

# Semantic Models vs Reports



why should i separate semantic models and reports in power bi?

Separating **semantic models** (datasets) and **reports** in Power BI is considered a best practice for several reasons:

## 1. Reusability & Consistency

- A well-structured semantic model can serve multiple reports, ensuring **consistency** in measures, calculations, and data transformations.
- Avoids duplication—if reports share the same dataset, changes to calculations or relationships only need to be updated in one place.

## 2. Performance Optimization

- A single dataset can be **optimized once** (e.g., incremental refresh, aggregations, indexing) and serve multiple reports, reducing redundancy and improving performance.
- Reports load faster since they query an already-optimized model rather than running complex transformations repeatedly.

## 3. Security & Governance

- Centralized control over security settings (RLS, sensitivity labels) ensures that access is **managed at the dataset level** rather than having security rules scattered across multiple reports.
- Avoids accidental exposure of sensitive data by ensuring that reports don't store their own datasets.

## 4. Easier Maintenance & Scalability

- Changes to the data model (e.g., new measures, column renaming) **don't break multiple reports** if reports are only connected to the dataset.
- Teams can **scale** Power BI solutions by developing a robust dataset layer while allowing different teams to build their own reports on top.

## 5. Better Collaboration

- Different teams can specialize: **Data engineers and BI developers** focus on maintaining the dataset, while **business users and analysts** create reports using the trusted dataset.
- Reduces bottlenecks—end users can create their own reports without needing deep knowledge of the underlying data model.

## 6. Deployment & Version Control Benefits

- Helps with **CI/CD** (Continuous Integration/Deployment) by allowing dataset updates without impacting report design.

- Works well with **Power BI Deployment Pipelines** to move datasets and reports through different environments (Dev, Test, Prod).

## How to Implement This in Power BI?

1. Publish the **semantic model** (dataset) to Power BI Service.
2. In Power BI Desktop, connect to the published dataset using "**Live Connection**".
3. Build reports separately while leveraging the shared dataset.

By following this approach, you ensure a **scalable, maintainable, and efficient** Power BI architecture.



ChatGPT kan begå misstag. Kontrollera viktig information.