Creative Sourcing and Procurement Performance Monitoring Tools & Techniques: the YQ Matrix - [www.YQmatrix.com](http://www.YQmatrix.com)

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Abstract

This article describes a recent trend in the area of sourcing and spend management which is in line with current calls for ways to source raw materials and (semi-) finished products more efficiently. It also covers a new approach to compare prices of different products versus the market prices as the traditional tendering process became unusable. The latter is a consequence of the high price volatility brought about by the financial crisis of 2008. We propose sourcing and benchmarking techniques that are already used in a meta-search database – [www.YQmatrix.com](http://www.YQmatrix.com) - containing more than 7.5 billion data points. These can be used to quickly determine the supply sources as well as the value performance of the purchase of a raw material or a (semi-)finished) product. This search process includes prices and price comparisons for more than 15,000 raw materials, semi-finished products and finished products ([http://www.YQmatrix.com/products.php](http://www.YQmatrix.com/products.php)). Login creation is free of charge ([http://www.YQmatrix.com/login.php](http://www.YQmatrix.com/login.php)). One can view some examples of sourcing and price evolution graphs at: [http://www.YQmatrix.com/C63-YQ-Matrix-prices.html](http://www.YQmatrix.com/C63-YQ-Matrix-prices.html).

Today’s market situation

The financial and economic “liquidity” crisis of 2008-2009, followed by the “solveney” crisis of 2012-2013 created many new challenges facing purchasing professionals all over the world. However, their major objective is to ensure a smooth operation of the globalized supply chains (MacCarthy and Atthirawong, 2003). Several studies (e.g., Ettlie and Sethuraman, 2002; Handfield, 1994) state that any sourcing strategy within an international
environment is driven primarily by cost concerns, whereas other studies mainly stress the relationship between sourcing and efficiency seeking strategies as a motivator for most international supply chain activities (Nellore et al., 2001; Quintens et al., 2006). More specifically, the recent extension of the credit crisis has further accelerated the globalisation processes in the world economy by an even faster concentration of business structures. As a consequence of the drastic turnover drops since 2009, many companies had no other choice than to cut production capacities, close down factories, lay off people thus reducing overhead costs and rationalize product ranges. Buyers therefore suddenly find themselves in front of three major challenges.

1) Less supply sources spread internationally and high risk for bankruptcies are asking for quick sourcing response in case of supply chain disruptions. Buyers will have to find new and qualitatively acceptable suppliers very rapidly.
2) Due to price volatility, buyers will have to check much more frequently if their procurement performance is still beating the market.
3) The current focus on restructuring will create misunderstandings, wrong deliveries and quality failures creating double work and fire fighting.

In short, the purchasing world of 2012-2013 and beyond is fundamentally different from the one we lived in for the past 100 years. The major difference is that all three changes might lead to a steep increase in “bottleneck and partnership products” (Kraljic, 1983, Nellore and Söderquist, 2000; Araujo et al., 1999) to be supplied as the number of suppliers, the number of available products and the quality of the remaining supply all become more critical. Buyers are now faced with less suppliers than before that are spread all over the world and outside their home country. Yet, when time is of the essence, looking for those alternatives, which have moreover become scarce, might just take too much time. Efficient benchmarking might be helpful in this respect. Because of the time pressure, tendering becomes too time consuming and slow. Companies need tools to evaluate and assess opportunities in the market. In the remainder of the paper, we focus on one of these tools, the YQ Matrix. The YQ Matrix (www.YQmatrix.com) is a freely available tool that gives consolidated results in a number of predefined graphs and figures. Typically, these graphs include country, product, user and time-specific information. The YQ Matrix offers quick sourcing and price performance monitoring and makes it possible to have alternative solutions to the ones proposed by Kraljic (1984). The proposed procurement performance value gap makes it possible to do “Creative Time Procurement” since gap analysis enables better procurement timings. Furthermore, standardized sourcing graphs make it possible to do “Creative Geographical Procurement” (Faes and Decocq 2010). These two procurement methods became a necessity in creative procurement tools.

New sourcing tools

From the abovementioned description of current purchasing markets, it becomes clear that practitioners are increasingly looking for new sourcing tools based on objectively measured data. In order to become useful, a tool needs to be fast and global. What does this imply? It implies that purchasers should have the opportunities to use the tool and instantly get relevant information. Not only about a specific region or country, but the information should include the whole world. Country-specific information and user-specific information becomes crucial.
Recent developments in internet technology have been supportive in finding potential suppliers on a world-wide scale. If you need information on a major supplier X for product Y in company Z, a few clicks in Google, LinkedIn, Twitter or other social media platforms will give you an indication if the firm could potentially become one of your suppliers. The problem is: how to know where to start. In order to do so, a funnel approach is suggested. Previously the practitioner surfing the web was looking for data and graphs that were already gathered and rendered on graphs by the creator of the data table and data graphs. The practitioner had few or no choice to alter the graphs. The new approach here is much more dynamic. The practitioner who is looking for information is actually creating the graph and the data table himself by selecting those criteria in which he is interested in (product, time frame, country of origin, country of destination). The YQ Matrix platform provides the frame and the **structured approach for mass data collection and validation. The approach consists of four steps.**

1. **Country selection.**
2. **Detection of emerging markets.**
3. **Detection of highest volumes and corresponding prices.**
4. **Detection of lowest prices and corresponding volumes.**

The simplest way would be to see if and how much products are traded to or from a specific country. Data can be collected and analyzed from more than 250 countries and dependencies, based on real life data. If desired, countries could be excluded from the analysis. The rationale underlying the country selection as a starting point for the analysis is the following: **Instead of analyzing the production potential** that might be available somewhere, you initially analyze what **peers are already buying/selling** on the market. This sourcing tool works under the assumption that if business is already happening there today, the price, the quality and other elements must be in favor of such procurement business.

The four-step approach has a number of advantages compared to more traditional tools and market research activities. Firstly, the speed of the research is increased drastically. By means of a few clicks and five minutes work, results can be obtained. For an update once the graphs are set, it’s only a matter of seconds. Compared to traditional market research taking each time many weeks, this is a large saving on man-hours. Secondly, the data obtained is objective and precise. Data is retrieved among others from official country statistics and international organizations that provide statistics. Thirdly, the official country statistics and international organization data is updated monthly, the user data is updated daily. Finally, compared to a traditional market study, which is a snapshot of reality, the data shows a truly longitudinal effect.

**Procurement performance monitoring**

Knowing where to buy is important, but knowing how well you perform is perhaps even more essential. The recent economic crisis has prompted many companies to closely evaluate their spending. This is not a new phenomenon and analyzing the spending exists just as long as purchasing itself, but recently there is particular emphasis on two different fields: the first one is the search for savings opportunities that are present within the company (spend analysis). Recent studies show that companies can save on average 11% of their purchase spend if they use a modern spend analysis system (Aberdeen Group Research, 2008). Even without these
systems, purchasing managers could save money by consolidating and analyzing their purchases and supplier base. The second field is benchmarking. Increasingly, purchasing managers are looking outside their own company for ways to save money. Typically, companies are comparing their purchasing performances to the performance of other companies. This process, however, is not as easy as it sounds and involves a lot of data collection and data manipulation in order to get a result that is interpretable and useful for companies. In order to use the data available in the YQ Matrix, we propose a two-step process.

**Step 1. Price gap analysis expressing the “price” performance**

The price gap analysis is all about measuring and understanding the **price delta** over time. This delta is the difference between the price that you paid or currently pay and the price that are calculated via benchmark data. These benchmark data could include an index, a combination of relevant prices for the same product, or a combination of prices of different products that composes another product. Crucial in the information from the benchmark tools is that the gap evolutions are shown. With the latest worldwide internet evolution, prices are not secret anymore. You can find almost all of them on a wide variety of websites. For a summary of these website links providing price information free of charge, see: http://www.yqmatrix.com/C61-Web-Prices-Live.html.

It is the way to achieve these prices that is proprietary and this achievement progress over time can best be measured through the price gap analysis.

*Figure 1: Example graph of the YQ Price delta – Price performance evolution.*

*The X-axis represents the selected time frame. The left Y-axis represents the practitioner’s (blue) and market procurement (red) prices per month. The right Y-axis represents the price delta (green) between the practitioner’s prices and the market procurement prices. In this case, the price performance trend of the practitioner (green price delta line) is going down between December 2011 and November 2012. The practitioner achieved its best procurement performance in December 2011, March 2012 and July 2012.*
Step 2: Price gap evolution expressing the “value” performance

The price gap evolution is the difference between the average price gap and the subsequent price gaps taking into account the actually purchased volumes showing the procurement performance value versus market. This step quantifies the procurement efforts into an absolute value expressed in the practitioner’s currency.

Figure 2: Example graph of the YQ Productivity – Value performance evolution. The X-axis represents the selected time frame. The Y-axis represents the practitioner’s or country’s procurement performance value per month versus the market expressed in the practitioner’s selected currency. In this case, practitioner achieved a negative procurement productivity expressed in absolute value versus market in February 2004 till July 2004. Practitioner achieved his best procurement productivity from August 2004 till December 2004.

The price gap analysis and price gap evolution have multiple advantages compared to the traditional approaches. First, companies can measure the gap on a structural basis rather than occasionally. This allows companies to have a structural follow-up of their procurement performance. Second, traditional gap analysis does not always take into account the volume actually purchased. The build-in of the purchased volume is a must. Indeed, a major price gap on ten tons purchased will hardly offset an earlier bad price gap on thousand tons purchased.

From a data collection perspective, there is less bias and manipulation by the market (e.g., compared to market prices assembled via telephone or e-mail). Each graph created on the database and defined as visible to other users is subject to voting by other users (“Like”, “Dislike”, “No opinion”). Whereas this type of crowd voting has so far been used on social media like Facebook, Twitter, … to express an opinion on a topic, the approach here is new as it is used to validate the reliability of the data. This means the YQ Matrix is not only valuable for the industry, but also for the institutional and academic world striving for data confirmation from multiple sources to carry out their academic and institutional studies.
Finally, similar to the four step country selection proposed earlier, results are reached faster and time invested is lower. Especially when prices are volatile, a thorough understanding of the market is necessary. The YQ Matrix monitoring tool presented provides a short and long term visibility from which price seasonality and best buying times can be more easily deducted. In this way, it adds to the creative time procurement since it might be better to buy more expensive than the market at the right time than to buy the cheapest at the wrong time.

References