Assignment - Analytical Visualization Application pros and cons

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**Assignment - Analytical Visualization Application Pros and Cons**

Data visualization applications provide data visualization designers and data scientist with an easier way to create visual representations of large data sets. When dealing with data sets that include hundreds of thousands or millions of data points, automating the process of creating a visualization, at least in part, makes a designer’s job significantly easier. These data visualizations can then be used for a variety of purposes: dashboards, annual reports, sales and marketing materials, investor slide decks, and virtually anywhere else information needs to be interpreted immediate The best analytical visualization applications tools on the market have a few things in common, such as their ease of use. Many analytical platforms are very complicated

I usually prefer those tools with the best documentation. These tools should also be able to handle huge sets of data and handle multiple sets of data in a single visualization. Good data analytics tool should also be able to output and interact with multiple visualizations, charts, diagrams, and graph types to turn data into business intelligence. Also, good analytical visualization applications should be affordable and cost effective to meet the underlying company goals and bottom line.

With this in mind I have identified some of the top industry analytical visualization applications to compare them and discuss their pros and cons. I decided to identify Tableau as an analytics application to show contrast between the pros and cons of the application (Data, 2020)*.*

**Tableau - Analytical visualization application**

According to Gartner Magic Quadrant Tableau is among one of the top leading analytics tools available on the Market. Many renowned important companies including Netflix and industries in Healthcare, insurance, manufacturing, education, marketing, wholesale and retail, and other business domains; all use Tableau.

Tableau offers a visual-based exploration experience that enables business users to access, prepare, analyze, and present findings in their data. It has powerful marketing and expanded enterprise product capabilities, but there is some uncertainty about its direction as part of Salesforce.

In 2019, Tableau significantly broadened the scope of its product offerings, particularly their augmented analytics and governance capabilities. For augmented analytics, Tableau introduced both Ask Data and Explain Data to provide natural language query and automated insights. For governance, Tableau improved Tableau Prep Builder (which comes with Tableau Creator) and introduced Tableau Prep Conductor to schedule and monitor data management tasks. Tableau Prep Conductor comes bundled with Tableau Catalog as part of the Data Management Add-on. Tableau also introduced the Server Management Add-on, which provides server management, content migration and workload optimization. Tableau also moved a significant portion of its customer base to the cloud with Tableau Online (Grime, 2013).

**Strengths**

* **Customer enthusiasm:** Customers demonstrate a fanlike attitude toward Tableau, as evidenced by the more than 20,000 users who attended its 2019 annual user conference. Reference customers scored Tableau well above the average for the overall experience. These users serve as strong champions for Tableau.
* **Ease of visual exploration and data manipulation:** Tableau enables users to ingest data rapidly from a broad range of data sources, blend them, and visualize results using best practices in visual perception. Data can easily be manipulated during visualization, such as when creating groups, bins, and hierarchies.
* **Momentum:** Tableau grew its total revenue to just over $900 million through the first quarter of 2019 and achieved 14% growth from the first six months of 2018 to the first six months of 2019. Tableau remains a constant presence on evaluators’ shortlists and continues to expand within its installed base. The reference customers surveyed had mostly upgraded to Tableau’s latest version and expressed positive views about the migration experience.

**Weaknesses**

* **New risks in a changing market:**Tableau dominated the visual data discovery era of the ABI platform market, but as the market moves toward the augmented era, new entrants may prove disruptive. So far, however, Tableau has made sound choices in terms of balancing short-term and long-term product roadmap priorities.
* **Governance**: Despite new data and server management product releases that added governance and administrative capabilities in 2019, perceptions of weak governance and administration persist among some of Tableau’s reference customers. These are also evident during some Gartner inquiry calls.
* **Sales experience, contracting and cost:**Negotiating with Tableau has always had its pros and cons. In general, customers like Tableau Viewer as a lower-cost option for analytic consumers, and they are accommodating Tableau’s push toward subscription pricing. However, with the Server Management Add-on and Data Management Add-on, Tableau customers will be faced with a la carte pricing, which means they should expect to pay extra for new functionality (Gartner, 2020)*.*

**Tableau Pros & Cons**

Tableau is great highly used tool that is quickly becoming and industry standard. With that in mind I would like top present the pros and cons of the analytics application below(Solutions, 2020).

**Pros**

* Allows users to quickly create interactive visualizations. Using drag-n-drop functionalities of Tableau, the user can create a very interactive visual within minutes.
* Ease of Implementation, there are many different types of visualization options available in Tableau which enhance the user experience. Also, Tableau is very easy to learn compared to Python or SAS.
* Tableau can handle large amounts of data and can handle millions of rows of data Different types of visualization can be created with a large amount of data without impacting the performance of the dashboards. Also, there is an option in Tableau where the user can make “live” to connections to different data sources like SQL
* Use of other scripting languages such as Python or R. Using Python script can take the load off the software by performing data cleansing tasks with packages.
* Mobile support and responsive dashboard feature that allows you to customize dashboard specifically for a certain device such as a mobile phone or laptop. tableau automatically understands which device the user is viewing the report on and adjust ensure that the right report is served to the right device.

**Cons**

Tableau is not a complete open tool and does not allow Custom Visual Imports. Tools like Power BI, developers can create custom visuals that can be easily imported.

* Tableau’s has bad Custom formatting option. It uses conditional formatting and limited 16 column table displays are pain points for users. Also, to implement the same formatting to multiple fields there is no way a user can do that for all fields directly. Users need to do that manually for each field which is very time-consuming.
* Tableau’s parameters are static and always single value can be selected using a parameter. Whenever the data gets changed, these parameters need to be updated manually every time.
* The layout of the dashboards gets disturbed if the tableau developer’s screen resolution is different from end user’s screen resolution for example if the dashboards have been created in a screen resolution of 1920X1080 and are being viewed in 2560X1440 then the layout of the dashboards will get distorted a little bit. Also, their dashboards are not responsive.
* Tableau is strictly a visualization tool. Tableau Desktop allows you do to very basic preprocessing. This includes joining and blending data. Also, you have the ability to change data types.
* Tableau is a very expensive product to scale across a large organization. Compared to cheaper and more well-rounded BI tools. Tableau one of the more expensive option. For security and sharing, the only option is Tableau Server which can $175,000 for an 8-core option and $35 dollars per user. Alternatively, you can use Tableau Online which is limited but is $35 per user (Data, 2020).

While Tableau my be easy to incorporate and implement for easy use, awesome visualizations, and handling work big-data workloads it is specific to certain problems and limitations. The downfalls I have mentioned above can be deal breaker for new startups or companies that cannot afford high cost table runs. For quick and easy personalized local visualization to companies the scale of Netflix and Facebook it is a great tool and highly trusted.

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