Real-Time Analytics

THE DISCIPLINE THAT APPLIES LOGIC AND MATHEMATICS TO DATA TO PROVIDE INSIGHTS FOR MAKING BETTER DECISIONS QUICKLY.

What Is Real-Time Analytics?

- Real-time refers to a level of computer responsiveness that the user perceives as immediate or nearly immediate.
- Real-time analytics is all about using data as soon as it is produced to answer questions, make predictions, understand relationships, and automate processes.
- Real-time analytics turns data into insights immediately after the data is available to aid in quick decision making.

Measures of Latency – Data & Query Latency

- *Data Latency* is the time from when data is generated to when it is ready to be queried.
- There is usually a time lag between the generation and availability of data which results in a delay in updating the data.
- *Query latency* is the time between execution of a query and the resulting response by the query.
- Real-Time Analytics aims to minimize these measures to make data available immediately for query.

Why Real-Time Analytics?

- The biggest advantage of using Real-Time Analytics is quick and informed decision making through the use of precise information.
- Businesses can reduce risk by using Real-Time Data to predict outcomes and suggest alternatives rather than relying on the collection of speculations based on past events.
- Visualization of Real-Time Data can help businesses to reflect on events throughout the company as they occur.

Use Cases In Supply Chain

- Boost Decision Making
  - By having access to real-time data on demand and supply, companies are better positioned to adapt to sudden fluctuations in demand. These insights can help the companies to better cope with inventory undersupply and oversupply.
  - The insights from the real-time data can help in planning for future projects and to establish more effective business strategies. Companies can use this data to gain insight into production volumes and source raw materials effectively.

Use Cases In Supply Chain

- Track Logistic Operations
  - Logistics is a major part in any supply chain company. Companies can better track logistic measures using the real-time data obtained through IoT devices and smart sensors.
  - Real-Time insights can make estimated transit times and planning routes for shipments efficient by using algorithms that use this data to map out the best possible route, taking into account traffic, weather conditions, etc. with much accurate transit time.
  - Using IoT sensors to get real-time data about condition of goods in transit, such as humidity, shock, light and temperature, the supply chain management can prevent loss due to damage of goods.

Use Cases In Supply Chain

- Track Logistic Operations (Contd.)
  - Real-Time monitoring can help prevent losses due to road accidents involving fleet vehicles.
  - Smart cameras and IoT sensors can help detect bad driving patterns such as speeding, improper/risky driving, drowsy driver or harsh braking and raise an alert before any mishap occurs.
  - The fleet management team can then enroll these drivers into safety awareness programs.

Use Cases In Supply Chain

- Better Visibility In Warehouses
  - Real-Time Analytics can help in automating processes in the warehouse that consume a lot of time or where manual errors are highly recurrent. Identifying these processes and directing effort into their automation can improve the overall efficiency and save costs.
  - Real-Time Analytics can also help in analyzing inventory levels so that any adjustment can be made as quickly as possible to manage quantity of in-demand products vs the products not in demand. Getting the right products on the right time can limit dead stock to a large extent and save costs and improve customer satisfaction.