A Study

WHICH BI TOOL IS THE BEST FIT FOR YOUR BUSINESS SIZE AND SCOPE?

We have compiled a document to help you understand the differences between Power BI, a Data Warehouse and a Data Warehouse Automation.

Power BI

Power BI has lent itself well to the SMB space because it supports a variety of data sources, it is relatively easy to create data models and it enables simple deployment with immediate results. Its usage, at least at the beginning of a project does not require specialist BI knowledge.

If your main data source is Microsoft Dynamics ERP with thousands of available tables to store your valuable data, then the BI project rapidly becomes more complex.

There are limitations of Power BI that we should consider:

- Power BI **Performance on larger data sets is a known issue** and the new Managing Aggregations feature may not be the right answer for companies who are used to analyzing data at a document level.
- **Modelling hundreds of tables** is possible in Power BI, but is not easy to manage, even when using the new 'Modelling Views' feature, and while the new "dataflows' feature helps in reducing redundancy in modelling, it does require additional services.

ALL OF THESE LIMITATIONS ARE VERY WELL SUPPORTED BY A DATA WAREHOUSE.

Advantages

Constantly developed tool has following great features:

- Creating data models is simple (not many tables, not large amounts of data), modelling can be done without specific BI skills.
- Can connect to many data source and transform entry data in a simple way.
- Language for extending table features (DAX) is easy to learn.
- Very affordable license.

Threats

- By adding some new features (data flows, aggregations, data views) it requires more and more knowledge to manage.

Data Warehouse

Normally when an SMB hears a phrase like 'Data Warehouse' the first thing that comes to mind is prohibitive costs. Also, there are horror stories about the implementation process due to the rigidity of the data modelling, that is measured in months, not days.

What makes a data warehouse the preferred choice for enterprises is that the data warehouse:

- Provides a solid core to complex data models – meaning that whatever data you want to add to DW it will work and provide a single repository for all BI needs in your organization.
- Supports larger sets of data – speaking about hundreds of millions of row or terabytes of data is business as usual.
- The data warehouse enables data to be interrogated quickly and efficiently and does not sacrifice any feature as with Power BI.
- In addition, it allows some special functionality like snapshots of the data to be recorded allowing for additional analysis of historical data that would otherwise not be retained by the ERP solution.

Advantages

DW is the central repositories of integrated data from one or more data sources. DW can store current and historical data in one single place. Corporate BI projects are a playground where SQL server engines (DB, SSAS, SSRS, and SSIS) do an excellent job in creating a corporate DW. DW solution can deliver:

- Larger data model with many contributing entities (source tables).
- Complex data model where data have to be transformed in a specific way (there is a lot that SQL can do and Power BI can't).
- Larger data size with many rows in the source or target tables.

Threats

- In most cases (but not necessary) data from DW are further processed into cubes, where aggregations are for faster browsing. This two-step transformation adds new features and complexity to BI project.
- Requires a DW specialist.
- Projects are expensive.

Data Warehouse Automation

Data Warehouse Automation (DWA) is the latest buzz word in analytics. DWA tools are DW solutions where development cycles are fully automated (all the code is generated automatically) thus improving productivity, reducing cost, and improving overall quality. This is exactly what BI4Dynamics delivers.

BI4Dynamics makes a data warehouse more leaner, more flexible and less expensive with speed of delivery and customization possibilities unseen in the industry. A consultant and not a BI Developer can deliver a full data warehouse experience in a matter of hours.

Advantages

DWA tools deliver the same standard DW solution (as if manually developed) by delivering code automatically.

- DWA tools keep all corporate standards and SQL performance know by DW solutions.
- DWA process makes DW architecture leaner, more flexible and less expensive.
- DWA tools bring the speed of delivery and change unseen in the industry.
- Customisations and development can be done by IT savvy person (ERP consultant).

Threats

- Customers are cautious and distrustful at the beginning when hearing the word "DW".

Which one is best for my needs?

What we need to consider when deciding on the type of analytics project to start within a business is to look at the factors that affect the scope of the project.

These could be as simple as the available budget or resources that we have to devote to the project, though other factors that may impact. These could include such things as the type of analysis that is required, where the data is coming from, how much data we have to analyze, and the complexity of the questions that need to be answered. At BI4Dynamics, we are committed to providing our clients with the best possible solutions for their data analysis, while at the same time, providing them with a solution that allows for the effective and efficient interrogation of all of their Dynamics ERP data, no matter what the size of their project.

Let's consider the following tables for solutions matched to three different budget sizes. Each type of project would have different levels of requirements.

Scenario 1 – Small Budget circa $5k

Dynamics customers characteristics	Time, budget and internal resources are a significant constraint. The customer is not very demanding – good enough is good enough.
Power BI	**Recommended** For non-demanding customers. Fast delivery. Simple to manage. If many changes are required project can become expensive.
Data Warehouse	**Not recommended** Many DW features may not be needed. Not flexible. Too expensive.
DWA tools – BI4Dynamics	**Recommended** Good for more demanding customers who get all requirements covered with the out-of-the-box solution with minor modifications. Subscription to split the cost over multiple years.

Scenario 2 – Medium Budget up to $25k

Dynamics customers characteristics	A most demanding market that requires corporate features for SMB price. IT resources may have SQL knowledge but no BI experience.
Power BI	**Recommended (conditionally)** If Power BI solution has a better template or connector for Microsoft Dynamics than DW.
Data Warehouse	**Recommended (conditionally)** If some scenario requires DW and can't be delivered by Power BI. If DW solution has a better template or connector for Microsoft Dynamics than Power BI.
DWA tools – BI4Dynamics	**Recommended** A great connector that covers all Microsoft Dynamics specifics. Simple process (does not requires SQL knowledge) to extend features and create new BI functionality.

Scenario 3 – Large Budget over $25k

Dynamics customers characteristics	Many specifics requests. Complex environment. Large data. Dedicated resources.
Power BI	**Not Recommended** Can't scale and manage big tables fast enough. Not transparent model with many entities.
Data Warehouse	**Recommended (conditionally)** SQL technology can do (almost) anything. Processing performance. Managing complex models.
DWA tools – BI4Dynamics	**Recommended** Everything listed up (Dynamics features, flexible) + corp. features (ACY, fin. reporting, global dim). Scalable to load large tables in X TB projects. SQL based, 100% open.

Conclusion

In all three of these scenarios, a Data Warehouse Automation tool such as BI4Dynamics would provide customers with flexibility to perform most of their requirements as standard out of the box functionality. This would ensure that even with the most complex of requirements that the solution would be cost effective and meet all of the user community needs.

We currently offer a full functionality 30 day trial with no limitations, and our consultants are on hand to assist you with setting up the solution across your data, and even to do data walkthroughs with you. This means that you have no risk when you try our solution.

Prepared by BI4Dynamics. For more information contact us on sales@bi4dynamics.com.