

DATA COLLECTION FOR LOGISTICS OUTSOURCING



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Intro

Data collection, what a boring topic! So why is it important to get it right? The answer is risk reduction.

The key question you need to ask yourself in addressing this task is: what are the factors that dictate how many times an activity takes place and, given the activity levels, how do internal and external metrics convert these into resources and then costs?

You need to capture the key parameters that drive the size and shape of your operation. You need to consider: sourcing and supply, customers, service levels, geography, flows (including returns and empties), end-to-end timings, SKUs / stock, forecasts, capacities...

I'm not a particularly poetry-oriented person, but I do like Kipling in this instance:

*"I keep six honest serving-men, (They taught me all I knew);
Their names are What and Why and When, And How and Where and Who"*

...as a logistics professional I like to expand "where" to "from/to where", and add "how much" to that list.

What sorts of data should you be collecting?

So, given that you have to do it, what data do you need to collect for outsourcing projects?

The types of data you will be collecting will depend on your own operation, every one is different. But the list is likely to include: range of products, stock volumes, picking and order profiles, replenishment quantities, despatch information, transport requirements, intake levels...

Don't forget or ignore areas such as returns, empties, stock checking, so-called "uglies", samples and odds & ends – all the things that make life that bit harder and all the little extras that shouldn't happen but do – all that extra cost that wasn't in the previous tender or budget.

As well as activities and volume data, you will also need information on the characteristics of your products. Requirements that add extra costs and granularity to your volumes – different temperature regimes, or the need to segregate certain types of goods, for example. There will be requirements that drive the particular types of equipment you use – dimensions, weights etc.

Ensure that the key unit that is being used for each element of the operation is clear, and the "Russian Doll" of pick units, transit units, pallets and so on – intake, picking and transport probably all have different measures of activity.

Define the data you intend to collect and keep returning to that list – stay focused: what are the key parameters that drive the size and shape of the operation? And set up a folder for information exactly as it's received with the name of who provided it and when, so you can go back and query it as necessary.

Your objective is to establish what happened / was captured and why.

Challenges in sourcing the right data

Where should you look for data? Obvious places include the warehouse and transport management systems, so you will need to brief your logistics provider/s if you already outsource. Other data may come from your own business systems, and from productivity metrics and KPI reports.

Some departments or areas may be information-poor. There do seem to be certain areas of the business where it is more or less easy or difficult to get the right data.

It can be difficult getting the data out of ERP systems in a format that is useful. Unless you can access the real gritty raw data, a lot of reality can be hidden. Sales data may not include cancellations and returned material ...but those goods still needed to get picked and/or go out on delivery.

Transport can be a challenge as the detail may not be held on a system. If this is the case, then regularly ask for detailed data that you perhaps don't need for day-to-day management of your operation, but so that you can check its existence from time to time. And then check it: are drivers properly debriefed, do they understand the importance of what they are doing, do they take paperwork seriously? ...after all, we've all ticked the box on the web to say we've read the Ts&Cs!

It can be tempting to design templates for data collection in the expectation that they can be completed easily, but you need to be prepared to revise your approach if what you want is unavailable and you don't get quite what you were hoping for.

The voids in your data collection exercise are as important as the rich seams, if not more so. Sometimes you may need to interview staff to explore what's typical and what a tough day looks like. You may need to be imaginative – for instance, look at finance files to find out the true level of credits, stock accuracy and claims. You may need to take snapshots, monitoring the operation and recording typical values for a representative period.

Data reliability

There are two key areas here – whether the data you've been provided with is accurate and whether the data is typical.

Where possible, cross check data from different sources and carry out sense checks – in particular, carry out what a pilot would call “gross error analysis” – are the units right, is the decimal point in the right place, if you multiply up the volume for one day, does it give the right sort of number for annual activity?

You should get as many people as you can in your organisation to verify data, including your logistics provider if appropriate. This should be carried out at an appropriate level and you should filter the data, for example by particular supplier, so that you are only asking someone to check the bit that they understand and have responsibility for, so that they don't get snow blind. You need to make the process as easy and effective as possible.

Pay attention to quality of the data set – not just whether it is accurate in itself, but whether it creates an accurate impression of your operation. Some of the Beeching railway cuts were reportedly based on analysis undertaken over a very restricted period, not reflecting key usage.

There isn't room to go into a huge amount of detail here, but if you find yourself having to provide sample data (for example for a pan-European contract where the quantities of data are vast), you may want to carry out some statistical analysis to ensure that your data set is typical as opposed to average. Check the standard deviation to the norm, think about dependent versus independent variables and carry out some tests of reliability and robustness.

Plan versus Actual

You may need the bidding companies to understand what the plan was and then what really happened. Give them past actual versus budget to give a feel of the accuracy of forecasting. Include data that will help the logistics provider understand the extent to which life goes to plan on a daily basis and assess the impact on the contract, for example, of supplier late deliveries. Keep an ongoing diary record of events that affected volumes and/or resources used – snow, IT failures, Olympic Games, strike action...

You should guide the logistics providers on how to use the data – should they bid on the basis of the plan or on the actual, and should they be including contingency? ...how much would those additional hours cost if you didn't know about them until the day and you'd had to get in resource at the last minute? You need to make this very clear as this is an area where the existing contractor can be penalised for knowing how you actually operate, building in contingency, where the new bidders provide for what is in the tender as if that was what was forecast (so-called Ryanair bidding).

Raw data or summary

Should you summarise? Following on from the theme of the previous section, if you provide an average order size, for example, is that average a fair reflection. Averaging across the day or week can be dangerous – even if you ensure that peak volumes are identified, remember that, from a productivity point of view, the low points in the year can be as important.

You need to think through the risks and benefits – the way you choose to go will depend on the relationships involved and the nature of your tender. If it's a complex logistics operation that you are putting out to major 3 or 4PLs, with whom you expect to have a collaborative relationship, it's fair to expect that the companies will be sophisticated and have the wherewithal to analyse your data. But if it's a straightforward transport tender going out to smaller players, you may get more responses if you make it easier to respond.

The general feeling seems to be that logistics providers should be provided with the raw data wherever possible. But do remember to allow the time for this to be carried out and do have signed non-disclosure agreements in place, as you will be sharing the bad stuff as part of the reality of the business.

By all means summarise it for your own understanding, but the “real thing” is much better than trends and averages. Otherwise you risk telling the bidders the answer and restrict their opportunities to be imaginative in their solutions for you.

The next X years

As well as collecting data about the current operation, you also need to be able to tell bidders about what the next X years are expected to look like. This can often be a project in its own right.

You will need to talk to customers, sales departments and directors to find out where people think the company is going in the next X years – not just with respect to volume changes, but the profile of the business. Is a relatively small part of the business, with a completely different profile, destined to become a much more significant element? Is a completely new area of business envisaged? Is the structure of your industry changing? Does the company intend to target new markets, possibly international? Will this result in different customer requirements?

Consider what all this means for the range of products, the number of SKUs, their dimensions, stock-levels, pick units... And what external factors do you expect to change and impact during the life of the contract?

The role of market data

What market data is useful in running a tender? It's one of those questions that sometimes have to be turned round: what market data can you get hold of?

There is plenty of market data available from a number of free-to-use and pay-for sources – country forecasts for growth, exchange rates and so on, benchmarking reports on logistics wages, fuel price information, inflation indices from the Office for National Statistics, and trade research such as warehouse rental costs from industry sources.

Check out some of the sources that I have included in previous hand-outs for CILT's Outsourcing & Procurement forum events: <http://bit.ly/CILT-OutsourcingAndProcurement> (right at the bottom of the page at the time of writing). Another early port of call should be CILT's Knowledge Centre which has information from a variety of sources. And get on Google.

But don't forget that external information hasn't been compiled for your benefit and may not be exactly comparable with internal data, so you need to question it – but it will allow you to set some benchmarks for key data and be in a position to question the responses to your tender.

Assumptions and clarification

You will almost certainly need to make assumptions. That's not terrible. But make sure that you keep a record of any assumptions made and the basis for them.

In the absence of good data, making assumptions can give structure to the tender and allow comparable responses – for instance, you may need to ask the contractors to add a set percentage to deal with "funnies". However, a particular assumption could also give a false impression, and possibly in an area where the bidders may be better able to judge the factors required. If you clearly state assumptions, this will give opportunity for them to be challenged and changed as necessary. Invite clarification questions during the tender process and issue standard response notes to all participants.

Understanding bidders' responses

Not strictly data collection, but you will have wasted all your hard work if you're not ready to follow up. Design a template so that the respondents can come back in a set format, which should be easily comparable to your current operation, particularly if you have an open book arrangement. This shouldn't just be about costs, but include key metrics and assumptions that are driving the costs in each bidder's response so that you can be sure you are comparing apples with apples. It will also allow you to explore the impact of, for instance, varying fuel prices, particularly where responses include different types of distribution network. If you are operating a closed book contract, getting bidders to list all the assumptions will give your procurement department the opportunity to delve into the detail.

Get your board to actively challenge assumptions made by the bidders during presentations of proposals – don't just let the process be a "beauty parade". And then don't fall over at the last hurdle. Then, complete the circle on the legal side – cover off the what-ifs, making sure that you are involved in the data that goes into the contract and you are happy it matches the tender.

Resourcing

If this process is to be taken seriously, and I'm assuming it is if you've read this far, then so must the resourcing side of it. How much might the wrong decision cost?

You may be tempted to put someone junior on the task, and that's fine if it's the right sort of individual, but bear in mind that person needs to be someone who the customer, other departments and the logistics providers will take seriously. Someone with an eye for detail, but who can also see the bigger picture.

It needs someone who is able to put aside the necessary time to focus on collecting the information. You will probably also want this person to coordinate responses to all the clarification questions, be involved in the assessment process and face up to the people drawing up the final contract.

Final thoughts

You're not alone if you can't get good data – I generally have to break it to clients that their data is less than perfect for all sorts of reasons! But, as the process of outsourcing becomes more mature, the data element does become easier – help yourself by making the process of collecting data part of the daily operation you are currently tendering.

Remember this is about risk reduction, so consider what the impact of any data shortcomings might be in the conversion of activity to cost, and prioritise your efforts accordingly.

Overleaf you'll find some tips for undertaking this type of exercise.

16 Tips for data collection for logistics outsourcing

Define the data you intend to collect and keep returning to that list.	✓
Set up a folder for data exactly as it's received with the name of who provided it / when.	✓
Don't ignore or forget things like so-called "uglies" and returns, and their impact.	✓
Ensure that the key unit that is being used for each element of the operation is clear.	✓
Cross check data from different sources and carry out sense checks.	✓
Feed data back so people (including your existing 3PL) can spot funnies, verify and sign it off.	✓
Ensure that your data reflects reality – check any samples are typical, not just average.	✓
Provide logistics providers with raw data where appropriate.	✓
Think through future business and external changes and their impact.	✓
Keep a record of any assumptions made and the basis for them.	✓
Invite clarification questions during the process, issuing standard responses to all participants.	✓
Have enough resource available including to respond to queries during the tender process.	✓
Design a template to ensure you're able to understand and challenge the bidders' responses.	✓
Make the process of collecting data for next time part of the daily operation.	✓
Keep a history diary as soon as you start a new contract, so you're ready for the next cycle.	✓
Carry out periodic reviews – don't wait until the next tender process to check that data.	✓



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Aricia is a logistics consulting company providing advice and working on projects for a household-name client portfolio with a strong track record of results. We carry out assignments in all parts of the supply chain – warehousing, transport and international logistics, specialising in data analysis / visualisation including mapping, modelling supply chains and industry research.

Established in 2001, Aricia enjoys a very high level of repeat business. Principal, Kirsten Tisdale, has over twenty years' experience of logistics management and projects, a corporate background, and has worked on both sides of the logistics relationship, in customer companies and logistics providers, as well as carrying out non-logistics assignments.

Our clients are typically planning to make change in their logistics operations and need to make decisions. We help to provide direction and reduce risk by putting facts and figures around options.

This leaflet has been written for the CILT Outsourcing & Procurement Forum by Kirsten Tisdale, principal of Aricia Limited, including input from the CILT Outsourcing & Procurement Forum Committee meeting on 28 November 2014.

Further details of the forum can be found at:
<http://bit.ly/CILT-OutsourcingAndProcurement>