High Level Document (HLD)

Financial Analytics

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Document Version Control

Date Issued	Version	Description	Author
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Contents

Abstract

Financial Analytics of Top 500 Companies of India gives us overall size of economy. Here, in these 500 companies some are very big companies called as Large Cap and some Companies are small called as medium to small cap Companies. Economies major Taxes and Employment has been generated by such Companies. These Companies have various sector in it like Energy, FMCG, Information Technology, Real Estate, Metal, Pharma, Banking and Entertainment these are the major sector of Indian Economy.

There are various Factor which are affecting top companies of India like. Availability of Raw Material, Skilled Labour, Infrastructure, Taxes by considering these all aspect and their business model their growth is happened.

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1 Introduction

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1.1.Why this High-Level Design Document?

The purpose of this High-Level Design (HLD) Document is to add the necessary detail to the current project description to represent a suitable model for coding. This document also Intended to help detect contradiction prior to coding, and can be used as a reference manual for how the modules interact at a high level.

The HLD will:

Present all of the design aspects and define them in detail
Describe the user interface being implemented
Describe the hardware and software interfaces
Describe the performance requirement
Include design features and the architecture of the project
List and describe the non-functional attributes like:

- Security
- Reliability o Maintainability o Portability o Reusability o Application compatibility o Resource utilization
- Serviceability

.1.Scope

The HLD documentation presents present the structure of the system, such as the database architecture, application architecture (layers), application flow (Navigation), and technology architecture. The HLD uses non-technical to mildly-technical terms which should be understandable to the administrators of the system.

1. Generation Description

1.1.Product Perspective and problem Statement

Top 500 Companies Valuation and turnover is an important indicator of the performance of Indian economy which is world's sixth largest economy in terms of GDP. These 500 companies' performance also affect the performance of the Indian Economy because the companies range in various sector such as IT, Pharma, Banking, Real Estate, Entertainment and FMCG.

The objective of the project is to perform data visualization techniques to understand the insight of the data. This project aims apply various Business Intelligence tools such as Power BI and Tableau to get an visual understanding of the data.

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1.1.Tools used

Business Intelligence tools and libraries works such as NumPy, Pandas, Excel, Python, Power BI and Tableau are used to build the whole framework.

Design Details

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1.1.Functional Architecture

Business

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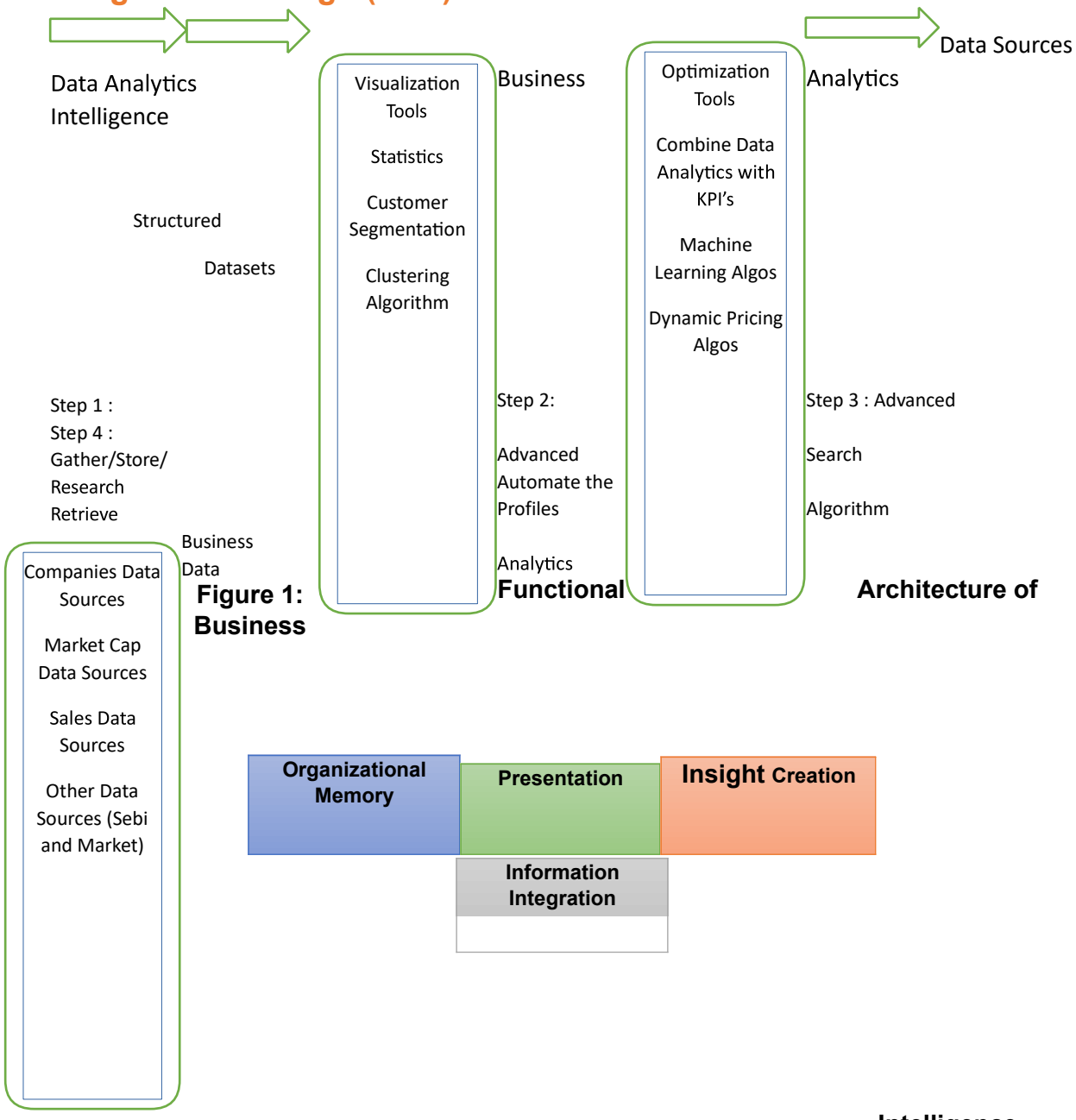

Figure 1: Functional Architecture of Business Intelligence

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Parallel Algorithm Execution

Combine Business analytics with specific Business Event

Cloud-based Infrastructure

How Power BI Really Works

Business Analytic Tool	**OLAP Tools**	**Text mining tools**	**Data Warehouse**
Data Mining	**Visualization Tools**	**Web mining tools**	**ERP**
Real-time Decision	**Digital Dashboards**	**Environmental Scanning**	**Knowledge Repository**
	Score Card	**RFID**	**CMS**
			DMS

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1.1.Optimization

Your data strategy drives performance

Minimize the number of fields.

Minimize the number of records.

Optimize extracts to spend up future queries by materializing calculations, removing Columns and the use of accelerated views.

Reduce the marks (data points) in your view

Practice guided analytics. There is no need to fit everything you plan to show in a single view. Compile related view and connect them with action filters to travel from overview to highly -granular views at the speed of thought.

Remove unneeded dimensions from the detail shelf,

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Explore, Try displaying your data in a different type of views.

Limit your filters by number and type

Reduce the number of filters in use. Excessive filters on a view will create more complex query, which takes longer to return the results. Double check your filters and remove that aren't necessary.

Use an include filter. Exclude the filters load the entire domain of the dimension, while include filter do not. An include filter runs faster than the exclude filter, especially dimensions with many members.

Use a continuous date filter. Continuous date filter (relative and range-of-date filters) can take advantage of the indexing properties in database and faster than the discrete date filters.

Use a Boolean or numeric filters. Computers process Boolean and integers much faster than the strings.

Use parameters and action filters. These reduce the query load (and work across data sources).

Optimize and materialize your calculations

Perform the calculations in the database

Reduce the number of nested calculations.

Reduce the granularity of LOD or table calculations in the view. The more granular the calculations, the longer it takes.

- LODs – Look at the number unique dimensions members in the calculation.
- Table Calculation-the more marks in the view, the longer it will take to calculate.

Where possible, use MIN or MAX instead of AVG. AVG requires more processing than MIN or MAX. Often rows will be duplicated and display the same result with MIN, MAX or AVG.

Make groups with calculations, like include filters, calculated groups load only named member of the domain, where tableau group function loads the entire domain.

Use Boolean or numeric calculations instead of the string calculations. Computers can process integers a Boolean much faster than strings.

Boolean>Int>Float>Date >Date Time>String

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1. KPIs

Dashboard will be implemented to display and indicate certain KPIs and relevant indicators for the Cause.

As and when, the system starts to capture the historic/periodic data for a user, the dashboards will be included to display chart over time with progress on various indicator or factors.

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1.1.KPIs (Key Performance Indicators)

Key indicators displaying summary of the financial analytics and its relationship with companies net worth and its sales.

1. Deployment

Prioritizing data and analytics couldn't come at a better time. Your company, no matter what size, is already collecting data and most likely analysing just a portion of it to solve business problems, gain competitive advantages, and drive enterprise transformation. With the explosive growth of enterprise data, database technologies, and the high demand for analytical skills, today's most effective IT organizations have shifted their focus to enabling self-service by deploying and operating Tableau at scale, as well as organizing, orchestrating, and unifying disparate sources of data for business users and experts alike to author and consume content.

Tableau prioritizes choice in flexibility to fit, rather than dictate, your enterprise architecture. Tableau Server and Tableau Online leverage your existing technology investments and integrate into your IT infrastructure to provide a self-service, modern analytics platform for your users. With on-premises, cloud, and hosted options, there is a version of Tableau to match your requirements. Below is a comparison of the three types:

TYPE PROS CONS

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Tableau Server - On Premises

- Full control of hardware and software
- Infrastructure and data remain behind your firewall
- Need dedicated administrators to manage hardware and software
- Additional infrastructure needed to access off-network (mobile, external)

Tableau Server - Public Cloud (IaaS)

- Full control of software on managed hardware
- Puts infrastructure in same place as data (for migration to cloud)
- Flexibility to spin up/down hardware as needed
- Need dedicated administrators to manage software
- Additional infrastructure needed to access off-network (mobile, external)

Tableau Online (SaaS)

- Fully hosted solution (hardware, software upgrades)
- Fast to deploy • Easy for external audience to access
- Single-site in multi-tenant environment
- Cubes are not supported
- No guest account access

Depending on your organizational roles and responsibilities, Tableau Server should be installed by a systems administrator and the designated Tableau Server Administrator in coordination with the appropriate IT roles. For Tableau Online, you will integrate with your existing technology and configure the site settings. The Data & Analytics Survey, completed by business teams, identifies and prioritizes data use cases, audience size, and users. You will use the information collected in both surveys to plan your deployment strategy, including sizing, installation, and configuration of your Tableau Server or integration and configuration of Tableau Online. In addition to installing Tableau Server or configuring Tableau Online, administrators will also need to plan for the client software installation of Tableau Prep Builder, Tableau Desktop, Tableau Mobile, and Tableau Bridge for Tableau Online where applicable.