Prophix®

Visual Analytics Solves Data Challenges

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A Prophix whitepaper

Inside this document

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Introduction

The computer software business is constantly changing. Vendors often have their way of looking at the market and use terms that can be confusing or so general that they have no real meaning. One such term is Business Intelligence or BI. From its early days, the BI business has grown significantly with a large number of vendors that use terminologies such as Big Data, Data Discovery, and Visual Analytics. Now there are "self-service" BI-like products. But what do these products actually do? What are the security issues? Which solution(s) are best for any one company?

This white paper is designed to be read by Finance professionals. It gives an overview of the types of software available and the current market for BI-like software and explains how Prophix Software's Visual Analytics capabilities fit in.

Why Companies use BI-Like Software

From every side, we are made aware of the proliferation and the importance of data. Companies supposedly have untold wealth hidden in their computer systems if only they could deliver the right data to the right people at the right time. The computer industry has done a good job of convincing people this is important.

This may seem cynical, but there is no escaping the fact that people DO need data to make decisions.

But business people need more than just data; they need to convert data into meaningful metrics. They need to analyze data to produce useful information. For example, a company will normally track historical monthly sales for each product. It's the analysis of the sales data that can answer questions like "Are our Sales & Marketing costs increasing faster than our sales?" or "What is the annualized growth rate of our revenues for each product?" thereby providing more meaningful insights.

Companies have continually struggled to make information available to decision makers in a timely fashion. Years ago, in large companies, decision makers who wanted data would have to put in a request to IT and get it back some time later, by which time they have probably either taken the related decision or forgotten why they wanted it.

Then along came Business Intelligence or BI software.

Business Intelligence

Business Intelligence Software (originally called Executive Information Systems) enabled end users to display data visually using charts and graphs. It was expensive and typically used by large companies.

They soon figured out that drawing the pictures was easy, but users needed access to accurate, relevant data; so the concept of the Data Warehouse came about. Data Warehouses gathered together data from many different systems in a format that enabled end users to see data graphically and perform analysis using Business Intelligence applications.

Typically, IT was in charge of building and maintaining the Data Warehouse, and Data Warehouses became complicated and difficult to maintain as the users asked for more and more data to make business decisions. The problem that often arose was that IT realized the need for organizing data in a Data Warehouse but were removed from what data end users needed and how it would be used.

This is "Traditional BI". Big expensive systems but with one major benefit: the data is reliable and accurate. Some companies gave up after a while; the costs of maintaining a data warehouse were so great the benefits couldn't justify the investment. Other companies soldiered on.

"BI" has become a catch-all phrase used to represent a variety of ways of analyzing data. In fact, the term "BI" is old fashioned and doesn't mean anything. The world has moved on.

Currently, there are many other products that are BI-Like. The two that are currently most in vogue are: "Data Discovery" or "Self-Service Analytics" products (like Tableau and Qlikview) and other products that are more technical in nature.

Self-Service Analytics

Self-service Analytics tools seek to address the previous challenge seen with Data Warehouses and Traditional BI by transfering the management of data from the IT department to end users. Any end user who can access tables of data can use these products to display information graphically. This liberates BI from IT control and enables users to "snack" on data; instead of being presented with a large data warehouse that is difficult to digest, users can analyze smaller datasets, both internal and external data. Their mantra is "Give me a table of data, and I will analyze it".

These self-service analytics products have been extremely successful and have made it easier for people to make meaningful decisions. But giving the power of easy to use Visual Analytics to end users so they can apply it to any data gives rise to questions of data reliability and security.

1. **Data Reliability.** Users can have access to unstructured data that has questionable provenance. Data can be inaccurate because of adjustments, typing errors or timing issues. Most people don't like meetings where users are arguing about whose numbers are correct. For example, many sales departments track sales, but their numbers are not necessarily the same as those from Finance.

2. **Security.** This is not just to do with external parties but is perhaps more relevantly an internal security issue. Users can request access to sensitive data; payroll data (history AND plans) is highly sensitive but may be needed by a decision maker who wants to analyze productivity. It may also be a political issue if departmental managers are given access to the investment plans of other parts of the business.

The second type of BI-like products that have enjoyed a lot of interest are, for want of a better description, "Technical Products". Here, "technical" does not mean IT-technical but that the analysis they perform is technical from a mathematical or statistical perspective. These take the concept of Analysis to a whole new level and are often designed for "Big Data" applications involving very large databases. Some products go beyond just numerical data and claim to make inferences from photos and videos.

Technical Analysis

We are constantly being told that the world is drowning in data and that companies will succeed if they can only put this wealth of data to good use. One term used in relation to this is "Big Data", which is vague enough that it means different things to different people. However, when used to refer to large datasets, analyzing data becomes more complex, and statistical analysis makes sense.

There are many software products available that perform analysis such as Data Mining, Process Mining, Complex Event Processing, Predictive Analytics, Prescriptive Analytics, ARIMA and so on. Many of these contain sophisticated algorithms or statistical processes and often promise to be breaking new ground regarding their analytical capabilities.

Products of this type suffer from one major drawback: to use them effectively requires the involvement of a specialist – often referred to as a "data scientist" - who has an understanding of statistics or some other analytical discipline. This is because to understand the usefulness of these products it is necessary to appreciate not only the results they produce but also the analysis they perform. Getting the best results from these tools often requires major investments by hiring expert data analysts or using external consultants who understand how the tools work and can interpret what they produce.

Analysis

As you can see, the world of BI has become a smorgasbord of analytical capabilities, and each vendor has a different take on what is important. There is no end to the analysis you can do. But you must make sure you are not overdoing it.

An example of this that was very popular in the 1990s is Activity Based Costing. Many large companies invested a lot of time, money and effort into modeling their business incredibly accurately and allocating costs extremely precisely first to activities and then to products and customers. In many cases, it helped them identify which parts of their business were more or less profitable, but in other situations, they looked back at the work they had put in and questioned whether it was all worthwhile.

This is because sometimes the opportunity cost of decision analysis exceeds the benefits that could be gained by enacting some decision. In other words, the time and investments required to analyze your business are not justified by the relative benefits from making the optimum choice.

What it boils down to is that you have to be sure that you don't suffer from "Paralysis through Analysis". The time it takes to make a decision is itself a cost; many companies lose opportunities simply because they spend too much time making the decision. Because of this the ideal situation is one where you are giving users easy to use, quick access to data that is reliable and accurate is paramount.

Alternatives to Technical Analysis

As we have seen, there is no end to the ways you can analyze your business. But this does not mean that all analytics products are complicated and expensive. In fact, you can give users valuable insight into company performance and decision making with non-technical products like Prophix.

The following functionality is essential:

So far, we have considered analytical capabilities. However, these address only half the requirements for a BI-like application; there is also the issue of how and where the data being viewed is sourced.

Data

So where does the data come from?

As we have seen different BI-like solutions do this differently:

- "Traditional BI" products usually require complex data warehouses with expensive implementation and maintenance.
- "Self-Service" products allow users to analyze any data they can access, whether it is accurate or not.
- "Technical Analysis" products allow specialists to analyze any data they can access, but professional data analysts will understand the importance of data provenance.

The point is that with many BI-like applications, the visuals are not usually a challenge, but giving people access to accurate data is. Unreliable data with questionable provenance can give rise to disputes over whose data is accurate and in the worst case can be very costly through making wrong decisions.

But in almost every company there is one functional area that cares and understands the most about data accuracy and reliability. The Finance department.

Finance as a Source of Data

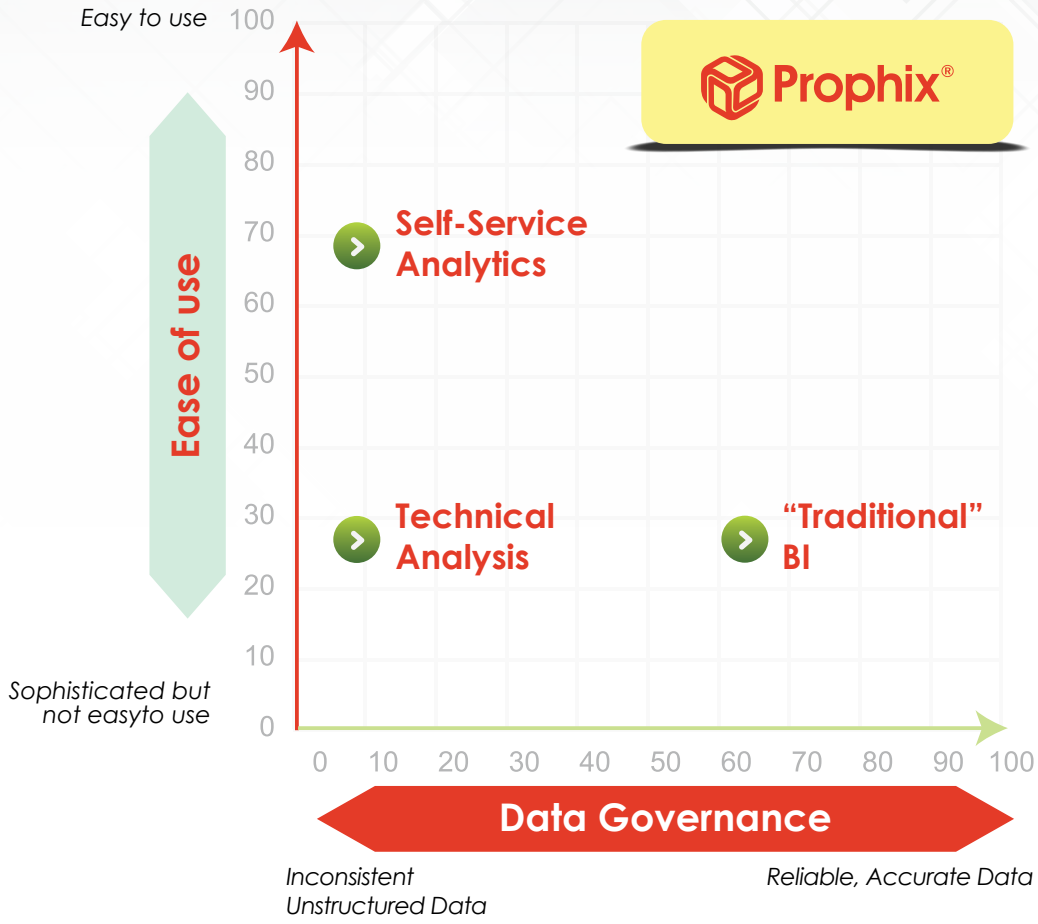
Finance departments have been dealing with electronic data for decades. Data accuracy and reliability run in their veins. Finance deals with data that is not only reliable and accurate but also structured and numerical in nature; this is the kind of data that lends itself to BI-like analytics.

Most important, in many companies Finance is the responsible steward of data; companies rely on Finance to create meaningful plans and produce accurate monthly reports about the financial well-being of the company.

The scope of the data managed by Finance goes beyond financial data to include operational data relating to sales, payroll, product costing and product profitability.

This is where Prophix comes in.

Prophix was designed to give you the best of both worlds. Prophix Visual Analytics offers not only ease of use for both finance staff and end users but also access to accurate, secure and reliable data.



Visual Analytics in Prophix

Prophix develops CPM software that includes an integrated easy to use Visual Analytics component. Prophix also has a database that stores structured data and is specially crafted for reporting and analysis.

What's more, Prophix is designed with finance professionals in mind so that you can manage everything yourself with minimal help from IT. Prophix has a graphical user interface; there is no need for programming or customization. Finance departments use Prophix to publish financial and operational data in a way that is attractive and easy to use for end users to interpret.

Let's look at how Prophix addresses the analysis and data needs of a BI-like implementation:

Prophix Analysis

Prophix has no pretensions of being a complicated technical analysis product with statistics and mathematical algorithms that need specialists to realize the full benefits. However in the vast majority of customer scenarios – particularly in the mid-market – that level of capability isn't required and is in fact overkill. Prophix does have analytical capabilities that meet the needs of professionals in finance and other departments.

These include:

- Visual analytics including charts and graphs.
- Calculating ratios, variances and data smoothing (for example trailing twelve months).
- Combining historical data with plans and budgets.
- Allocating overheads to calculate product and customer profitability.

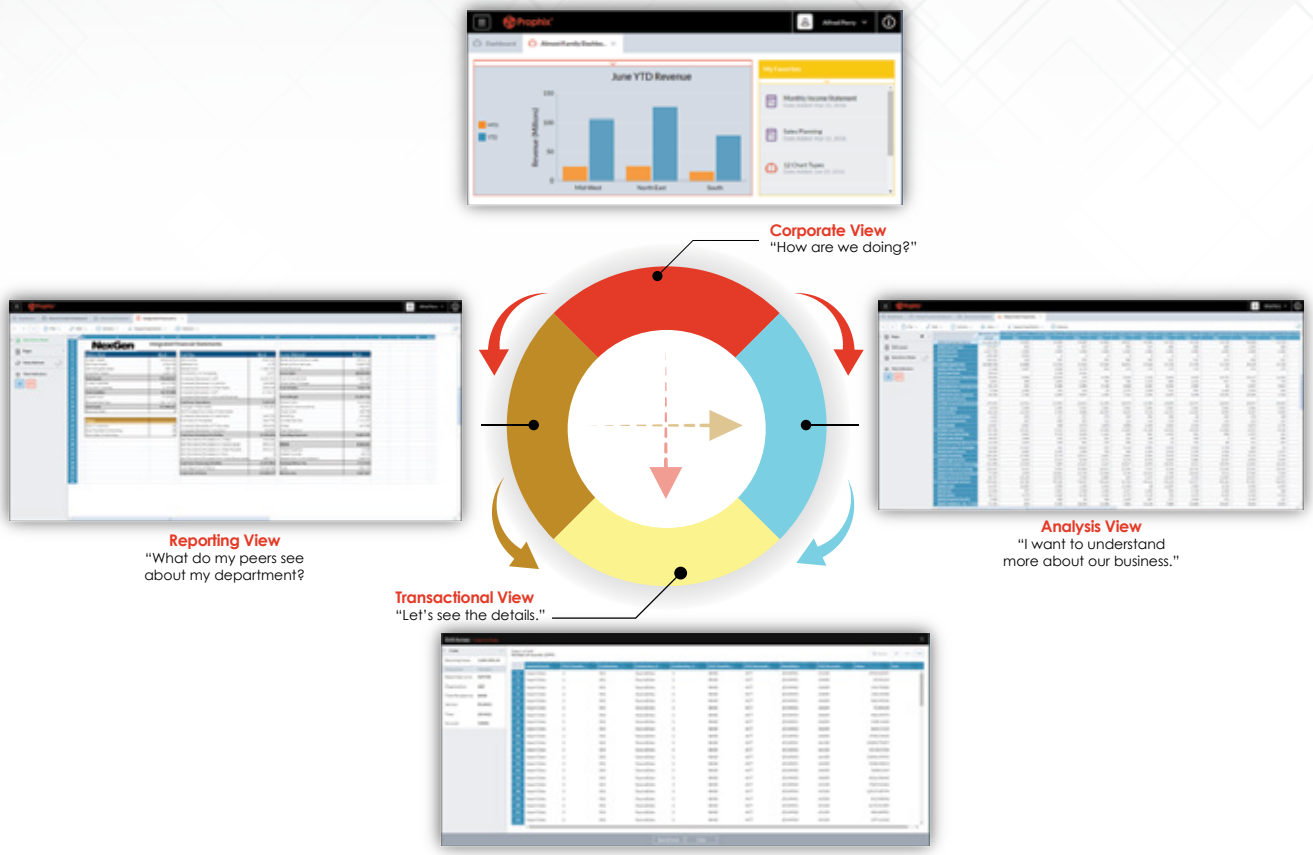
Prophix Data

Prophix uses a multidimensional database that is optimized for data analysis. Because of this, Prophix has data capabilities that are designed with finance professional in mind, such as:

- The ability to store monthly, weekly, daily data.
- The ability to report in different time perspectives, such as year-to-date or trailing twelve months.
- Can import data from over 250 ERP/Accounting systems using integrated functionality.
- Optionally, can collect data from users, including integrated workflow.
- Integrated security so finance can control user access down to the level of individual accounts, products, projects, and departments.

The word "integrated" is very important. Many software vendors grow by acquisition and sell a mishmash of products that have differing data capabilities and user interfaces. But Prophix is a unified solution – so Visual Analytics is integrated with Ad Hoc, data discovery, financial reports, transaction detail, data security and workflow.

Users can drill down from a dashboard to another dashboard or a formal report; ad hoc analytical capabilities or to transactional details. This gives decision makers access to a wealth of information quickly and easily.



Conclusion

The world of Business Intelligence software has changed a lot, and there are many types of "BI-like" products available. It is very important to see behind the charts and graphs to understand aspects such as analytical capabilities, data reliability and ease of use.

When considering the alternatives available:

- "Traditional BI" with a data warehouse is expensive and complicated to implement.
- Technical analytics might only be feasible if you hire a data analyst or an external consultant.
- Self-service analytics products are easy to use, but limited when it comes to data security, accuracy, and reliability.

Prophix was designed to provide a fourth alternative. With Prophix, finance professionals are in full control of the data that users can access. Users see structured, reliable, accurate data. At the same time, the end-user interface is easy to use for people in all parts of the company.

Prophix is also a unified solution, which means that all functions integrate with a common user interface and database.

With Prophix, finance professionals are in full control of the data. There is minimal need for IT involvement. Finance departments use Prophix to publish financial and operational data that is secure accurate and reliable in a way that is attractive and easy for end users.

About Prophix

Prophix develops innovative software that automates critical financial processes such as budgeting, planning, consolidation, and reporting—improving a company's profitability and minimizing its risks. Thousands of forward-looking organizations in more than 90 countries use software from Prophix to gain increased visibility and insight into their business performance.

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