply chain problems are just in your suppliers…
6. **The programme needs to be maintained over the long term**
   Performance monitoring should just be part of operating your supply chain.

To help illustrate the application of these factors in practice, here is how we designed *zuppli* to address these success factors:

zuppli is based on the premise that a high performing inbound supply chain requires high practices and performance in both the suppliers and the business that is managing the supply chain. Therefore its core process is a 'two-way' assessment of the performance of both suppliers and the Lead company. Suppliers get the value of an objective assessment of their performance in comparison with other suppliers and are also able to rate the Lead company. As the zuppli pricing model is that the Lead company pays for the service, suppliers receive these benefits for no charge. To help encourage suppliers to provide honest appraisal of the Lead company - ‘straight-talking’ – the reports on their feedback received by Lead companies are anonymous.

The quarterly assessments use 5 core metrics to assess supplier performance and 5 others to enable suppliers to assess Lead company performance in supply chain management. These help ensure that assessments can be performed quickly, yet yield the key performance information required to identify improvement needs.

The assessment process is automated and assessors are contacted via email to request their quarterly assessments. Assessors click on the URL in their email to reach the assessment page that is pre-configured for the supplier/Lead that they are nominated to assess. The assessor scores the supplier/Lead against each of the 5 performance metrics for the quarter against the maturity grid. To help raise participation, zuppli automatically reminds assessors when they have not completed assessments and escalates as needed to their managers. Non participation in the survey results in suppliers and Leads not receiving the assessment made on them.

Reporting is a critical part of the measurement process. We designed zuppli to automate this process and provide reports as soon as the assessment is completed. An example of a zuppli report for a supplier is shown in Figure 4. There is a similar format report for the Lead company on its supply chain management performance, as assessed by suppliers.

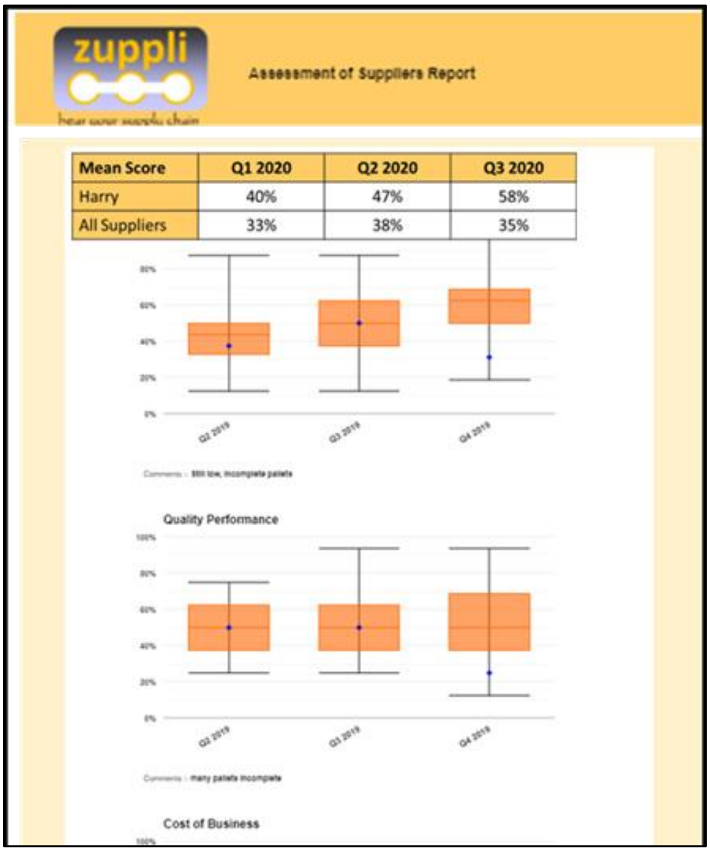


Figure 4: Example of a zuppli performance report for an individual supplier

There are a number of key design elements in the *zuppli* reports:

1. The reports are visual so that status and trends can be immediately seen.
2. Comparison is provided with the previous 2 quarters to show trends.
3. Each supplier is shown how they performed in each of the five metrics against the other suppliers using quartile charts.
4. Comments are included to provide reason and evidence for scoring and also improvement suggestions can be made.

So how can such reports help drive improvement? Using *zuppli* as an example:

1. Improving the performance of suppliers

- Providing each supplier with a report on their comparative performance with other suppliers provides some implicit pressure that is proven to help drive improvement without further intervention. This visibility will help proactive suppliers identify the need for improvements in specific areas and take actions accordingly.
- By providing the Lead company with a quarterly score of the performance of their connected suppliers, poor-performing suppliers and those who are not showing sufficient improvement can be targeted for separate discussion and action. In addition, the Lead company can use this information in supplier reviews and future negotiations.

2. Improving the management of the inbound supply chain

- zuppli provides Lead companies with feedback from their suppliers – on an anonymous basis (to encourage suppliers to speak out without the fear of impacting their relationship with their customer) – covering key supplier management practices such as forecasting, ease of working and support. Lead companies can use this information to identify weaknesses in their supply chain management practices and to put improvements in place. Such improvements will help suppliers operate more effectively and thus increase their performance.

Conclusions

With supply chains being critical to the effectiveness of today's product-based businesses, ensuring high performance of suppliers is a key success factor. A structured and systematic programme for the monitoring and measurement of the inbound supply chain thus becomes a requirement for competitive businesses. This short paper describes the elements of an effective approach to use performance monitoring to drive performance improvement in the inbound supply chain. To help businesses effectively perform performance monitoring and measurement, there are automated tools such as zuppli to improve both the effectiveness and efficiency of such programmes.

About the author

Alastair Ross is the founder and Director of Codexx Associates Ltd, which he established in 2002 following a career in IBM manufacturing, consulting and management. He has consulted globally to industrial and services clients for 30 years. He has led the development and commercialization of the zuppli service. He is also a visiting lecturer and consultant on MBA and MSc programmes at the University of Southampton Business School. His latest book *'Thinking about value'* is available on Amazon.

About Codexx

Codexx provides consulting services focused on Lean, re-engineering and benchmarking to the industrial and professional service sectors. It was established in 2002 and is based in Romsey in the UK. For information on Codexx services and experience go to www.codexx.com

Further information

For further information on this paper, or on zuppli, go to www.zuppli.com

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