NEW PARADIGMS FOR “GLO-CALIZING” SOURCING AND SUPPLY

While demand for manufactured goods continues to increase globally, manufacturing companies’ value-add is still biased toward traditional home markets. From a supply chain perspective, this mismatch creates inefficiencies in two ways: First, many companies still do not leverage the full potential of “best-cost country” sourcing to reduce supply costs when serving their traditional production sites. Second, manufacturing firms that already have existing production sites in emerging markets are facing the challenge of “localizing the supply chain” to enhance competitiveness and reduce time-to-market. Recent developments, such as increasingly diversified customer needs, diminishing emerging market cost advantages, and new means of supplier integration provide further reasons for companies to rethink their target set-up and integrate both paradigms.
The global demand for manufactured goods has shifted by 20 percent toward the BRIC countries during the past decade and is expected to shift to broader emerging markets by a further 10 percent in the coming decade. Nevertheless, the globalization of emerging market value chains still lags for many manufacturing companies. In 2012, for example, German mechanical engineering companies exported more than 75 percent of their goods, but deployed less than 30 percent of their resources outside of Europe. This mismatch is true not only for their own value-add in engineering or manufacturing, but also for supplied materials. Recent Oliver Wyman research found that more than two-thirds of German manufacturing companies’ purchased parts are still procured from European suppliers.

This situation suggests exploring opportunities to further optimize supply chains and so to fully exploit the global supply market. There are two ways purchasing departments can help unlock this potential:

• Getting best-cost country (BCC) sourcing right. Purchasing departments are clearly in the driver’s seat to re-think the BCC approach for a given legacy footprint, and then exploit the full potential of optimizing the supply chain, employing total cost of ownership (TCO) considerations.

• Properly localizing the supplier footprint, so as to effectively add local value (outside of traditional home markets). Even if in this regard, the purchasing department is generally a follower of decisions on a target footprint for manufacturing, engineering, etc., supply localization is a key enabler to ensuring such decisions are successful.

DYNAMIC BEST-COST COUNTRY SOURCING

Best practice for supplying traditional production sites in home markets is to source using a best-cost country approach. This implies making sourcing decisions based on TCO considerations, including:

• Supplier cost and quality, e.g., price, capex requirements, data interfaces, quality certification

• Engineering and production implications, e.g., technical IT compatibility, working capital, resident engineers

• Transactional cost, e.g., supplier management, packaging and logistics

• Supply risk profile, e.g., intellectual property, supply disruption, foreign exchange

Traditional BCC-frameworks followed a static approach (Exhibit 1). Today, however, such frameworks must be more dynamic, as manufacturing supply chain needs can shift rapidly in response to quicker product changes and shorter innovation cycles.
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### Exhibit 1: Comparison of Manufacturing and Logistics Costs*¹

<table>
<thead>
<tr>
<th>Country</th>
<th>Material Costs</th>
<th>Labor Costs</th>
<th>Energy Costs</th>
<th>Logistics Costs</th>
<th>Duties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>140</td>
<td>120</td>
<td>100</td>
<td>80</td>
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<tr>
<td>Poland</td>
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<td>120</td>
<td>100</td>
<td>80</td>
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<tr>
<td>Bulgaria</td>
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<td>160</td>
<td>140</td>
<td>120</td>
<td>100</td>
</tr>
<tr>
<td>Russia</td>
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<td>180</td>
<td>160</td>
<td>140</td>
<td>120</td>
</tr>
<tr>
<td>India</td>
<td>220</td>
<td>200</td>
<td>180</td>
<td>160</td>
<td>140</td>
</tr>
<tr>
<td>China</td>
<td>240</td>
<td>220</td>
<td>200</td>
<td>180</td>
<td>160</td>
</tr>
</tbody>
</table>

*¹ Not including other costs (constant)

**Source:** Bundesanzeiger, Institut der deutschen Wirtschaft, Economist 2013, Eurostat, International Energy Agency, Exporthelp Europa, Statistisches Bundesamt, Beschaffung aktuell, Oliver Wyman analysis

In addition, production technologies have become increasingly flexible, and labor and energy cost advantages have diminished in (formerly) low-cost countries (Exhibit 2). Indeed, the traditional juxtaposition of low labor cost countries competing against high labor cost countries is no longer true; rather, different production processes and technologies compete against each other in regions with differing factor costs.
There are plenty of examples of companies finding themselves in the middle of a product life cycle with an installed supplier footprint that was appropriate some years ago, but that is now a source of competitive disadvantage due to changes in the original business case. Modeling and simulation of potential dynamic changes in BCC frameworks often can lead to different decisions regarding the optimum supplier footprint. Cost-based optimization of course must be assessed from the perspective of contractual, sustainability, investment, and risk considerations before migrating supply volumes or switching suppliers.
SUPPLY CHAIN LOCALIZATION

A second principle with regard to the set-up of a global supply chain is localization. Maximizing local sourcing to support local production enhances competitiveness through reduced costs (e.g., local labor, direct supplier handling, less inventory, lower transportation cost) and speeds time-to-market.

The growing mid-range segment for certain products is a strong driver for localizing in emerging markets. The strategy however requires almost full localization, which many manufacturing firms have not been able to implement, especially on the supply side. Limitations in worker qualifications (e.g., language capabilities), the inability to find and develop a qualified local supply base, or the operational complexity of daily interactions often have prevented companies from localizing the supply chain as they initially intended. These manufacturers thus face the odd situation of having to pay logistics and handling costs twice – once to import materials from capable suppliers in their home markets and again for the final product to be exported back to that home market. This often leads to a deterioration in assumed cost advantages and has on occasion resulted in back-shoring of production.

Companies with a high value-add in equipment installation and commissioning activities also face major challenges. Demand from emerging markets requires consideration of two types of value services: Labor intensive but highly complex and quality-sensitive commissioning services and more basic installation services. The ideal strategy would be to source the latter locally and only deploy limited internal resources for coordination and quality oversight. Limited standardized work descriptions, changing sites and countries for each project, and the high impact of complex commissioning activities on overall success as well as on the likelihood of quality problems (even with an internal workforce) are major challenges for purchasing teams. Not to mention, most have limited best practices upon which to rely.

Additionally, highly engineered materials or components with short life cycles and frequent engineering changes have proven difficult to procure in regions with limited supplier capability. These products typically employ new technologies or have very high quality requirements, requiring technology infrastructures that do not exist in all markets (e.g., availability of advanced materials) or a high degree of automation or manufacturing technical competency which reduces the advantages of low labor cost countries. In these cases, supply options are limited to tried-and-true home market suppliers, where close collaboration in product development between OEM and supplier is possible.
GLOBAL CHALLENGES AHEAD

Taken together, the best-cost country and localization paradigms converge as a dynamically adjusted TCO approach – one that makes sense for nearly all types of manufacturers. In addition, there are several major global trends which can be expected to further challenge current supply chain setups and drive the need for adaptation:

• Manufactured products of all types are facing ever more challenging customer demands for features and styling that align with the unique requirements and tastes of their end markets. This trend favors short supply chains with manufacturing close to the final customer and close cooperation between manufacturers and suppliers to speed product development. To enable this, manufacturers are establishing regional engineering and marketing centers and focusing more on suppliers who can provide similar localized capabilities.

• Technology and innovation are becoming more crucial to meet increasingly stringent regulatory and consumer needs, driving increased collaboration between manufacturers and their suppliers. Additionally, shorter product development cycles raise the need to work closely with strategic suppliers earlier in the process.

• Lastly, labor and energy costs will continue to evolve, as automation continues to become less expensive, labor rates in emerging markets continue to increase, and low-cost energy and new energy sources multiply (e.g., gas price development – Exhibit 3).

As a result of these trends, decisions on the supplier footprint and appropriate supplier relationship management strategies are becoming more dynamic than ever, increasing the need for an analytically driven, multidimensional supplier selection and sourcing process that can rigorously account for and model important variables on a real-time basis.

EXHIBIT 3: WHOLESALE PRICES FOR GAS

IN DOLLARS PER MMBtu

<table>
<thead>
<tr>
<th>Year</th>
<th>Germany (^\text{1})</th>
<th>China (^\text{2})</th>
<th>USA (^\text{3})</th>
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<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) Annual average price: Russian Natural Gas Border Price in Germany
\(^2\) Annual average China LNG-Import Price
\(^3\) Annual average US Henry Hub Natural Gas Price

Source: IMF, Oliver Wyman analysis

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SUMMARY: DRIVING “GLO-CALIZATION”

From a mid- to long-term perspective, manufacturing companies need to rethink their value-add distribution to respond to shifting demand and further localize production and engineering. Their ability to dynamically “glo-calize” the supply chain for market-adapted product development and production will be critical to long-term competitiveness.

Participating in the heavily growing mid-market segment in emerging markets is an important but only intermediate step. The competitive end game – in particular against strongly expanding Chinese players – will be to optimize the global value chain through a superior balance of global synergies and local responsiveness.

The purchasing department will be measured increasingly by its capability to play a driving role in enabling this target footprint, which means customizing the best-cost country paradigm to local conditions and making TCO-based decisions based on local and dynamic rationales. To implement a “glo-cally” balanced selection of key suppliers, supplier integration and volume allocations need to take a mid to long-term partnership perspective and incorporate suppliers’ willingness and ability to make investments and follow the manufacturer to its local markets.

In the short-term – for a given footprint – purchasing should start with a review of historic supply decisions, particularly of low-cost country sourcing for traditional high-cost sites, as historic cost advantages are fading away. The predominant rationale for continued low-cost country supply should shift from cost to market responsiveness considerations for localized production.
ABOUT OLIVER WYMAN

Oliver Wyman is a global leader in management consulting. With offices in 50+ cities across 25 countries, Oliver Wyman combines deep industry knowledge with specialized expertise in strategy, operations, risk management, and organization transformation. The firm’s 3,000 professionals help clients optimize their business, improve their operations and risk profile, and accelerate their organizational performance to seize the most attractive opportunities. Oliver Wyman is a wholly owned subsidiary of Marsh & McLennan Companies [NYSE: MMC].

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ABOUT THE ARTICLE SERIES

Globalization has opened up huge opportunities for the plant and mechanical engineering sector. But few companies have managed to transition fully from a home country-focused export business model to that of a global player. As the importance of emerging markets continues to increase, this transformation remains a key strategic challenge.

Oliver Wyman’s Manufacturing Team has worked with a wide range of manufacturers to help them develop their global presence. To highlight key strategies, trends, and implications, Oliver Wyman is publishing a series of articles over the course of the year focused on major functional areas and their role in globalizing manufacturing companies, including purchasing, engineering/R&D, manufacturing, sales & service, and the organization as a whole.