



OLAP modeling software

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**Marketing technology & reporting
Software services**

Abacus Market Analytics

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The OLAP Concept

Online analytical processing (OLAP) helps business decision makers analyze their data to reveal trends that might not be discovered when viewing data in standard reports. An OLAP query—called an OLAP cube—is said to be multidimensional because the query returns data from multiple tables in a database. The report data is then viewed in a pivot table.

An OLAP cube can be thought of as an extension to the two dimensional array of a spreadsheet. An example, a marketing manager would like to see the sales of a product by month, city or by a channel. Month, city, product and channel will be dimensions and sales will be measure in the OLAP parlance. The marketing manager might now want to view the data in various ways, such as displaying all the cities down the page and all the products across a page. This could be for a specified period and type of channel. Having seen the data in this particular way the marketing manager might then immediately wish to view it in another way. The cube could effectively be re-oriented so that the data displayed now has periods across the page and type of channel down the page. Because this re-orientation involves re-summarizing very large amounts of data, this new view of the data has to be generated efficiently to avoid wasting the user's time, i.e. within seconds, rather than the hours a relational database and conventional report-writer would take.

OLAP in Retail outlet system reports

Abacus Market Analytics group uses the 'Pivotcube' technology to power the reporting for the modern retail format reports for one of its key clients. The source code was incorporated in the reporting application to create multidimensional reporting interface for the user to slice and dice the data.

Some of the features of the technology are:

1. Large number of dimensions and measures can be fitted into the application. 1024 measures and 255 dimensions can be incorporated;
2. Filtering can be done both by dimensions and measures;
3. Aggregation functions like Sum, count, average available;
4. Basic statistics functions like median, variance, standard deviation are also available; and
5. The 'Pivotcube' technology can be incorporated in both connected (web or client server) or disconnected mode (e.g. Monthly cube with updated data can be sent across to the client).

An example of OLAP reporting

For example if the measure on which the analysis has been done is OOS % (Out of stock), and the dimension element selected is 'Atta'. The 'Time' dimension (month in this case) is across the page and the category 'Atta' SKUs are down the page. The measure of 'Out of stock' can be replaced with Freshness % or Presence % etc.

From the above example, we see that OLAP reporting empowers the business user to do their own analysis within one framework and get answers to questions that will be very difficult to get through standard reports.