Data Science Vs. BI

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Data science

- Data science is basically a field in which information and knowledge are extracted from the data by using various scientific methods, algorithms, and processes.

- It can thus be defined as a combination of various mathematical tools, algorithms, statistics, and machine learning techniques which are thus used to find the hidden patterns and insights from the data which helps in the decision making process.

- Data science deals with both structured as well as unstructured data.

Business Intelligence

- Business intelligence(BI) is basically a set of technologies, applications, and processes that are used by enterprises for business data analysis.

- It is basically used for the conversion of raw data into meaningful information which is thus used for business decision making and profitable actions.

- It deals with the analysis of structured and sometimes unstructured data which paves the way for new and profitable business opportunities.

Business Intelligence

- It supports decision making based on facts rather than assumption-based decision making.

- Thus it has a direct impact on the business decisions of an enterprise.

- Business intelligence tools enhance the chances of an enterprise to enter a new market as well as help in studying the impact of marketing efforts.

Business Intelligence – Uses

- Measuring Performance and quantifying the progress towards reaching the business goal.

- Performing quantitative analysis through predictive analytics and modelling.

- Visualizing data and storing data in data warehouses and its further processing in OLAP

- Using knowledge management programs to develop effective strategies in order to gain insights about learning management and raise compliance issues.

Business Intelligence – Skills

- Possession of creative thinking and strong business acumen.

- Ability to perform problem-solving.

- Knowledge of data analysis to make business decisions.

- Excellent communication and presentation skills.

- Ability to extract data using SQL.

- Well versed with various ETL (Extract, Transform, Load) tools.

Data Science – Skills

- Well versed with tools like Python, R, SAS etc.

- Able to perform complex statistical analysis of data.

- Ability to visualize data through tools like Tableau, Matplotlib, ggplot2 etc.

- Should be able to deal with both structured and unstructured data.

- Proficiency in both SQL and NoSQL.

- Knowledge of Machine Learning algorithms

- Familiarity with tools of big data like Hadoop and Spark.

BI – Responsibilities

- Identification of the source system and engagement in business connectivity

- Focus on key business areas and resolution strategies.

- Working with the project managers and clients to define business requirements.

- Performing validation on the data.

- Implementing approved projects and delivering strategic results.

- Reporting progress of the BI program.

DS – Responsibilities

- Preprocessing and transforming the data.
- Development of predictive models that forecast future events.
- Fine-tuning the machine learning models and optimizing their performances.
- Assisting the industries to identify questions required to be solved.
- Using story-telling for visual communication of results.

Summary

Business Intelligence *vs* Data Science		
Factors	**Business Intelligence**	**Data Science**
Concept	Deals with data analysis on the business platform.	Consists of several data operations in various domains.
Scope	BI analyzes past data	Past data is analyzed for future predictions.
Data	Handling static and structured data	Both structured & unstructured data that is also dynamic.
Data Storage	Data stored mostly in data-warehouses	Data utilized is distributed in real time clusters.
Procedure	BI helps companies to solve questions.	Questions are both curated and solved by data scientists.
Tools	MS Excel, SAS BI, Sisense, Microstrategy	Python, R, Hadoop/Spark, SAS, TensorFlow.

Thank you

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