

Evaluating Suppliers: Outsourcing Manufacturing

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When outsourcing parts of our manufacturing, we must select the supplier that will give us the best combination of quality, delivery time, and cost. In our market, quality and time to customer are most important, and as part of our outsourcing effort, we must maintain the highest levels possible.

We have three potential suppliers to analyze as part of this process, Supplier A, B and C. Supplier selection is a critical component, and requires several stages to be implemented correctly, including formal evaluations, analyzing financial data, checking references, visiting suppliers, initial testing, and audits. Also, suppliers may be compared based on their quality management policies, ISO certifications, and other capabilities locally and globally (Lu 2011).

In our case, we have a product that is in a mature market, where customers choose based on delivery time and quality. We can use the ‘categorical method’ to analyze these suppliers, where we classify their quality, delivery and service as either good, unsatisfactory, or neutral, and then sum up the totals (Lu 2011). However, this method is subjective, and best used when there is a collective analysis with a team to remove any bias.

Another method is the ‘cost ratio method’, analyzing historical data to account for quality, delivery, and service issues in the past (Lu 2011). This method does not value quality and delivery time over service however, and that is important for our product value chain.

Therefore, we will use the ‘linear-average method’, which allows use to weigh quality and delivery higher than price. This will adjust each supplier’s final score to reflect our company’s values.

Original Data

Supplier	Price	Quality	Delivery	Others
A	90	90	95	Overseas supplier (transport lead time 3 weeks)
B	105	100	100	Supplier facing financial issues
C	85	85	95	Proximity supplier (transport lead time 3 hours)

Linear Average Model

Selection Criteria	Weight	Supplier A		Supplier B		Supplier C	
		Score	Total	Score	Total	Score	Total
Quality	45	90	4,050	100	4,500	85	3,825
Delivery	45	95	4,275	100	4,500	95	4,275
Price	10	90 (+10)	100	105 (-5)	-50	85 (+15)	150
Total			8,425		8,950		8,250

Additional Information			3 week lead time		Financial difficulties		3 hour lead time
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Supplier B has excellent rating for quality and delivery time, albeit with a higher cost, and they are facing financial difficulties. Their higher price does not, however offset the other benefits they provide. Supplier C has a fast lead time, but with a quality score of 85, their price savings does not offset the quality issues they provide.

This method shows Supplier B as the winning choice, even though they are having financial difficulties, they deliver the highest quality product (100/100) quickly (100/100). If Supplier B has further financial difficulties, and we plan ahead accordingly, Supplier A is our best choice. If we need to fill in quantities due to mistakes in planning, or changes in the market, Supplier A would be the best choice to fill in, due to their high scores in quality and delivery. However, their time to market limits them as our starting partner. As long as Supplier B passes our audit and initial testing, possibly we can understand their financial situation better also.

If price and quality were to become our differentiating factors, this model would change:

Selection Criteria	Weight	Supplier A		Supplier B		Supplier C	
		Score	Total	Score	Total	Score	Total
Quality	45	90	4,050	100	4,500	85	3,825

Delivery	10	95	950	100	1000	95	950
Price	45	90 (+10)	450	105 (-5)	-225	85 (+15)	150
Total			5,450		5,275		4,925
Additional Information			3 week lead time		Financial difficulties		3 hour lead time

Using this method, Supplier A wins, due to their combination of quality (90/100) and price (90/100). If we plan ahead to handle their lead time, we can get the best possible pricing, using Supplier B as our back-up supplier. Supplier C's low quality (85/100) has hurt it in both comparison methods.

In either case, Supplier A and Supplier B both have negatives that are hard to compensate for - long lead time for A, and potential instability due to finances for B. In our case, dual sourcing might be a good option - we could reduce costs and lead times by combining both suppliers. Dual sourcing could also limit our exposure if there is an issue at either supplier, and may allow use to learn more about the manufacturing process and improve our quality auditing procedures, as many other companies have done. However, dual sourcing does include more overhead and can be hard to manage. Quality from multiple suppliers has to be tracked and analyzed, along with general communication with multiple contacts.

Also, working with a single supplier has other benefits - we can typically work together more closely to improve quality, and the efficiency of the process. For instance, Apple and Foxconn, their largest supplier for iPads and iPhones, decided the Pegatron, Inc., should supply the more inexpensive iPad instead of Foxconn.

References

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