



Self-Service Business Intelligence (BI) Reporting Comparison

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Executive Summary

Organizations of all sizes are simply overwhelmed with data that is inconsistent with their business outcomes. Organizations are aware of how critically important data analytics are for exposing hidden trends that could improve customer experience, competitive advantages, and, potentially, profitability. Business data, however, is usually divided up and buried in different departments and disparate systems throughout the organization. Because of these facts, business users frequently can't get the data they need (when they need it); hence, they rely on their IT department for reporting needs.

Self-service business intelligence (BI) refers to the capability of business users inside an organization to become enabled and empowered to complete analytical and reporting tasks on their own, as opposed to delegating them to data scientists or IT specialists.

When it comes to the self-service BI user community, they can be split into three primary categories ~ Skimmers, Swimmers, and Divers.

Depending on the user's role within an organization, the following are brief descriptions of these categories:

- Skimmers are leadership/higher management users who tend to consume dashboards and operational reports.
- Swimmers include BI and data analysts.
- Divers include data scientists and super users who are focused on data exploration and anomaly detection.

Keep in mind, all the above-mentioned user categories might have varying needs, but they have commonalities as it relates to an organization's overall BI strategy.

Self-service not only allows business users access to data and information at any time and from any location, but it also enables them to act swiftly and decisively. Although self-service BI has numerous advantages, these are the top three justifications for using it in your BI strategy:

Speed to Understanding



Self-service BI, with the integration of data into current reports or data models, enables total flexibility in the development, creation, and deployment of analytics. Organizations are allowed to alter their tool any way they see fit including license choices, cloud-based or on-premises solutions, to meet their unique industry, style, tone, and demands. Because there are no user restrictions, as usage grows, it becomes easier to scale the number of users and accessibility to meet any size and type of business. Self-service BI gives users complete control over reports allowing them to customize them based on specific insights for their job. This allows users, even those who aren't data experts, to independently analyze data as needed to meet their demands.

Less IT Resourcing Burdening



Your analytics and IT teams can now become less encumbered and pressured to complete repetitive tasks that do not properly capitalize on their knowledge or skill sets. They can concentrate on more important organizational tasks because the workload of simple tasks has decreased, such as expanding data analysis to different parts of the business, developing predictive analytics forecasts for future sales, uncovering fresh insights, or developing more dashboards to precisely gauge a business' health. Modern self-service BI technologies enable teams and individuals to quickly extract insights that, in the past, would have required waiting on a busy IT team for days or even weeks.

Promotes Data-driven(ess)



The BI footprint continues to grow within an organization as new BI platforms and tools are nearly always deployed. The difficulties associated with getting the most value out of your BI investment will multiply as this BI audience expands. An organization will never be able to become data-driven with an analytics strategy that does not enable self-service discovery and action. Businesses that prioritize self-service BI and increasing data literacy across the board will gain a competitive edge in their industry.

Self-Service BI Considerations



Flexible Approach to Data Quality and Governance

Agile models of governance are crucial as data and analytics become more widely available. Self-service analytics adoption is limited by centralized governance since it deters new users. On the other side, poor governance can compromise data security have a detrimental influence on data sanitation and inundate users with extraneous information. Self-service BI requires data that is reliable, accurate, and consistent. To ensure data quality, organizations should establish data governance policies and procedures such as data cleansing, standardization, and validation.



IT and Business Consideration

Lack of communication between business users and the IT department is a significant barrier to self-service analytics program. At the outset of a self-service endeavor, ensuring effective collaboration can help IT and businesses realize the value of a self-service strategy and determine how they can work together to make self-service analytics successful and sustainable.



Training and Onboarding

Organizations must provide users with the appropriate training to enable them to use analytics to address their unique issues and needs. This procedure should be standardized with the aid of a thorough onboarding and training plan to ensure will make it simpler to effectively grow self-service BI throughout the organization.

Self-Service BI Considerations



Security and Access Control

Self-service BI can create security and access control challenges. Organizations should define strong policies to ensure data is accessed only by authorized users and sensitive data is protected. In addition, organizations should consider adopting role or user access level controls to define what information the different users can access and edit.



Integration with Existing Systems

Self-service BI should be easily integrated with existing and potentially future systems. Organizations should consider the compatibility of the BI tool with their existing systems and the ease of integration using open application programming interfaces (APIs) and usable software development kits (SDKs).



Data Visualization and Reporting

Self-service BI should enable users to easily create and share data visualizations and reports. Organizations should consider the flexibility and ease of use of the BI tool's reporting and visualization capabilities. By leveraging these capabilities, users will have the ability to create actionable insights and improve their decision making.

Self-Service BI Considerations



Scalability and Performance

Self-service BI should be able to handle large amounts of data and provide fast query response times. Organizations should consider the scalability and performance of the BI tool. By increasing the scalability and performance, self-service BI adoption is improved noticeable and insights are available to all business users.



Time to Value

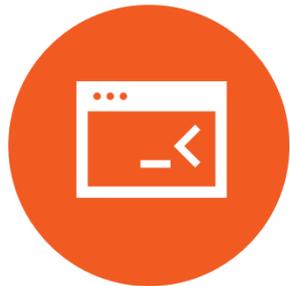
When the decision to move forward with a self-service BI tool, organizations should consider the time it will take to implement, integrate, configure, and train users so they can begin to receive value. Therefore, organizations should consider the complexity involved in getting the self-service BI tool in the hand of users expediently especially for the use cases which are time sensitive.



Licensing Costs

There are lot of commercial self-service BI tool which offers varied licensing models. Organization must evaluate all their BI requirements with the associated licensing costs and total costs of ownership keeping a keen eye on the BI Licensing Model Pricing (i.e., User, CPU, or Hourly Based), implementation, configuration, integration, reporting/dashboard library, training, and support costs (external and internal).

Benefits of Self-Service BI



Offer Business Users Power

Self-service BI tools enable business users to run their own queries immediately rather than limiting access to IT users alone. Self-service analytics technologies enable business users without technical expertise to simply develop the reports they need to address business difficulties—saving time and money compared to hiring additional IT professionals.



Single Source of Truth

All users can access the same, most recent version of the data with self-service analytics. Self-service analytics ensures consistent data across departments, enabling improved cooperation, and increased productivity, in contrast to spreadsheets that persist in several versions across multiple devices. Self-service analytics software also integrates data from other systems including ERP, SCM, and HCM, enabling you to create customized reports according to your specific needs.



Lessen Reliance on IT

Self-service analytics gives business users access to data while addressing the lack of skilled IT personnel. IT staff can now concentrate on more value-added duties since business users can handle fewer complex tasks such as data exploration, visualization, and reporting on their own.

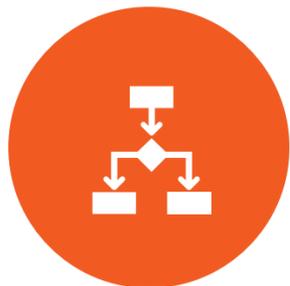


Benefits of Self-Service BI



Lower Costs

Organizations assessing the price of their analytics solutions typically concentrate on the costs associated with BI software licenses and accompanying gear since they are simple to quantify. However, the costs of hiring IT personnel to support and keep up with these solutions are frequently overlooked. Self-service BI platforms can grow, without access problems or extensive assistance from IT, when user adoption increases. Because of this, self-service reporting providers pay far less for internal IT support.



Swift Decision-Making

Self-service BI allows users to immediately access information without waiting days or weeks for information from the IT department. Business users and decision-makers alike may simply build their own reports, dashboards, and visualizations which enables them to acquire instant insights and act more quickly.





Qlik Sense has an intuitive user interface, particularly for business users who need self-service analytics.

The Associative Engine of Qlik can quickly link to many data sources and combine them to meet data requirements. It provides a simple method for creating visualizations with various graphs, tables, and filters.

Users can access the reports via mobile devices using a free app that is available in different app stores. You can obtain automatic insights, meaning the tool can examine the dataset and build or alter pre-built dashboard reports. To increase the usefulness for end users, users can additionally include R and Python code.

Pros

It has an easy-to-use interface.

Great performance speed.

A sizable internet community that can provide solutions.

The ability to prepare sophisticated data using knowledge of basic data programming.

It can integrate statistical languages such as R.

Cons

It is challenging to install extensions because they must be certified.

Since the environment is separated into different apps, you cannot interact with already-built apps. If you want to combine sources, you must make a third one.

Due to your limited ability, you must use creativity to achieve some goals.

There are only a few visual elements.



Looker takes a distinct approach compared to other self-service analytics tools in the market.

It contains a data modeling layer utilizing LookML which functions as a store for the metadata from your various sources. To execute self-service analytics or build any type of data visualization in Looker, users must first construct a model. There are dimensions and facts in this model. Data visualizations allow you to view all your model's accessible columns in the left panel and are incredibly simple to use. You can execute the query while choosing the columns and filters you desire.

Pros

It has strong and seamless integration (native) to GCP tools and technologies.

Metadata management is easy and straightforward.

There is an open API/SDK.

Efficient version controlling using GIT integration.

Cons

There is a high learning curve since users need to learn LookML to define the data model.

Limited self-service availability with users relying on technical assistance setting up the platform.

It is lacking automated insights for user consumption.



Power BI

Microsoft Power BI enables users to share insights throughout the enterprise and display data.

It permits data extraction and direct query connections, links to numerous data sources, and seamlessly connects with other Microsoft products including Office, Teams and SharePoint. It contains a tool for data transformation that enables users to combine and alter data from various sources before presenting it to end users.

Pros

It has strong and seamless integration (native) to Azure tools and technologies.

There is a strong self-service offering of data prep and large selection of visualization.

It offers automated insights to the end users.

The tool has a lower licensing and total cost of ownership compared to competitors.

Cons

There is a lack centralized metadata.

It uses DAX for calculated field which require specialized expertise.

It is reliant on some third-party extension for visuals.



ThoughtSpot is currently one of the favorites in the Self-Service BI community and leverages AI and ML for providing insights to users using Natural Language Processing (NLP).

ThoughtSpot offers excellent capabilities for data exploration and anomaly detection on the fly which is unique compared to standard dashboarding other BI tools offer.

Pros

Leverages NLP to bring revolutionary search-based analytics enabling for faster insights

Utilizes AI to unravel hidden insights and anomaly detection in data using SpotIQ.

Easily integrated to many popular cloud data warehouses such as Snowflake, Google Big Query, and Databricks.

The inherent analytics are effortlessly embedded into any third-party application or web portal.

Cons

Considerable effort to maximize the visualization gallery, compared to competitors.

Limited customization for certain use cases requiring operational or pixel perfect reporting.

Limited data source integration compared to competitors.



Tableau is a very strong tool for self-service BI capabilities.

Tableau offers strong and rich data visualizations, data preparation, and API capabilities which enables connecting to various data sources, create interactive dashboards and reports, and share insights effectively.

Pros +

It has best in class visualization compared to any other BI tools in the market.

There are excellent data prep capabilities.

It has a strong API, Python, and R integration

There are in-memory and LIVE connections.

Cons -

There are limited capabilities for certain use case which require operations and detailed reporting.

Require IT team intervention for implementing some complex data prep and dashboards as few tool features are tech savvy.

Lacks centralized metadata and security model.

Comparison of Self-Service BI Tool Features

Feature/BI Tool	Qlik Sense	Looker	Power BI	ThoughtSpot	Tableau
Self-Service	Medium	Medium	Medium	High	Medium
Data Prep	Medium	Low	High	Low	High
Visualization	Medium	Low	High	Low	High
Story Telling	Medium	Low	High	Medium	High
Data Writeback	Low	Medium	Low	Low	Low
AI/ML	Low	Low	Medium	High	Medium
Embedded Analytics	Medium	High	High	High	High
NLP	Low	Low	Medium	High	Medium
Mobile/Tablet	High	High	High	High	High
Security	High	High	High	High	Medium
Reporting and Exporting	Medium	Medium	High	Medium	Medium

Items to consider when deciding what tool is best for your organization and aspects you should consider before investing:

1. Data Quality and Governance
2. User Training and Support
3. IT and Business Considerations
4. Security and Access Control
5. Integration with Existing Systems
6. Data Visualization and Reporting
7. Scalability and Performance
8. Time to Value
9. Licensing Cost and Total Cost of Ownership



Conclusion

A self-service BI model can enable teams to drive productivity, efficiency, and the effective use of data across the organization including the executive leadership team. By 2024, [80% of organizations](#) plan to move to an IT-as-an enablement model with a self-service data model.

What is the payoff for self-service BI? McKinsey found that [data-related costs](#) are expected to increase on average by nearly 50% within a cumulative three-year related spend. Organizations investing in automating data self-service consumption can save anywhere from 30% to 50% of their data-management costs. Companies that can get trusted data easily assembled across the organization can empower business units and employees to use data for decision-making. According to McKinsey, these companies are nearly [twice as likely](#) as others to report reaching their data and analytics objectives.

There is no shortage of self-service BI tools in the marketplace. With this document, we evaluated some of the top tools along with their pros and cons. Evaluating each tool's functionalities as it fits your organization's needs is critical to the utilization, buy-in, success, and return on investment for self-service BI.



Swoon Consulting is a company of world-class Data and Analytics Professionals. We are passionate about reimagining what is possible in the world of Analytics. We do not just provide an opinion and walk away; we provide a strategic solution and incredibly qualified consultants to lead enterprise transformations with data.

Swoon Consulting is there to help clients who want to optimize business performance and create new economic assets through data, technology, and analytics.

Swoon Consulting is ideally suited to address an organization's self-service BI enterprise tool selection and implementation based on our years of experience successfully delivering complex projects, subject matter expertise, and measurable value.

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