

What is an ODS?

Dr. Tom Johnston

Single Source of Truth.

It is a single source of truth for operational data. Copies of the same facts, e.g. a provider's certifications, a member's coverage, are spread across a lot of source systems, files and tables. Inevitably, these copies get out of sync. A designated single source of truth -- whether queries and reports go directly against it, or against subsets of data pushed downstream from it -- will eliminate most of those inconsistencies. This is addressed in the attached paper.

Data Switch in a Non-Point-to-Point Architecture.

It is the switch in a non-point-to-point architecture (telephone network analogy). Databases and applications communicate by sending the business data they create to the switch, and retrieving the business data they need from the switch. Just as the telephone network we have today is inconceivable as originally designed (point-to-point, one phone to every other phone it can communicate with), IT systems bear tremendous costs by exchanging data point-to-point. A switch architecture means that any system that creates and/or consumes business data has only one interface to support -- its interface with the ODS. Just as long as its one "service contract" for providing business data to the ODS is honored, any application can be altered as extremely as you like, or even completely replaced. This is also addressed in the attached paper.

A Warehouse of Pre-Fabricated Subassemblies.

An ODS is a warehouse of "pre-fabricated subassemblies" that can be plugged together in different combinations to meet different business information needs. The cash value of this phrase is that the data in an ODS is "normalized". It is in a form where any desired combination can be retrieved just by writing a SQL statement -- where cost is measured in man-hours. The alternative often involves costs measured in man-years.

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There are two reasons for the "order of magnitude times three" cost differential. One is that the ODS should contain all operational business data (though it will take several iterations to get there). To put together a new report, or a new set of information screens, from a single source (the ODS) is often much easier than pulling data from two or more different source systems.

The second reason is that source systems do not store data in a "normalized" form. This means that program code must be written to massage the data into the desired form so it can be combined with other data. Code requires programmers. SQL can be written by business users, especially when the SQL is "under the wraps" of a user-friendly query or reporting tool.

The cost reduction differential is not just an IT concern because there is also, inevitably, a calendar-time differential as well. With an ODS, even a reasonably complex query can be written in a day and then immediately executed. Without an ODS, it might be months before the results are available to the business. This translates directly into lost business opportunity cost -- opportunities that could not be seized in time because the information needed to make them visible, or to indicate the correct response, was available only weeks or months after it was needed.

Three Metaphors.

"Single source of truth", "data switch in a non-point-to-point data exchange network", and "warehouse of pre-fabricated subassemblies of operational data" are metaphors, of course. But I hope they convey some sense of the business value of an ODS. Let me add that they are not spin, nor are they hype. They can provide the value I have described. But it is hard work. Most of us are aware of the technology-utilization hard work. However, companies are just beginning to realize that there is a parallel stream of hard work, that of insuring semantic interoperability among various data sources.