BI4DYNAMICS & POWER BI
COMPARISON AND COMPATIBILITY

BI4Dynamics and Power BI have different strengths and weaknesses. They may complete each other though in best scenario they can work perfectly together.

Using **BI4Dynamics data warehouse or cubes** as a source of transformed Microsoft Dynamics AX/NAV data and **Power BI for basic modelling with mobile and web front end** is a **winning combination**.

In this document you can read about:

- Product comparison
- FAQ
- Power BI reports based on BI4Dynamics

September, 2016

COMPARISON

BASICS

	BI4DYNAMICS	POWER BI
BI TYPE	Corporate	Self-serviced or personal
BI CONCEPT	**SOLUTION**	**TOOL**
DESCRIPTION	Complete, Data warehouse based, BI solution specially designed for Microsoft Dynamics AX/NAV.	A suite of business analytics tools.
ARCHITECTURE	Properly designed corporate **Data Warehouse** (strictly following Kimball design principles) + **OLAP cubes**	**In memory** (Import) to many (50) different data sources or **Direct Query** to few (8) most common data sources. https://powerbi.microsoft.com/en-us/documentation/powerbi-desktop-use-directquery/

WHEN TO USE

BI4DYNAMICS OR **POWER BI**	**BI4Dynamics** does job much better on complex structures of **Microsoft Dynamics AX/NAV** by using **T-SQL** and **data warehouse** architecture. **Power BI** supports better **generic data sources with simple data structure** or when **predefined data source connector** satisfies business requirements, or when **special data model** needs to be developed quickly. POWER BI can be used in some scenarios to **extend data warehouse** functionality or to add additional sources much faster than BI4Dynamics.
EXCEL OR **POWER BI**	Use both. Excel (**desktop** usage): Excel is far better for **Ad-Hoc analysis** and business users are already familiar with Excel. Power BI (**mobile**, **web usage**): Interactive dashboards at your fingertips.

ARCHITECTURE DETAILS

	BI4DYNAMICS	POWER BI
ARCHITECTURE	Data warehouse	In Memory
DEVELOPMENT LANGUAGE FOR MODELING	T-SQL (Data Warehouse)	Power Query
	This is by far the biggest advantage of DW architecture as with T-SQL developer can deliver almost every request. As intermediate layer between data source and analytics this concept may bring complexity. BI4Dynamics has advantage of **open data warehouse architecture** and flexibility of customizations that are delivered by **Metadata** based **Wizard**.	Power Query is a powerful **mashup query language** optimized **for building queries** that mashup data.
→ → →	Data warehouse architecture is much better suited to supports complex data sources (like Microsoft Dynamics AX/NAV) than Power BI.	
DEVELOPMENT LANGUAGE FOR ANALYTICS (CALCULATIONS)	MDX (OLAP Cubes)	DAX
	This is very powerful but complex language. It is a mature language (20 years) with excellent functionality for corporate BI projects and almost unlimited usage of hardware resources without many restrictions.	This is simple but not easy language. Many tasks can be done much faster by DAX then by MDX, but some MDX functionality is DAX not supporting. A lot of DAX functionality that is available in **In-Memory** mode is not supported in **Direct Query** mode that is used when working with large data sets. https://msdn.microsoft.com/en-us/library/mt723603.aspx
→ → →	Future belongs to DAX. Microsoft is investing hard to make DAX better.	

DATA MODELING	Already done in Data Warehouse	Custom development
MULTIPLE DATA SOURCES	Yes. Standard on AX and NAV, additional with SSIS.	Yes This is one of the best part of Power BI.
ROW LEVEL SECURITY	Yes	Yes
DATA UPDATE	Incremental	Full

IMPLEMENTATION

	BI4DYNAMICS	POWER BI
IMPLEMENTATION	Installation, configuration and modelling.	Custom development.
TRIAL PHASE	Install predefined DW and cube. Connect predefined Excel and Power BI reports. Conduct walk-through session on customer data.	Yes: Product Free Trial No: Project Free Trial
TRIAL PHASE CHARGE	Free of charge	Chargeable
PRODUCTION PHASE	Wizard driven customizations (Adding additional cubes, facts, dimensions and attributes). Open SQL code if further fine tuning is needed. Excel training for business users.	Heavy self-service development or connection to pre-built dashboards that cover basic requirements.
PRODUCTION PHASE CHARGE	Due to standardized, highly developed and specialized concept solution covers most business requirements. There is not much additional work needed. License cost is budget friendly and could be also rented.	Charges depend on a project scope and internal resources. It's charged as a project plus license renting based on number of users.

CUSTOMIZATION AND DEVELOPMENT

	BI4DYNAMICS	POWER BI
CUSTOMIZATION	Customization of data warehouse and OLAP cubes can be done by very powerful Metadata based Wizard – no SQL knowledge required.	Customizations must be done by skilled developers with Power Query and DAX knowledge.
DEVELOPMENT	SQL tools = most common and most powerful database tools in the world. Microsoft BI Management (Visual Studio). Microsoft SQL Management Studio.	Bringing data to Power BI and doing calculations must be done by skilled developers with Power Query and DAX knowledge.
OPEN SOLUTION	100% open to any modification.	100% open to any modification.

FRONT-END TOOLS

	BI4DYNAMICS	POWER BI
MOST USED FRONT-END	Excel	Power BI
SECOND MOST USED FRONT-END	Power BI	Excel
PREDEFINED REPORTS	**Excel:** 100 reports for 8 application areas **Power BI:** 40 reports for 6 application areas	Basic

DATA SOURCE IS MICROSOFT DYNAMICS AX/NAV

	BI4DYNAMICS	POWER BI
ADDITIONAL CONTENT	Customization Wizard	Custom development
LICENSING	Per database	Per user
LICENSE COST	You pay for Data warehouse = modelling. Includes complete solution.	Includes Power BI tools only, modelling is priced separately or will be charged as service.
TIME TO IMPLEMENT COMPLEX SOLUTIONS	Few days.	Few weeks or months.
ADDITIONAL AX/NAV DATABASE FEATURE	Yes (standard). Can integrate more AX/NAV databases into one data warehouse based solution. Databases can have different versions, languages and currencies.	Custom development.

DATA SOURCE IS MICROSOFT DYNAMICS AX

	BI4DYNAMICS	POWER BI
STANDARD BI CONTENT (MEASURES, DIMENSIONS)	Very rich (probably the best in the world). Only Sales cube has 150 measures.	Weak
NUMBER OF CUBES	10	
AX VERSION SUPPORT	From 3.0 until 2012 R3	Any
SUPPORTED LANGUAGES	4 languages. (at the same time in one installation)	AX installation language.

DATA SOURCE IS MICROSOFT DYNAMICS NAV

	BI4DYNAMICS	POWER BI
STANDARD BI CONTENT (MEASURES, DIMENSIONS)	Very rich (probably the best in the world). Only Sales cube has 150 measures.	Weak
NUMBER OF CUBES	12	
NAV VERSION SUPPORT	from 3.1 until 2016	2013+
SUPPORTED LANGUAGES	22 languages (at the same time in one installation)	NAV installation language

FAQ

QUESTION	ANSWER
CAN WE CREATE DATA MODEL FOR AX/NAV WITH POWER BI?	Yes, but is not recommended.
WHAT CAN GO WRONG IF WE DEVELOP DATA MODEL IN POWER BI ON OUR OWN?	If you do it on your own, you will spend a lot of time and not come to a good data model.
WHAT CAN GO WRONG IF WE BUY DATA MODEL IN POWER BI?	If you buy a data model it will probably have less feature that BI4Dynamics data warehouse based.
WHAT ARE MOST COMMON ISSUES WITH DATA MODELLING AX?	Complexity; AX has 6000 to 7000 tables. BI4Dynamics uses 200 AX tables.
WHAT ARE MOST COMMON ISSUES WITH DATA MODELLING NAV?	Complexity; NAV has 1000 to 1500 tables; Data is per company - this is big headache. BI4Dynamics uses 150 NAV tables.
SHALL WE USE POWER BI OR EXCEL?	Both. Excel is good for ad hoc reporting and best tool for desktop. Power BI is used for mobile and web access

POWER BI REPORTS

These reports are based on BI4Dynamics AX/NAV data warehouse. View live reports or download reports:
www.bi4dynamics.com/power-bi