A diagram of a triangle with points and a flag

Description automatically generated

how BI techniques and tools are applied in real-world business scenarios.

* Data mining helps identify patterns and establish correlations between parameters based on which companies can make decisions.
* Powerful dashboarding and visualization tools enable users to generate customized reports without the help of a data professional.
* BI helps performance management by providing insights into where they are doing well and where they need improvement.
* BI contributes to benchmarking by tracking certain metrics that need to be standardized eventually.
* BI processes boost sales by providing predictions and tracking the effect of marketing campaigns.
* Advanced statistical analysis helps in predictive modeling, eventually helping in decision-making, helps in predictive modeling based on multiple factors
* Data warehousing helps collect and store data from various sources in a centralized database..

A diagram of a step of a project

Description automatically generatedSteps to develop a BI Project

1. Planning

* Assessing the current system,
* Identifying the project goals
* Planning resources and timelines accordingly

1. Implementing BI Platform
2. Implementing data governance and monitoring the systems

BI Project PLANNING

1. **PLANNING,** starts with creating a project plan, that serves as a structured framework for documenting all essential aspects of the project.

* Project planning entails,
* assessing the data maturity, to understand your data quality and availability.
* outlining clear objectives and goals, define project objectives. And establish measurable KPIs
* Engaging stakeholders to determine requirements, and understand the purpose of the BI system (outcomes expected).
* Determining the budget ex. Software licences, hardware infrastructure, skilled personal based on the size and scope project.
* Putting a core team together to lead the project.
* Establishing a timeframe, set a realistic timeline based on project objectives and budget.

1. **IMPLEMENTING BI Platform**, it involves selecting, procuring, and setting up BI Software and infrastructure.

* Identifying your data sources, encompassing internal databases, external data sources and third party data providers. Data sources should be trustworthy and aligned with objectives.
* Connecting the sources, initiating data collection. This task involves data wrangling to connect disparate data sources and ETL Process.
* Developing a data model, deciding data storage requirements and database schema (ER model, relationship model, network model and graph model) based on the project’s data characteristics and suits your data requirements.
* Deciding on an analytics model, choice of types of analytics (descriptive, diagnostic, predictive, prescriptive) based on the business requirements.
* Visualizing data using reports and dashboards. Retrieve data through queries and create visual representations required for reporting purposes.Determine format which report or dashboards are required and determine the distribution method. Your dashboard consider the requirements of the various stakeholders.
* Testing and validating the results, use a sample data set outcomes to validate your outcomes before applying them to production data.

1. **GOVERNANCE and MONITORING,** defining and implementing policies around the BI infrastructure.

* These policies must be implemented before the project goes live or before users start working with production data.
* Data governance plan is a framework of policies, processes, and strategies that govern the management of data assets including collection, curation, storage and presentation for insights. This governance framework also ensures adherence to regulatory compliance,
* Monitor the performance of the BI platform and the governance system continuously. Address any performance issues that may arise in the BI platform. Automate routine process as needed.
* A company can use BI to set up a robust performance management system to track sales, compare with targets, and use the insights to set up marketing plans to focus on potential customers.
* The first step is assessing the data maturity of the current system to help you understand the data’s quality, availability, and structure. It helps bridge the gap between the current state and the required state.
* Monitoring the performance of the BI platform and the governance system continuously to identify anomalies and then correcting them in time ensures that the user experience remains largely unaffected.