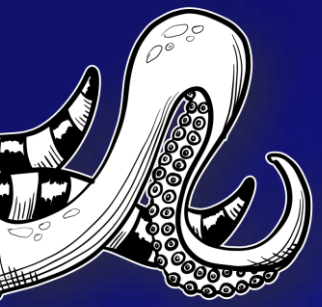
DYNAMICS MINDS

Microsoft Dynamics 365 and Power Platform Conference

Pre-Day: MAY 26, 2024

MAY 27 - 29, 2024

Portorož, Slovenia, Europe



Getting Data Out of Business Central and creation of Analytical Model

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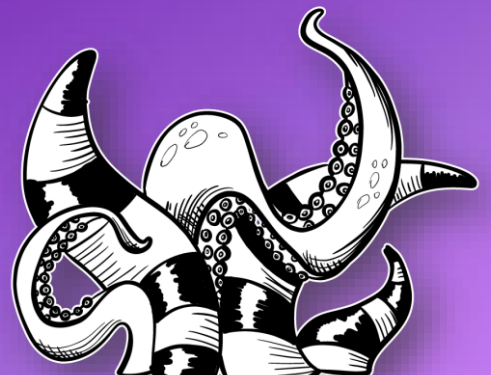
SOLUTION ARCHITECT
BI4DYNAMICS



Agenda

Getting data out of Business Central and **creation of analytical model**

- Introduction
  - Difference between reporting (BC) and analytics (BI)
  - Which BI modeling tool is better? Power BI or SQL (data warehouse)
- Getting data out of Business Central & NAV
  - History – Today - Tomorrow
- Creating Analytical model
  - Power BI
  - Data warehouse (SQL)

What will most affect analytical project for Business Central?

- Physics
  - How to read BC data?
  - How to get data out of BC?

  - There are many excelent tools for modeling (Power BI, SQL, Fabric).
  - You may hire consultant or buy a solution.
  - Physics can be a limitation for the project performance, sucess and adoption.

In the BC product group, I own our analytics strategy and would love if you would include a few small things in your presentations (maybe in the end as part of references/call to action):

1. that we have a landing page for documentation of analytics (as seen from the end users) - aka.ms/bcReporting

This page includes a few articles on Power BI and KPIs. Would love it you mentioned that as well.

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If it helps, I made a deck available where you can copy slides from here:
https://github.com/microsoft/BCTech/tree/master/samples/AnalyzeData/decks
(deck is called "Standard slides for Business Central analytics sessions.pptx")

Hope you have a great time at the conference.

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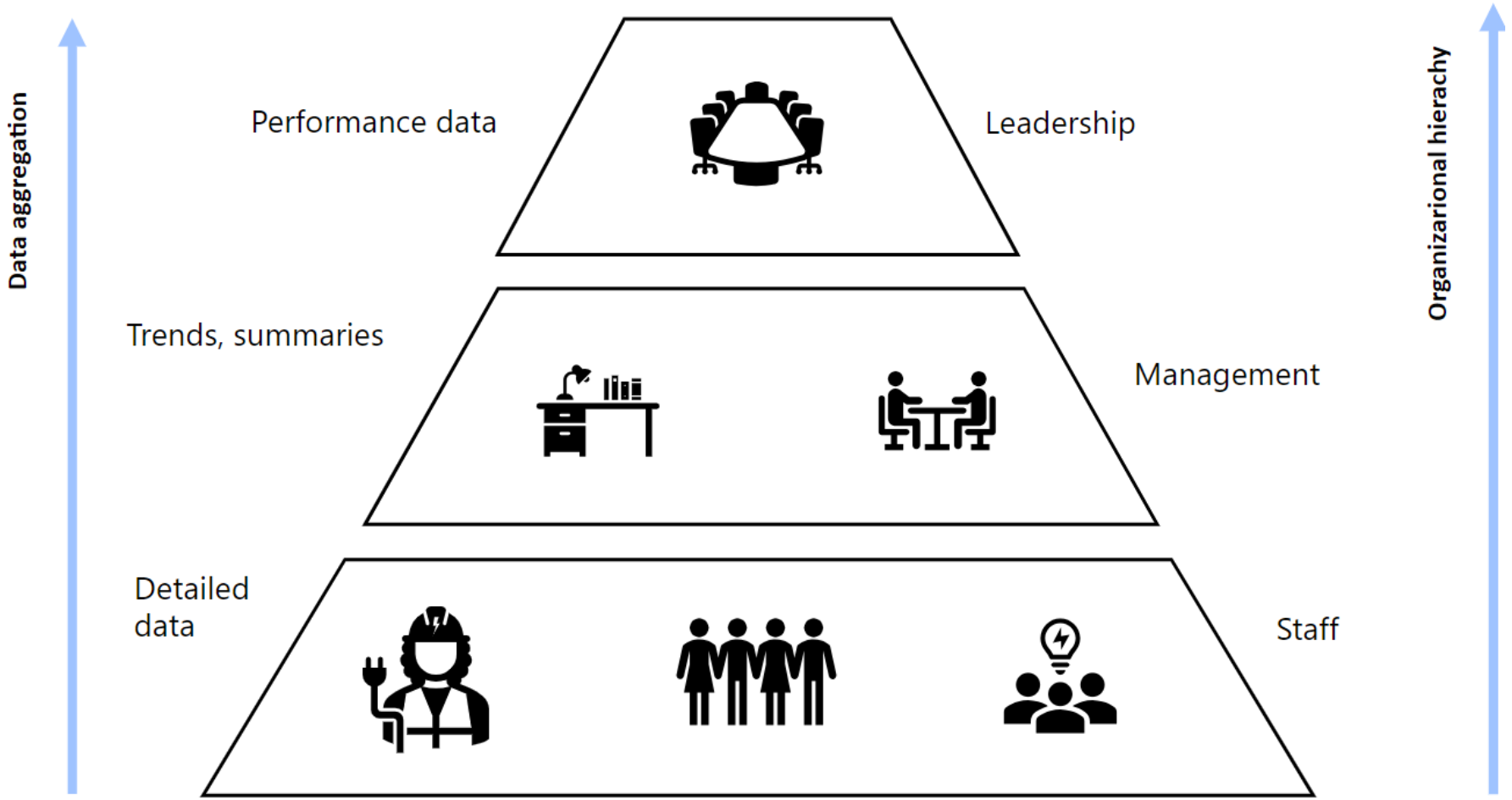
Reporting vs Analytics

Data agregation and organizational hierarchy



Source: https://learn.microsoft.com/en-gb/dynamics365/business-central/sales-analytics-overview

Difference between reporting and analytics

(further away from the source = more technical possibilities = more effort needed for data transformation)

Concept	Reporting	Analytics
Do we create a new tranformative model?	**No**. Data are in BC.	**Yes**. We create a **new BI model**: 1. Power BI report/service 2. Data Warehouse 3. Analysis Services (semantic model)
Are data live?	Yes	**No**. Refresh rate vary from 15 min to 1 day
Scalable / add new data sources	No / No	Yes / Yes
Accessible to users outside of BC	No	Yes
Scope of data transformation (BI content)	Small (level of subquery) Not complex model	Very complex models can be created (dev by SQL + dev by AS + dev by Power BI)
Benefits	**Simple** to design, **BC** skills	Transformative, scalable, new datasources
Handicaps	Limited design options Effecting BC performance	Challenge to design a model - requires **BI** skills (another **BI** technology) and **BC** basics
Is it easy to do transformations ?	Yes - requires **BC** skills	**No**
Build or buy (most often)	Build	Buy

2
Creating an analytical model

Part 1

Analytical model - which one to choose: Power BI or Data warehouse?

	Power BI	Data warehouse
What is the subject	product	concept
Product used	Power BI desktop	SQL, Azure SQL, Fabric
Scope of data (GB)	small	TB
Scope of datasources	many	few
Skills required	small to medium to high	high

Demo

Which is better?
Power BI App vs **Data warehouse**-based
Semantic model

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Which is better?

Power BI App vs Data warehouse-based Semantic model

Power BI app

26 visuals

Semantic layer on top of Data Warehouse

28 visuals

Compare two analitical model
- one created by Power BI
- one created by SQL

(From now on we only talk about analytics, no more reporting)

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Comparing two analytical models

Which one is better?

Bicycle (Power BI)

Car (Data Warehouse)

https://www.youtube.com/shorts/3n2GwCadfxM

Comparing two analytical models

Which one is better?

(It is probably not clear at first sight)

Power BI app

26 visuals, 25 tables

Data Warehouse + Semantic layer

28 visuals, 50 tables

Demo

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#1
Getting data out of Business Central

On-premises, access to BC databases was simple and available.

In the cloud – not any more.

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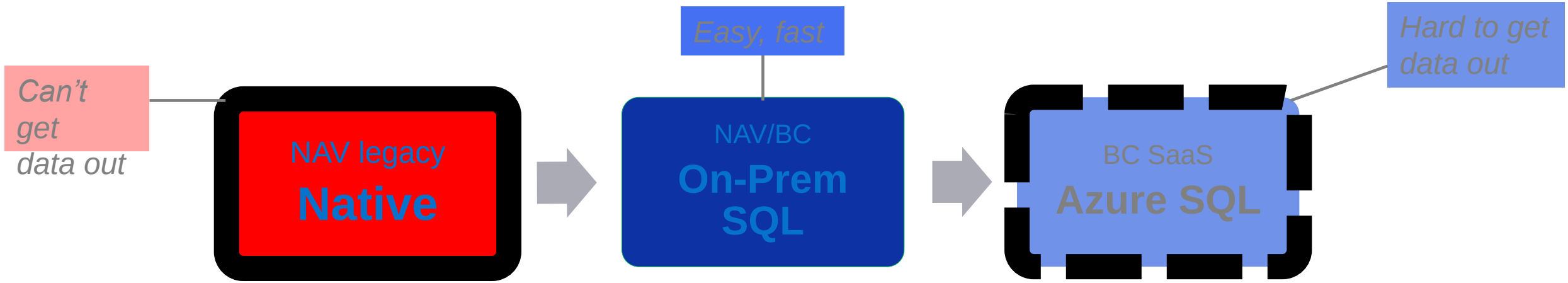
Quick history of NAV/BC database

- On Premise
  - Native database (**NAV**) → reporting
  - SQL database **NAV/BC** → reporting, **data warehouse**, Power BI
- Azure SQL
  - **BC SaaS** → reporting , **Power BI**, data warehouse



1. **Reporting**
2. Dataports (I/O)

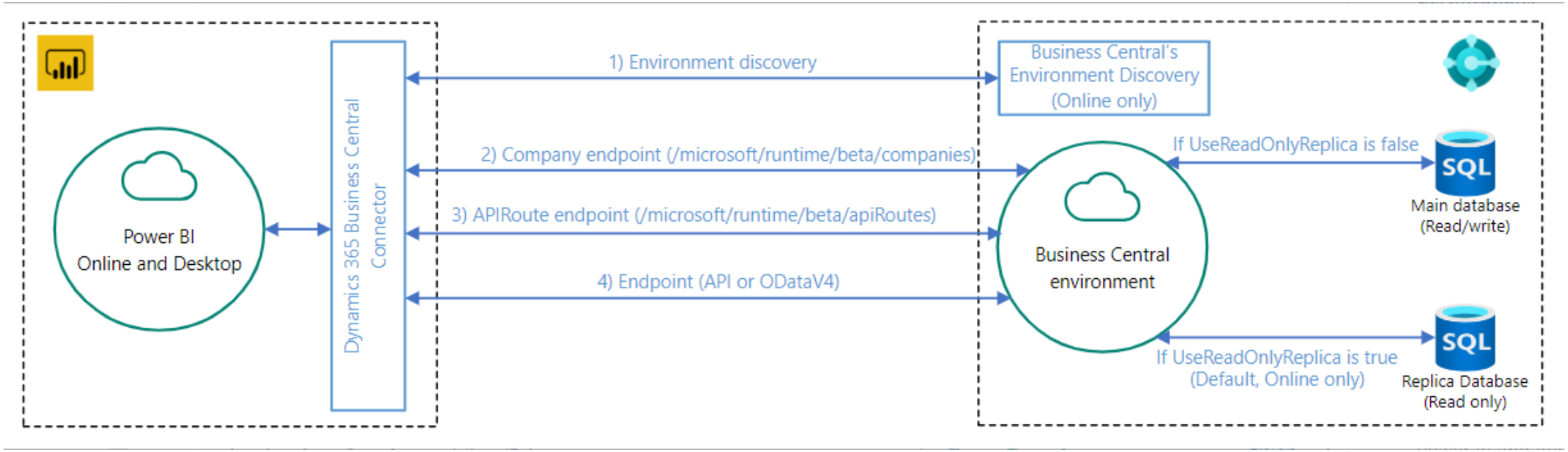
1. **Data warehouse**
2. Power BI

1. **Power BI**
2. Data warehouse

History of getting data out of Business Central

Database type	Native	SQL	Azure SQL
OS	DOS, OS2, Windows	Windows	-
ERP data location	On-prem	On-prem	Hosted (azure)
ERP db access type	Dataports (I/O objects)	Direct T-SQL read	ODATA
IS reading data scalable	No	Yes	Not really - Odata
Ready for analytical purposes	No	Golden era of analytics (simple)	Manage small, less efficient will large data
Concerns	Very limited usage Low performance	Nothing but costs (new hardware + SQL license)	Security + performance

Business Central integrates with Power BI through a connector using OData



https://learn.microsoft.com/en-us/dynamics365/business-central/admin-powerbi-overview

Conclusion

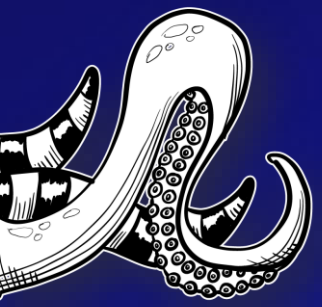
Which one is better?

- **Short distance**

Bicycle (Power BI)

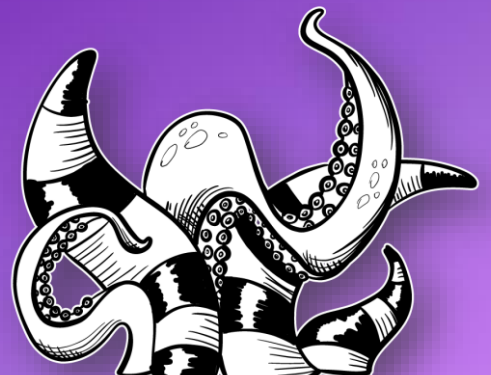
- **Long distance**

Car (Data Warehouse)



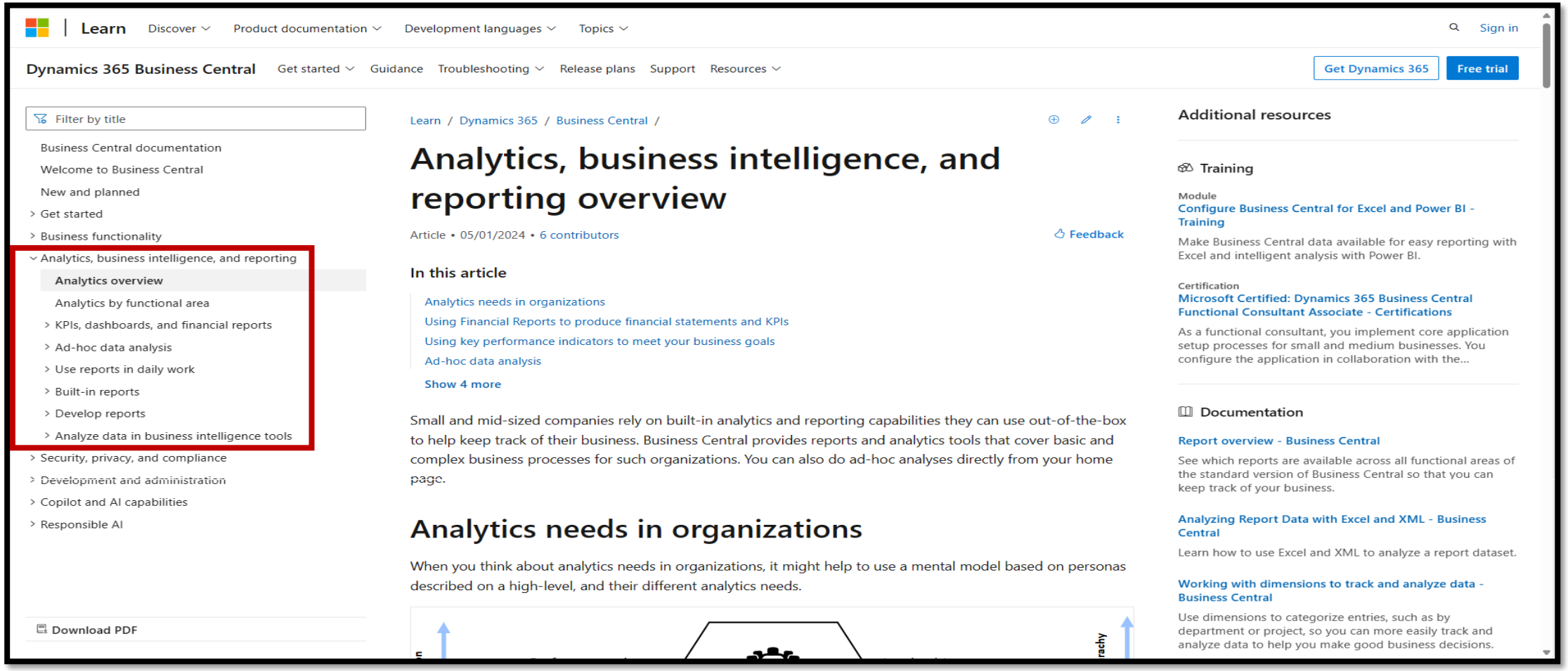
APPENDIX

Microsoft documentation



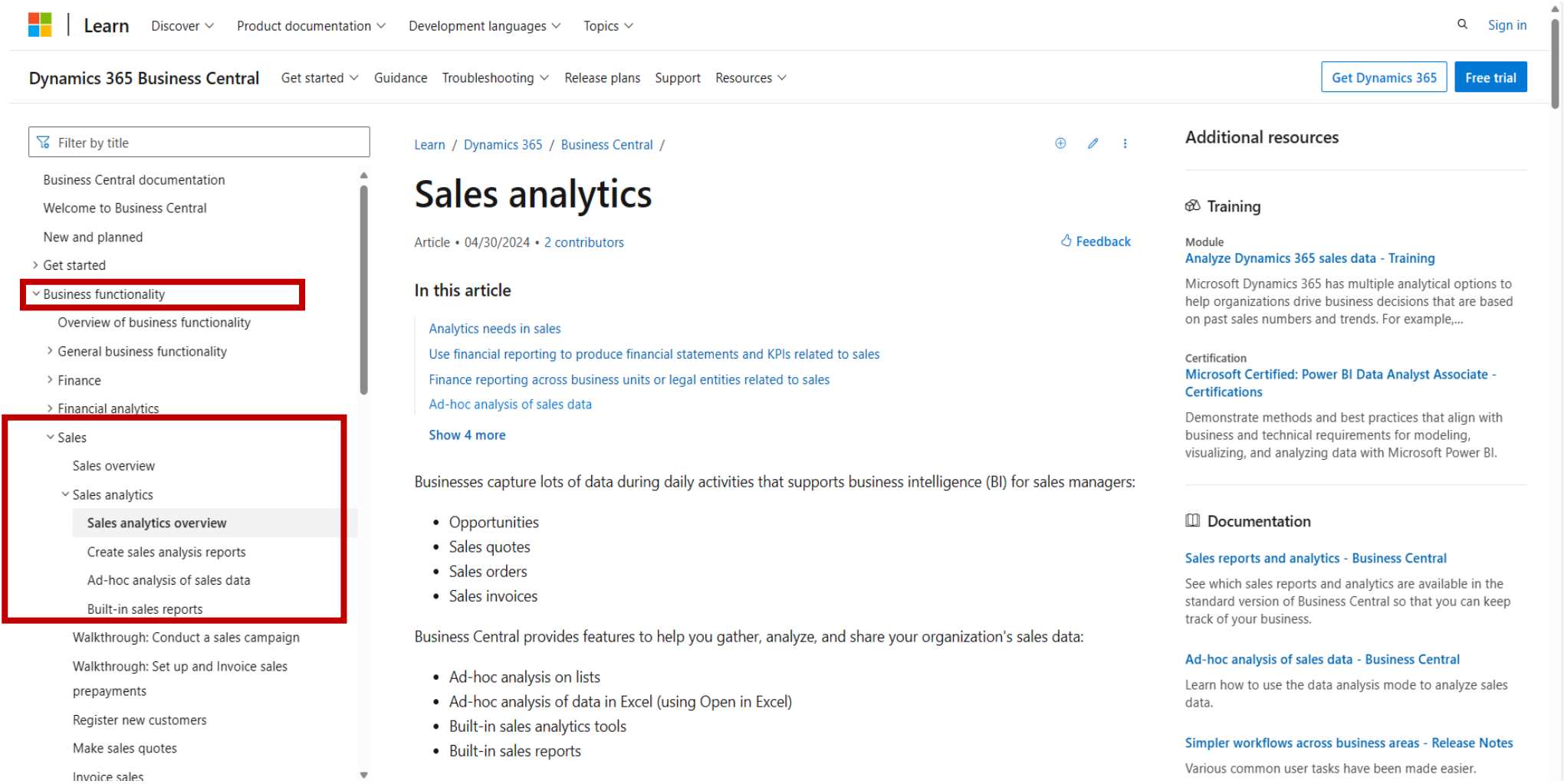
Microsoft documentation about analytics

(as seen from the end users)



aka.ms/bcReporting

Analytics per functional area (finance, sales, purchase, inventory, ...)



Financial Analytics (in docs)

Filter by title

Overview of business functionality
General business functionality
Finance
Financial analytics
Financial analytics overview
Handling finance reporting across business units or legal entities
Financial reporting (Implementing financial statements and KPIs)
Prepare financial reporting
Row definitions in financial reporting
Column definitions in financial reporting
Walkthrough: Use financial reporting to make a cash flow forecasts
Set up and publish a KPI web service based on financial reporting
Analyse data with statistical accounts
Analyse data by dimensions
Ad-hoc analysis on finance data
Built-in finance analysis tools
Built-in finance reports

Download PDF

Financial analytics

Article • 06/04/2024 • 5 contributors

Feedback

In this article

Analytics needs in finance
Finance KPIs
Using financial reporting to produce financial statements and KPIs
Finance reporting across business units or legal entities
Show 5 more

Businesses capture a tremendous amount of data during daily activities that's supports valuable business intelligence (BI) for decision makers:

- Sales figures
- Purchases
- Operational expenses
- Employee salaries
- Budgets

Business Central contains many features to help you gather, analyse, and share your organisation's finance data:

- Financial reporting (for financial statements and KPIs)
- Ad-hoc analysis on lists
- Ad-hoc analysis of data in Excel (using open in Excel)

Additional resources

Training

Learning path
Configure and work with analytics and reporting in finance and operations apps - Training

Business leaders can make important decisions in their company if they have accurate insight into the underlying financial and operational data. A...

Certification
Microsoft Certified: Dynamics 365 Fundamentals (ERP) - Certifications

Demonstrate fundamental knowledge about the finance and operations capabilities of Microsoft Dynamics 365.

Documentation

Built-in finance reports in Business Central - Business Central

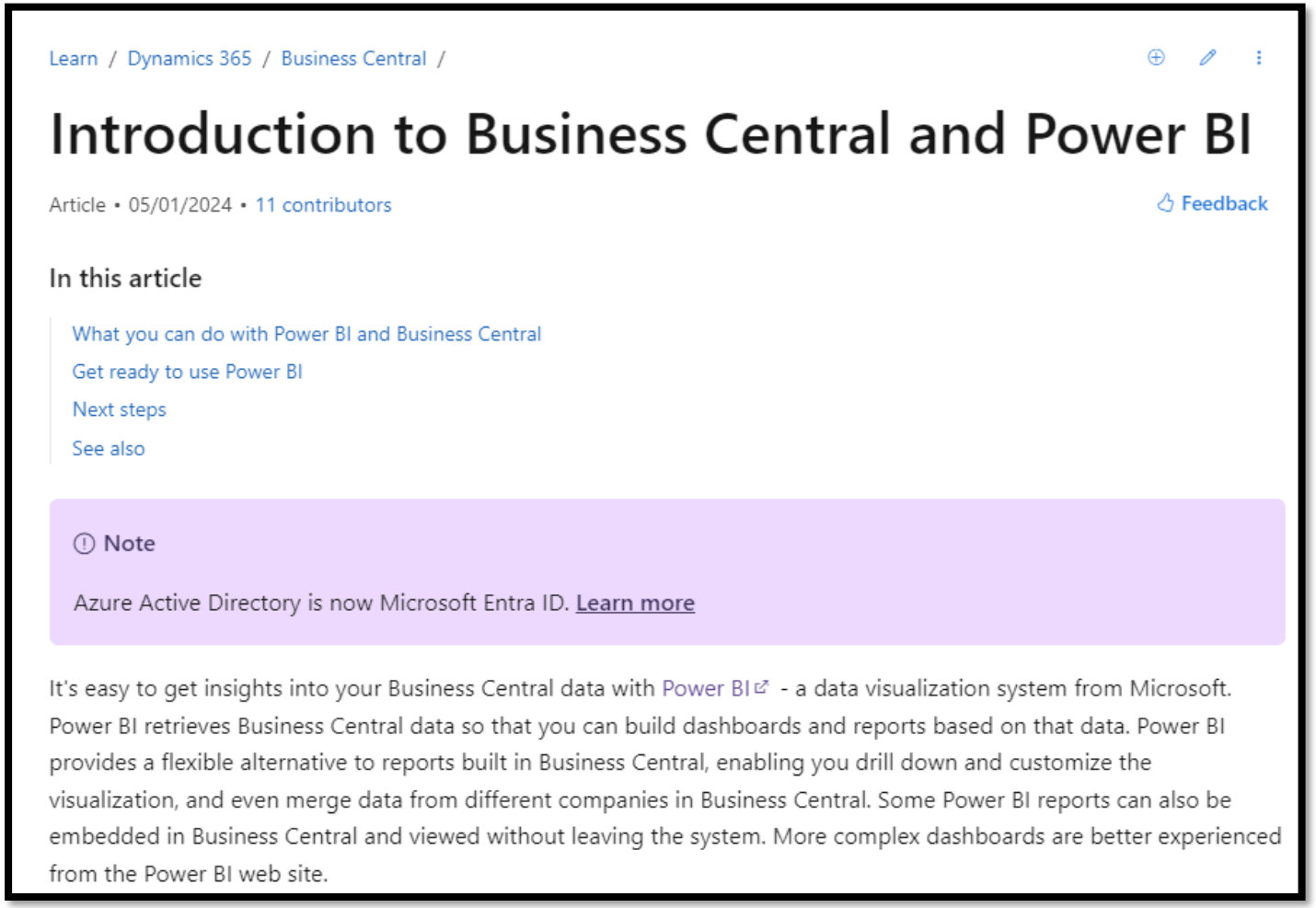
Explore the built-in financial reports in the standard version of Business Central.

Build Financial Reports Using Financial Data and Account Categories - Business Central

Describes how to use financial reports to create various views and reports for analysing financial performance data.

Analyse data by dimensions - Business Central

Microsoft documentation about analytics
(as seen from developer)



Learn / Dynamics 365 / Business Central /

Introduction to Business Central and Power BI

Article • 05/01/2024 • 11 contributors

Feedback

In this article

- What you can do with Power BI and Business Central
- Get ready to use Power BI
- Next steps
- See also

Note

Azure Active Directory is now Microsoft Entra ID. Learn more

It's easy to get insights into your Business Central data with Power BI - a data visualization system from Microsoft. Power BI retrieves Business Central data so that you can build dashboards and reports based on that data. Power BI provides a flexible alternative to reports built in Business Central, enabling you drill down and customize the visualization, and even merge data from different companies in Business Central. Some Power BI reports can also be embedded in Business Central and viewed without leaving the system. More complex dashboards are better experienced from the Power BI web site.

https://learn.microsoft.com/en-us/dynamics365/business-central/admin-powerbi?toc=%2Fdynamics365%2Fbusiness-central%2Fdev-itpro%2Ftoc.json

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