

Building knowledge*

Low-cost sourcing from China



*connectedthinking

Low-cost sourcing in the Engineering & Construction industry

Over the past decade, the engineering and construction (E&C) sector has lagged behind manufacturing and retail industries in sourcing materials from low-cost countries. However, with E&C companies facing growing pressures of low margins and cost inflation, they are increasingly realising the potential benefits of low-cost sourcing (LCS) in order to maintain their competitiveness. Approximately 10% of a typical engineering and construction company's total spend is suitable for LCS.

While LCS-suitable material purchase remains a relatively small percentage of total spend for many E&C companies (less than labour, transport and other professional services), LCS savings can still make a substantial contribution to the company's bottom line.

What products to source and what are the savings?

Many low-cost countries have developed extensive supply capabilities to the global market for construction materials, in particular China, which has an extensive range of products available for LCS. For example, of the building materials sold in China by B&Q - a British retailer of DIY and home improvement tools and supplies - 96% are produced or manufactured domestically (McKinsey Shaping China's home-improvement market - B&Q 2006). Some suitable products from China are highlighted in Table 2.

Savings of over 30% are typical for these products against the current baseline spend. High-volume electrical cable assemblies have been sourced at a saving of 38%, while capital items, such as hospital steam boilers, were available at 30% savings.

The shortlist of unsuitable products is typically limited to raw materials (with minimal processing value add), low value density products and those products too fragile for long-distance shipment.

Much of China has become a huge construction zone, with infrastructure investment representing over 40% of the country's GDP (see Table 1) - both fuelling and sustaining the overall economic boom. \$35bn has been designated for the 2008 Beijing Olympics infrastructure and the large influx of migrants into cities has placed further demands on housing across the country (March 1 2007, The Economist)

The recent trend of E&C businesses moving into infrastructure management opens new categories of products suitable for LCS. For example, Grupo Ferrovial has entered airport management and Hochtief has expanded into facilities/service management. E&C companies no longer only purchase traditional construction materials - they are now procuring large volumes of consumable products for the daily running of facilities.

LCS is not without risk. For Western European firms, sourcing from China (and other countries further afield) presents significantly greater challenges than similar moves to, say, Central & Eastern Europe. Some companies have taken the traditional approach of using intermediaries when dealing with low-cost country suppliers.

Cost transparency is critical to achieving dramatic cost reduction - therefore businesses should source directly from the manufacturer where possible. The use of intermediaries, with the inherent transactional opacity, can erode potential

savings to the extent where it is often more economical to retain the incumbent suppliers.

Companies embarking on LCS, without due consideration, often encounter many avoidable cultural problems. By undertaking a systematic and holistic approach, the risks can be managed and the benefits sustained in the long term (see Diagram 1).

Analyse the opportunities

Identifying LCS opportunities and quantifying the size of the prize is vital at the start of any LCS initiative. Historic spend and product profiles are assessed for LCS suitability. Firms looking to source offshore should develop a detailed cost analysis and build a baseline cost structure that includes 'should costs' based upon benchmarks. 'Should costs' consider the current cost against the LCS potential total landed cost inclusive of customs and freight. This cost analysis sets realistic cost saving expectations for stakeholders and forms much of the business case justifying the entire LCS initiative.

Identify potential suppliers

Typical products for LCS can be sourced from a variety of regions and countries - including China, India, Central and Eastern Europe or South-East Asia. Each one of these areas offers relative competitive advantages against the others, including the availability and cost of labour and raw materials, level of technology, logistical facilities and a host of other factors. Undertaking a high-level market due diligence would quickly identify the most suitable locations to focus on.

Subsequently, a list of potential suppliers should be drawn up and whittled down to the most likely candidate(s) using simple criteria, such as size of the supplier, export experience, proximity to port facilities and their current customer base.

Assess the suppliers

Having arrived at a manageable shortlist of suppliers, a detailed assessment of the shortlisted suppliers should provide a clear picture of the preferred supplier and its ability to meet the objectives of a company's sourcing exercise. The assessment should include operational due diligence to ensure the supplier has adequate technical know-how, production capacity and quality assurance capabilities. Recent incidents of certain sub-standard Chinese products reinforce the importance of understanding the true capabilities of shortlisted suppliers.

Additional financial and tax due diligence should be undertaken to provide assurance on the stability of the supplier. Fraud and corruption risk assessments would uncover any reputational risks faced by the customer in contracting with unfavourable suppliers.

Table 1: PricewaterhouseCoopers comparison between low-cost countries and UK

	China	India	Romania	Czech Rep	UK
GDP	\$2,512bn	\$796bn	\$79.2bn	\$118.9bn	\$2,346bn
GDP growth	10.5%	8.5%	6.4%	6.2%	2.8%
Labour force	798m	510m	9.33m	5.31m	31.1m
Avg mthly labour cost	\$120	\$90	\$450	\$1,000	\$5,700
Literacy rate	91%	61%	97.3%	99%	99%
Investment in infrastructure (% of GDP)	44.3%	29.2%	25%	26.3%	17.2%
Foreign reserves	\$1,034bn	\$165bn	\$28bn	\$31bn	\$38.8bn
FDI inflow	\$70bn	\$15.7bn	\$8bn	\$32bn	\$191bn

Table 2: PricewaterhouseCoopers suitable vs unsuitable products for LCS

Suitable products	Un-suitable products
<ul style="list-style-type: none"> Electrical - wiring, junction boxes, fuses, lighting Electronic - control units, sensors Plant - boilers, HVAC Surface - flooring, laminate wood, carpet Hardware - door, plumbing, sanitary ware Furniture Consumables - hand tools, PPE Prefab and temporary accommodations Earthmover vehicle tyres Grinding media (high carbon balls) Conveyors: belts and bearings 	<ul style="list-style-type: none"> Lumber Structural steel Plate glass Plaster board

Relationships (negotiations and planning)

Detailed planning must take place both before and after orders have been placed. Beyond price, supplier negotiations must embrace contract currency, payment terms, shipment terms, legal jurisdiction and a range of other issues. Foreign exchange fluctuations add complexity to the savings equation – hence a forex management capability should be in place.

Conducting business successfully in China is about building strong relationships, both with suppliers and sometimes with local government officials. While having a detailed contract is important, contract enforcement in China is a means of last resort.

In order to manage the changes to supply chains effectively, companies need to implement an optimised supply chain model to cater for increased lead times; establish optimal inventory levels (supported by sales and operational planning processes); and partner with integrated global logistics service providers to streamline global supply chains, helping reduce costs and increase service levels.

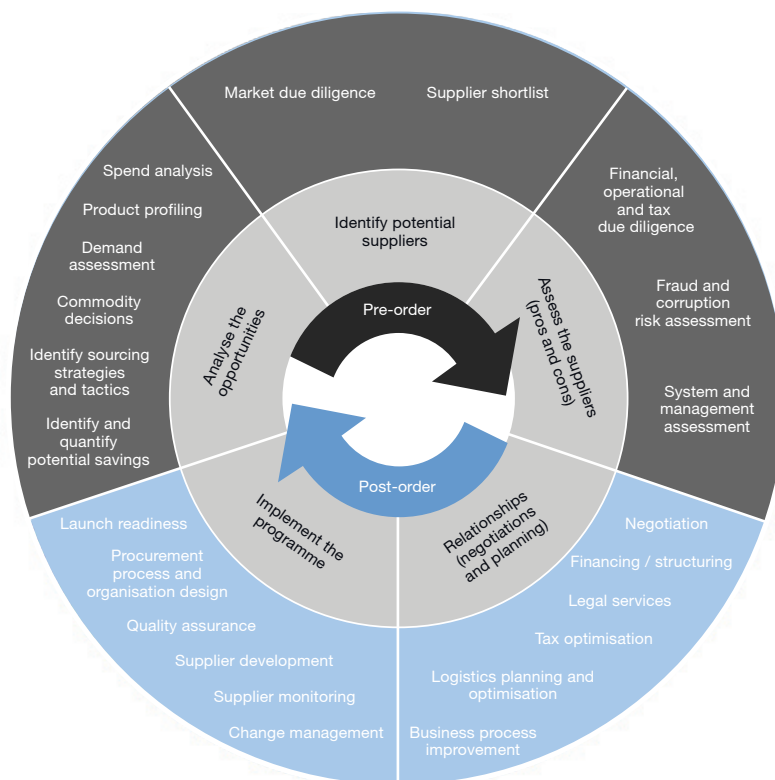
Business processes may need to be designed to optimise logistics activities – including ordering, transport and inventory management – to maximise and sustain a company’s cost savings. Tax structuring and planning should be modelled to optimise tax efficiency. Buyers often leak LCS savings because their supply chain is not tax efficient. Achieving tax savings depends on the right people managing the supply chain from the right locations and could help to improve project returns.

Implement the programme

Companies should design their processes and procurement departments to enable the ongoing management of suppliers. This entails implementing a supplier monitoring programme to measure key performance indicators (KPIs) – both financial and non-financial. This may even involve measuring supplier performance, without the need for personnel on the ground.

The right functional structure will enable procurement from low-cost markets, including establishing the right procurement governance structure and controls, accountability and decision-making power. Sourcing activities that do not consider procurement holistically will see significant savings erode over a short time period – up to 80% over 2-3 years.

Diagram 1: A holistic approach to LCS (PricewaterhouseCoopers)



Conclusion

Companies looking to source offshore should implement a formal LCS programme across all aspects of the buying organisation, including operations, procurement and sales. A lack of organisational strategy and structure – i.e. the people with supply chain expertise, knowledge of customs processes and multilingual capabilities to deal with the extended supply chain – along with a lack of local knowledge, can lead to failure or at best dilution of savings over time.

There must also be buy-in by all stakeholders affected by LCS, particularly at the senior management level. An executive should be designated as the LCS “champion”, driving the initiative forward across all business units, pushing sourcing demand to low-cost countries where this maximises cost savings.

LCS has its risks, but the rewards are also substantial for E&C companies prepared to pursue the opportunities.

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PricewaterhouseCoopers experience

Our experience in advising E&C and other industrial products companies on LCS projects includes:

Major UK construction company

Our client won a major PFI contract to build or refurbish numerous large hospitals around the UK. As part of the plant requirement, PricewaterhouseCoopers was tasked with sourcing an initial set of 3 large boilers – dual fuel (natural gas & diesel) and capable of generating 12 tonnes of steam per hour.

The benchmark price for UK-source product was £380k per set. After researching the markets in India and China, we identified suppliers capable of supplying these boilers at 30% savings (landed and commissioned).

Major Australian glass products manufacturer

The client wanted to maintain a competitive advantage against alternative locally – manufactured or internationally-sourced products by reducing raw material costs to achieve lower 'cost of goods sold' (COGS).

Our comprehensive LCS tendering exercise identified net savings opportunities of \$4.4m per annum (or 37% of baseline spend). PricewaterhouseCoopers reviewed the client's procurement function to integrate good low-cost sourcing practice and provided customs compliance advice.

Integration of two industrial products manufacturers

PricewaterhouseCoopers was tasked by a private equity client to integrate two industrial products manufacturers by exploring the business improvements and synergy opportunities. We investigated offshore sourcing of key raw material products and synergies in inventory, distribution and freight.

This exercise generated business improvements totalling \$20m p.a. (5.9% of baseline), of which offshore sourcing benefits represented over 10%. Synergy benefits of \$16.8m p.a. were also identified via integration opportunities. An implementation roadmap was outlined to assist the client in realising the above savings.

PricewaterhouseCoopers Engineering & Construction industry practice is comprised of a network of more than 2,000 industry professionals located in over 50 countries around the world.

The practice - recognised for its industry credentials and extensive expertise - is focused on providing services to contractors, housebuilders, building products companies, professional and support services companies, governments as well as to private and public sector clients of the industry.

The firm has more than 140,000 people in 149 countries in the fields of assurance, tax, human resources, transactions, performance improvement, public private partnerships (PPPs) and crisis management. Our specialised services to the sector include contract dispute resolution, acquisitions, PPPs, cost reduction and structuring.

An in-depth understanding of key industry issues and practical experience of working with our clients are central to the delivery of our services to E&C companies. Many of these issues drive our programme of publications and thought leadership for the sector.

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