

# Supplier Selection



An often-overlooked part of the procurement process is the initial phase of working with a new supplier and how we can help them get up to speed as quickly as possible to perform effectively for our organisation (CIPS Australia: New Supplier Engagement)



CIPS members can record one CPD hour for reading a CIPS Knowledge download that displays a CIPS CPD icon.

### Introduction

Supplier selection, along with supplier evaluation and continuous measurement/assessments, is an important organisational process: purchased products represent between 40% and 60% of end product sales and have a direct impact on the cost and quality of products. In addition, even a small cost gained by selecting a good supplier can have great impact on benefits (Aiter et al., 2011).

Supplier selection relies on multiple assessment techniques which include both quantitative and qualitative methods (Choi and Hartley, 1996). At the same time, many organisations continue to select suppliers based on experience and intuition - selective and unreliable approaches (Kontio, 1996). The most common evaluation criteria used to select suppliers are: financial health, expertise, operational performance metrics, business processes and practices, enabling behaviours or cultural factors and risk factors (Aiter et al., 2011).

Multiple criteria decision-making (or multiple attributes decision-making (MCDM/MADM) is one of the approaches that helps to rank and select one or more suppliers from a pool of providers based on the ratings and weights of the precisely known criteria (Delgado et al., 1992; Hwang and Yoon, 1981). The MCDM provides an effective framework for supplier comparison based on the evaluation of multiple conflict criteria. The Analytic Hierarchy Process (AHP) is widely used by researchers and practitioners for complex decisions and to manage the difficulty of determining the performance of a supplier on one criterion - or the importance of some criterion with a high degree of precision (Ghodsypour and O'Brien, 1998). AHP benefits include the ability to perform precise assessments of values through hierarchical structuring and pair-wise comparison, it is programmable on computers, it allows for value assessment, forecasting, alternative selection and resource allocation and it is widely applied by many business organisations and government institutions. Other analytic supplier selection methods include Pre-Emptive Goal Programming (takes into account qualitative and quantitative factors), Multi Objective Programming (helps to negotiate with suppliers not initially selected), Linear Programming (considers tangible and intangible factors) and Fuzzy Set Theory (evaluates small suppliers) (Aiter et al., 2011).

### Definition

Supplier selection is the process of selecting a supplier to acquire the necessary materials to support the outputs of organisations. Selection of the best and/or the most suitable suppliers is based on assessing supplier capabilities (Shih et al., 2004).

### Successful application

Very often supplier performance measures for supplier selection (such as financial performance evidence, questionnaires, survey or site visits) is difficult to obtain. In addition, several decision-makers must be involved in the decision-making process (De Boer et al., 1998). Finally, decision-making is often influenced by uncertainty: situations are changing rapidly or are uncertain and decision variables are difficult or impossible to quantify (Ghodsypour and O'Brien, 1998).

### Steps to successful application

1. Think strategically about your business needs and objectives.

2. Consider what you should look for in suppliers: some of the most common attributes are quality and reliability, speed and flexibility, value for money, strong service, clear communication, financial security.
3. Limit and examine the potential pool of suppliers. This can be based on recommendations or information provided by directories, trade associations, business advisers, business support organisations, enterprise agencies, or exhibitions.
4. Produce a short-list of suppliers.
5. Choose a supplier: this can be done by interviewing potential suppliers.
6. The final step is managing supplier relationships. Once settled on the suppliers, negotiate terms and conditions and draw up contracts, open communication between the company and your suppliers facilitates dealing with any problems.

[Businesslink.gov.uk](http://Businesslink.gov.uk)

### Hints and tips

- It is beneficial to obtain a financial report from the supplier company before choosing a supplier (Okes and Westcott, 2001).
- Personal communication and negotiations are important factors in finalising supplier selection (Okes and Westcott, 2001).
- It is important to assess supplier quality levels through on-site assessment or survey, or request the potential supplier to provide a certificate of quality (Okes and Westcott, 2001).
- Recommendations from the customers of a potential supplier are important (Okes and Westcott, 2001).

### Potential advantages

- An appropriate supplier selection process enables purchasing professionals to formulate viable sourcing strategies and is capable of handling multiple conflicting attributes (Tahiri et al., 2008).
- Supplier selection is one of the key issues of SCM as good suppliers have a direct impact on the cost of the final product (Aiter et al., 2011).
- An appropriate supplier selection process provides a unique means of ensuring consistency among suppliers (Chan, 2003).

### Potential disadvantages

- Supplier selection processes demand specialised software and require qualified personnel who are expert on the subject (Tahiri et al., 2008).
- Supplier selection methods are usually used for international supplier selection where the environment is more complicated and risky (Yusuff et al., 2001).
- Some supplier selection methods do not consider risks and uncertainties regarding the supplier's performance, thus leading to hazardous results (Yusuff et al., 2001).

### Performance monitoring

- Financial health: sales, profitability, liquidity, return on investment (ROI), debt ratio, transparency of finances (Aiter et al., 2011).
- Expertise: network capabilities, quality and production capabilities, technical level compared to sector average, spread of technical creation, investment in R&D (Aiter et al., 2011).

- Operational performance: on-time delivery, lead time, responsiveness, inventory management and control, order acceptance, processing and fulfilment, customer service, preventive maintenance, hours of operations training (Aiter et al., 2011).
- Business processes and practices: how a supplier provides a product or a service at the best value, on time and as required (Aiter et al., 2011).
- Behaviours and cultural factors: the improvement culture, information capabilities, intention of coordination (Aiter et al., 2011).

### Case studies

MacLaren set up a department to specifically select suppliers that would be able to contribute '80% of vehicle value'. The overarching aim is to support supplier development and growth and thereby mitigate potential problems. The new department also focuses on creating appropriate key performance indicators to measure suppliers selected (Ngobi, 2011).

IKEA selects suppliers based on the IWAY code of practice which identifies its minimum requirements. The code of practice expects suppliers to follow national and international law, not to use child labour, not to use woods and glues from non-sustainable forests, waste and emissions, contribute to recycling, follow health and safety requirements, care for the environment, and take care of their employees (The Times, b).

In the early 2000s British Telecom's (BT) supplier selection programme focused on ethnic minority businesses (EMBs), with participating firms in the construction, software design, cleaning and training sectors. Since 1998, 1/3 of the 19 companies mentored are reported to have secured work from BT, directly or indirectly, as a result of the supplier diversity programme. The stated rationale for the Programme emphasises the business benefits to BT of a diverse supply base, as well as the social case (Ram et al., 2002).

### Further Resources/Reading

#### Web

[Supplier Selection Strategies and Criteria](#)

[Blogspot on supplier selection](#)

[Supplier selection process](#)

[8 Supplier Selection Criteria](#)

[Global strategic purchasing: Identifying and selecting suppliers](#)

#### Books

Automating Supplier Selection Procedures: Methodology, Optimal Tools, and Implementation Techniques ISBN 978-3639158304

Supplier Selection and Business Process Improvement: An Exploratory Multiple Case Study ISBN 978-3838311258

Group Decision Support System for Supplier Selection: A Web-based Solution Using Analytic Hierarchy Process ISBN 978-3843378727

Supplier Selection ISBN 978-0945456322

Strategic Purchasing and Supply Management: A Strategy-Based Selection of Suppliers (Einkauf, Logistik und Supply Chain Management) ISBN 978-3835006584

### References

Aiter, L., Cokay, C. and Gul, G. (2011) Supplier Evaluation and Selection. [Online] Available at: [brd4.ort.org.il/~bashkansky/atqe/lectures/AHP/AHP-Saaty/SupplierEvaluation-Selection.ppt](http://brd4.ort.org.il/~bashkansky/atqe/lectures/AHP/AHP-Saaty/SupplierEvaluation-Selection.ppt) [Accessed: 2 January 2012].

Business Link. Thinking Strategically When Selecting Suppliers. [Online] Available at: [www.businesslink.gov.uk/bdotg/action/layer?topicId=1073920782](http://www.businesslink.gov.uk/bdotg/action/layer?topicId=1073920782) [Accessed@ 3 January 2012].

Chan, F. (2003) Interactive Selection Model for Supplier Selection Process: An Analytical Hierarchy Process Approach. *International Journal of Production Research*, Vol. 41(15), pp. 3549-3580.

Choi, T.Y. and Hartley, J. (1996) An Exploration of Supplier Selection Practices Across the Supply Chain. *Journal of Operational Management*, Vol.14, pp. 333-343.

De Boer, L., Labro, E. and Morlacchi, P. (2001) A Review of Methods Supporting Supplier Selection. *European Journal of Purchasing and Supply Management*, Vol. 7, pp. 75-89.

Delgado, M., Verdegay, J. and Vila, M. (1992) Linguistic Decision-Making Models. *International Journal of Intelligence Systems*, Vol. 7, pp. 479-492.

Ghodsypour, S. and O'Brien, C. (1998) A Decision Support System for Supplier Selection Using an Integrated Analytical Hierarchy Process and Linear Programming. *International Journal of Production Economics*, Vol. 56/57, pp. 199-212.

Hwang, C. and Yoon, K. (1981) *Multiple Attribute Decision Making: Lecture Notes in Economics and Mathematical Systems*. Springer-Verlag: Berlin, Heidelberg, Germany.

Kontio, J. (1996) A Case Study in Applying a Systematic Method for COTS Selection. *Proceedings of the 18<sup>th</sup> International Conference on Software Engineering*, IEEE Computer Society Washington, DC, USA, 25-29 March.

Ngobi, B. (2011) McLaren: Pole Position in Procurement Excellence. Procurement Intelligence Unit. [Online] Available at: [www.procurement-iu.com/blog/2011/4/mclaren\\_pole\\_position\\_in\\_procurement\\_excellence](http://www.procurement-iu.com/blog/2011/4/mclaren_pole_position_in_procurement_excellence) [Accessed: 2 February 2012].

Okes, D. and Westcott, R.T. (2001) *The Certified Quality Manager Handbook*. (2nd Ed.) ASQ Press: Milwaukee, WI.

Premier Foods. Case Study: Procurement Leadership. [Online] Available at: [www.premierfoods.co.uk/ourresponsibilities/marketplace/case-study---procurement-leadership.cfm](http://www.premierfoods.co.uk/ourresponsibilities/marketplace/case-study---procurement-leadership.cfm) [Accessed: January 2012].

Ram, M., Smallbone, D. and Linneker, B. (2002) Assessing the Potential of Supplier Diversity Initiatives. CEEDR, Middlesex University. [Online] Available at: [webarchive.nationalarchives.gov.uk/+http://www.bis.gov.uk/files/file38304.pdf](http://webarchive.nationalarchives.gov.uk/+http://www.bis.gov.uk/files/file38304.pdf) [Accessed: 2 February 2012].

Saaty, T.L. (1980) *The Analytic Hierarchy Process*. McGraw-Hill: NY.

Shih, H.S., Wang C.H. and Lee, E.S. (2004) A Multiattribute GDSS for Aiding Problem-Solving. *Mathematics and Computing Modelling*, Vol. 391, pp. 1397-1412.

The Times (a) Aldi Case Study: Competitive Advantage Through Efficiency. *The Times 100 Business Case Studies*. [Online] Available at: [businesscasestudies.co.uk/aldi/competitive-advantage-through-efficiency/introduction.html](http://businesscasestudies.co.uk/aldi/competitive-advantage-through-efficiency/introduction.html) [Accessed: 2 February 2012].

The Times (b) IKEA Case Study: Building a Sustainable Supply Chain. *The Times 100 Business Case Studies*. [Online] Available at: [businesscasestudies.co.uk/ikea/building-a-sustainable-supply-chain/sectors-of-industry-and-sustainable-supply-chains.html](http://businesscasestudies.co.uk/ikea/building-a-sustainable-supply-chain/sectors-of-industry-and-sustainable-supply-chains.html) [Accessed: 2 February 2012].

Yusuff, R.D. and Poh Yee, K. (2001) A Preliminary Study on the Potential Use of the Analytical Hierarchical Process (AHP) to Predict Advanced Manufacturing Technology (AMT) Implementation. *Robotics and Computer Integrated Manufacturing*, Vol. 17, pp. 421-427.

---

**CIPS Group** Easton House, Easton on the Hill, Stamford, Lincolnshire, PE9 3NZ, United Kingdom  
T +44 (0)1780 756777 F +44 (0)1780 751610 E [info@cips.org](mailto:info@cips.org)

---

**CIPS Africa** Ground Floor, Building B, 48 Sovereign Drive, Route 21 Corporate Park, Irene X30, Centurion, Pretoria, South Africa  
T +27 (0)12 345 6177 F +27 (0)12 345 3309 E [infosas@cips.org.za](mailto:infosas@cips.org.za)

---

**CIPS Australasia** Level 8, 520 Collins Street, Melbourne, Victoria 3000, Australia  
T 1300 765 142/+61 (0)3 9629 6000 F 1300 765 143/+61 (0)3 9620 5488 E [info@cipsa.com.au](mailto:info@cipsa.com.au)

---

**CIPS Middle East & North Africa** Office 1703, The Fairmont Hotel, Sheikh Zayed Road, PO Box 49042, Dubai, United Arab Emirates  
T +971 (0)4 327 7348 F +971 (0)4 332 5541 E [mena.enquiries@cips.org](mailto:mena.enquiries@cips.org)

---



*Printed on stock containing  
50% post consumer  
recycled content*

[www.cips.org](http://www.cips.org)

CIPS™ is a registered trademark of the  
Chartered Institute of Purchasing & Supply