What To Look for In A Spend Analysis System

Michael Lamoureux, PhD
Editor-in-Chief of Sourcing Innovation
http://blog.sourcinginnovation.com/

Eric Strovink, MS
CEO of BIQ
http://busiq.com/

These days, every vendor and his dog is offering "spend analysis" solutions to the market, but, as one can easily guess, not all "solutions" are appropriate in all situations, or even capable of producing a true picture of spend for an average organization. Therefore, in order to select an appropriate solution, one has to know what to look for. The right answer is often elusive, because there is a fundamental lack of understanding in the market of what a "spend analysis" solution actually is, and what it should be expected to do.

Depending on who is asked, the definition of analysis will vary from the process of building predictive models using historical data, to deciding whether past events or transactions are statistically significant, to sorting through haystacks of data to find meaningful needles that will suggest patterns. Each is a valid definition, but it is not necessarily useful to an organization that just needs a better understanding of what it is spending, where, with whom, by whom, and, more importantly, why. From a practical perspective, spend analysis boils down to "finding stuff in your data" that the organization was not aware of, or was not sufficiently aware of. Spend analysis, therefore, is the process of deriving insight from spend data.

In order to achieve insight from data, a well-understood process can be followed:

- Acquire data from one or more sources.
- Transform "like" data sources into a common format, and link together unlike-but-related data sources using common keys (or computed expressions that result in common keys).
- Create a schema for the data sources.
- Load the data sources into a database system or data store.
- Issue queries against the database or data store, and, when useful, format the results into reports and displays.

Note that this process must be followed for multiple datasets. For example, it is not sufficient to perform a "spend analysis" just on accounts payable data; that is a useful high-level view, but it does not return much value after obvious discrepancies have been addressed, and they are usually addressed very quickly. The next step of the process is to look at invoice data and other sources of data in the enterprise, of which there will be dozens, if not hundreds, of examples. Each of these data sources can be mined for savings; and, more importantly, analyzed for insights on what is actually driving demand.

The above process needs to be easy and efficient for an average business analyst, who, for example, doesn't want to think about the "schema" at all. If the process can only be

accomplished by a team of programmers in a back room, the analysis system is not useful from a business point of view. Most home-grown "spend analysis" systems suffer from this fundamental flaw, and that is why they usually fail to deliver value over time. This dictates the following basic requirements:

- **Point and Click ETL**

  It must be trivial for analyst to point the system at a data source (be it a database or flat file export) and load the data that needs to be anlayzed into the system. No programming skills should be required to use the "Extract - Transform - Load" tool.

- **Powerful Query Capability**

  The system needs to support a powerful query capability that will allow the analyst to ask whatever question she needs to answer to find patterns, meaning, and insights in the data; but that capability must not require IT skills.

- **Flexible Reporting Framework**

  The system needs to allow the analyst to easily define and populate the reporting formats that she needs to see in order to make sense of the data, and that management needs to see in order to have confidence in the analysis.

While these requirements are absolute, they are not specific enough for the purposes of system selection. Even a modern relational database will have point and click ETL tools to import data from a competitor's database; it will have a powerful query capability (as SQL is fully supported); and it will support the definition of flexible reports through PL/SQL and a host of third-party reporting tools.

Going back to the core requirement of powerful query capability -- the requirement that actually supports the "analysis" part of spend analysis -- the real differentiating criteria among modern spend analysis systems are "How Many Cubes", "How Easy Is It To Build The Cubes", and "How Easy Is It To Analyze The Cubes"?

- **There's More than One Cube**

  It's not just the AP cube or even the invoice cubes. It's the HR spend cube. The raw material utilization cube. The 3rd party marketing spend cube. The legal cube. And seventy-five other cubes.

- **Cubes are Dynamic**

  Spend moves throughout the organization and its supply chain. Marketing spend today is Procurement spend tomorrow. In-house legal spend today is outside counsel spend tomorrow. Today's off-contract purchase is tomorrow's on-contract purchase. The cubes must be able to adapt to changing rules and requirements to be useful.

- **Rules and Hierarchies Must Adapt**

  There is no automated mapping or familying engine that will get everything right, until an analyst manually defines the right rules for your organization. And even then the mapping accuracy will max out at 95%, before dropping back to "not useful" when the organization changes the accounting hierarchy. The analyst must be able to understand and adapt the mapping rules at will.

- **Analysis Must Be Flexible**

  There is no canned reporting or dashboarding framework that will solve every problem. The spend analysis system must be able to supply both simple and complex multidimensional data to a flexible analysis framework, without requiring IT expertise from the user.

Thus, a real spend analysis system is one that:

- Lets the analyst *easily and quickly* build any cube she wants, anytime she wants,
- Lets the analyst *easily and quickly* change the cube any time she wants,
- Lets the analyst *easily and quickly* change rules and hierarchies anytime she wants,
- Lets the analyst *seamlessly extract* data into the analysis framework she wants, and
- Lets the analyst *throw it all away and start all over* anytime she wants, without any worries about lost time and effort -- because it's easy.

That, in a nutshell, is what you look for in a modern spend analysis system.