DATA VISUALIZATION STRATEGY FOR ORGANIZATIONS USING ORACLE ERP

Abstract

Organizations need strong business intelligence (BI) tools to make sense of legacy enterprise data as well as data generated across every customer interaction and business process. There are several benefits to connecting an ERP system with a strong BI visualization tool that can garner insights from of all modules.

This paper examines the advantages and disadvantages of both Oracle Analytics Cloud (OAC) and Power BI (PBI). It outlines scenarios and cost comparisons that will help organizations correlate their requirements to the functionalities offered by both OAC and Power BI. This will assist companies in choosing the right BI tool for their business needs.

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Contents

Introduction

Across the globe, organizations invest heavily in ERP systems to increase the efficiency of their business processes, cohesiveness across different business functions, and visibility across the value chain. These improvements, in turn, deliver greater customer value.

However, many organizations do not track the right key performance indicators (KPIs) due to the lack of intuitive dashboards that measure various aspects of the supply chain. Often, steep licensing costs of analytics modules cause program sponsors to settle for spreadsheets and tabular reports, which are cumbersome to analyze.

Let us take the example of a new ERP system that has been implemented in a procurement organization. Whenever the purchase manager wants to see how many purchase order lines are overdue, they have to download a spreadsheet and perform manual analysis. With a strong visualization tool such as Power BI, they can easily do many tasks from a single application, such as view open PO lines that are due, the average procure-to-pay cycle time, and different supplier performance KPIs. Moreover, other users can also view this data based on their role and access level.

Oracle Analytics Cloud and Power BI – Leading BI Tools

All organizations need business intelligence tools to analyze data and make data-driven decisions. Both Power BI and Oracle Analytics Cloud (OAC) are powerful solutions that assist with data preparation, data exploration, data visualization, and reporting of business insights. Both the tools connect to numerous data sources, offer a range of built-in functions for data modelling and reporting, and provide a good user experience.

In their review of business intelligence platforms, Gartner has named **Oracle Analytics as a Visionary and Microsoft Power BI as a Leaders.**

Figure 1 – Gartner's review of business intelligence platforms

When it comes to choosing one over the other, it is important for organizations to understand the pros and cons of each, and the relevant integration scenarios.

Comparison of Power BI and OAC

1. ERP integration scenarios

Scenario 1: Organizations that run only Oracle ERP systems

Many manufacturing giants traditionally use a single ERP system like Oracle. In this case, a standalone application like Power BI may be hard to implement for the following reasons:

- Entry barriers – Mature reporting may already be available on Oracle.

- Higher costs – Deep enterprise discounting from Oracle may make other tools seem unattractive.

- Integration – Oracle makes it convenient for enterprises to connect OAC to various Oracle modules.

Overall, for a traditional manufacturer already using an Oracle ERP system, it is better to invest in OAC rather than use an external third-party tool like Power BI that requires additional time and effort for development and training.

Scenario 2: Organizations with multiple ERP applications

Organizations with a more diverse application portfolio could consider Power BI over OAC for the following reasons:

- Cost is not a barrier – These organizations may already be using Power BI.

- Ease of integration – For companies with inorganic growth or cross-geo businesses, Power BI provides capabilities to connect across multiple data organizations.

- Ease of use – Organizations that already have Power BI in their application portfolio should evaluate the enhanced features that Power BI offers in terms of data connectors and third-party visualizations. They can use these features for Oracle as well as non-Oracle systems.

Let us take a closer look at why organizations that fall under Scenario 2 should consider Power BI over OAC for their data visualization needs.

2. Costs versus business value

Both Oracle Analytics Cloud and Power BI are best-in-class visual analytical tools that provide excellent capabilities for business

users to leverage the process data. Some of these capabilities are data preparation, data modeling, creating comprehensive reports and dashboards, and using interactive visualizations.

Both have advantages and disadvantages. The following section compares these platforms on certain parameters that influence the total cost of ownership.

A. Purchasing (licensing costs)

Both Power BI and OAC have free versions that offer limited capabilities and functions. To unlock advanced analytics, users must buy a paid version that provides access to all platform functionalities.

In its latest price release, the Power BI Pro license costs US $13.70 per user per month. The licensing cost for the OAC enterprise edition starts at US $80.00 per user per month. The licensing costs also cover the other aspects associated with the software such as upgrades, repairs, maintenance, service, support, security, and training. These are part of the software package and require no additional investments.

Many large organizations already use Microsoft Office 365 E5. Power BI Pro is included in the E5 licenses, allowing organizations to reduce the Power BI licensing cost to zero.

B. Developer or personnel costs

Another significant cost is that of personnel or developers who use the tool to build reports and dashboards as needed by the business. According to internal data from Infosys, the hourly wages of OAC developers can be nearly 1.5 to 2 times that of a PBI developer. This translates to significantly higher costs when one considers the annual salaries paid out to OAC developers versus PBI developers.

C. Other infrastructure costs

Power BI does not have connectors to directly access data within Oracle databases. Data with Oracle databases must be exported to a platform from where Power BI can access the data. To do this, organizations must create intermediate infrastructure components that can hold the exported data from Oracle, which can then be accessed by Power BI. Setting up and maintaining this middle server to periodically export data from the Oracle databases adds to the infrastructure cost.
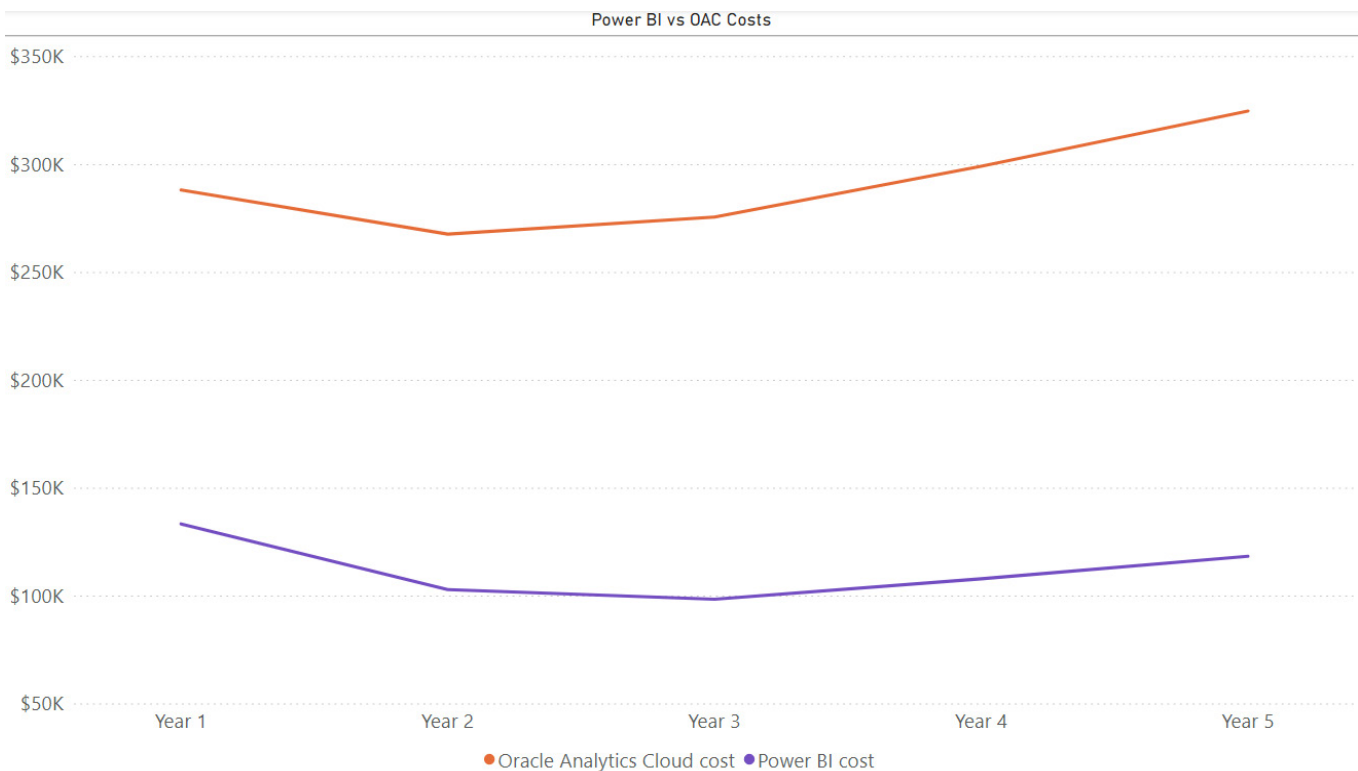
Figure 2 – Comparison of TCO of Power BI versus OAC

Even so, Infosys estimates that Power BI can generate nearly 50-60% cost savings compared to OAC over a period of 5 years in an organization where at least 200 users utilize these tools. The more the users, the higher the savings.

3. Performance metrics

S No.	Metric	Power BI		Oracle Analytics Cloud	
		Rating	Description	Rating	Description
1	User friendliness	[Green]	Easy adoption with drag and drop features	[Yellow]	Dedicated and elaborate end user training will be required
2	Customization and flexbility	[Yellow]	Customization and standardization will apply equally to all ERPs	[Green]	OAC will give better customization options to Oracle Cloud
3	Performance and scalability	[Yellow]	Performance levels and scalability will be standard across any ERP	[Green]	OAC will give better performance with Oracle Cloud
4	Integration with other data sources	[Green]	Power BI has 175 out of the box connectors.	[Yellow]	OAC has only 46 out of the box connectors.
5	Collaboration features	[Green]	Ability to integrate with various data sources can help aid supply chain analytics to great degree for the business users	[Yellow]	OAC though, will have great collaboration features with Oracle Cloud, but same will be limited with other sources
6	3rd party integrations and extensions	[Green]	Power BI's large active developer community helps with custom visualizations faster	[Green]	OAC though has an active developer community will need more time for custom visualizations with extra manpower and effort
7	Mobile access	[Green]	Power BI offers mobile apps for iOS, Android, and Windows devices, allowing users to access reports and dashboards on the go. This can be particularly useful for supply chain	[Yellow]	Oracle Analytics Cloud also offers mobile access, but performance of OAC is still only getting better, as mobile deployment is still in its nascent stages
8	Data transformation and cleansing	[Green]	Power BI offers robust data transformation and cleansing capabilities, allowing users to clean and transform data from different sources before visualizing it	[Green]	Oracle Analytics Cloud also offers data transformation and cleansing features, but users may need additional training w.r.t navigations
9	Embedded analytics	[Green]	Power BI allows users to embed analytics reports and dashboards into other software applications, such as SharePoint, Dynamics 365, and Salesforce.	[Green]	Oracle Analytics Cloud also offers embedded analytics features, but users may find it to be little more cumbersome to be used
10	Machine learning and predictive analytics	[Green]	Power BI offers machine learning and predictive analytics features, allowing users to build predictive models and identify trends and patterns in their data.	[Green]	Oracle Analytics Cloud also offers machine learning and predictive analytics features, but it is still not as extensive
11	Real-time data streaming	[Green]	Power BI offers real-time data streaming capabilities, allowing users to analyze and visualize data as it is	[Green]	Oracle Analytics Cloud also offers real time data streaming but it is still not as extensive

Figure 3 – Comparison of the KPIs between Power BI and OAC

Data Visualization Capabilities of Power BI

Standard Oracle inventory module dashboards are rudimentary, providing basic insights such as how many purchase orders are fulfilled or how many PO lines are overdue, etc. To get advanced data insights, users typically have two options:

With the right integration design, Power BI offers much more impactful and powerful visualizations that are very user-friendly.

- Leverage OAC where module-wise pre-built visualizations are available. However, this has very high licensing costs.

- Create custom reports to cater to each business use case. The major disadvantages of this approach are that the output is generated as a table-based report, and it takes considerable man-hours to develop.
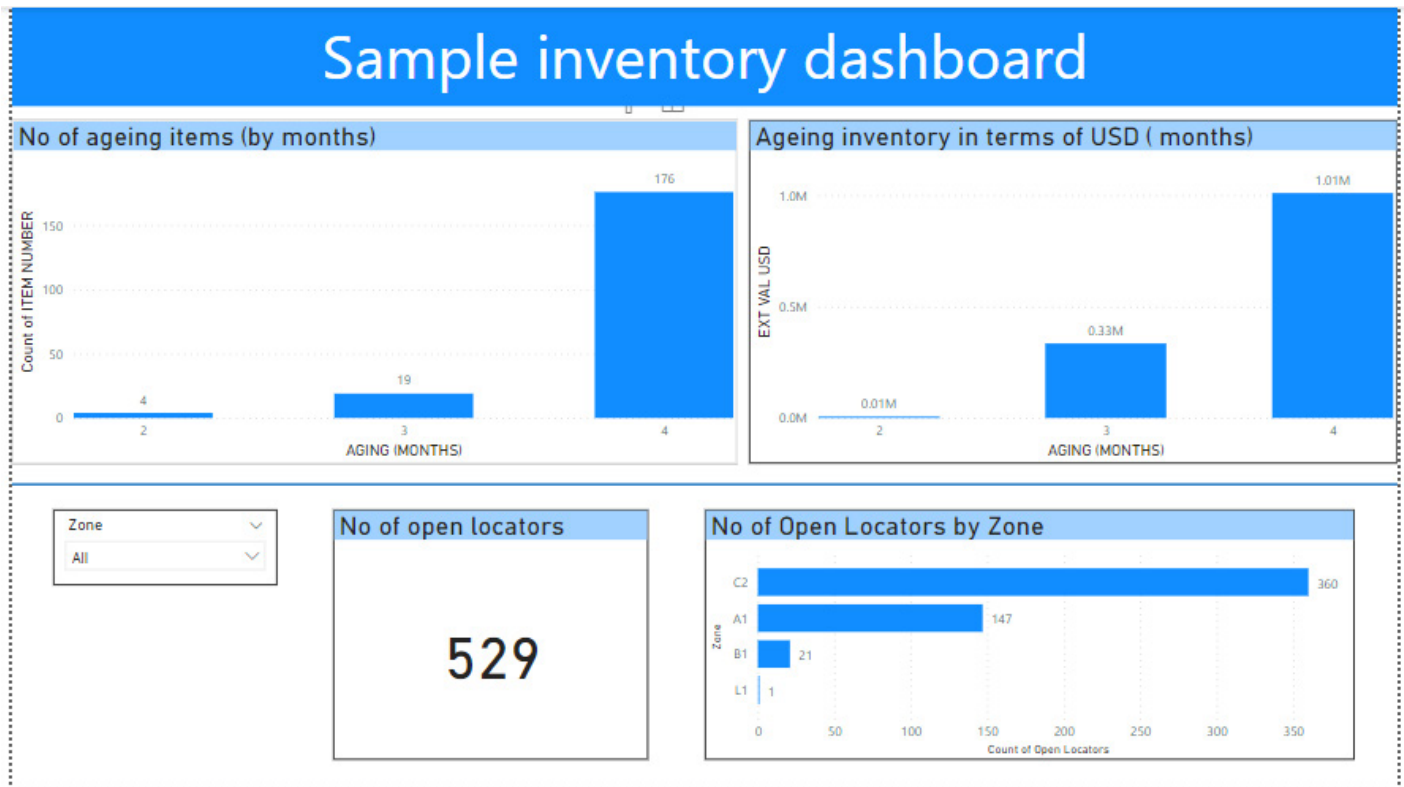

Figure 4 – A sample visualization from the Power BI dashboard

Conclusion

Both Oracle Analytics Cloud and Power BI are industry-acclaimed business intelligence tools that cater to various data needs of organizations. While OAC is very flexible, seamlessly connects with legacy ERP systems of Oracle EBS or Oracle Fusion Cloud, and can be customized and scaled easily, it has a more challenging learning curve. Power BI is equipped with a variety of advanced data visualization capabilities compared to OAC. PBI is also known to be more user friendly with a better user interface.

Power BI is a more effective BI solution for its strong general intuitive usage, integrations with third-party tools, and other nuances. Cost-wise, Power BI is more affordable. The Infosys viewpoint is that Power BI is a better option for organizations that operate in a complex application landscape. It is also suitable for small to medium-scale organizations looking for a cost-effective data visualization tool.

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