Diagnostic Analytics

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What is Diagnostic Analytics

Diagnostic analytics takes descriptive data a step further and provides deeper analysis to answer the question: Why did this happen? Often, diagnostic analysis is referred to as root cause analysis. This includes using processes such as data discovery, data mining, and drill down and drill through.

Despite their common retrospective nature, Descriptive and Diagnostic Analysis differ in their complexity and the insights they provide. While Descriptive Analytics strives to give a clear picture of "what" happened in a business, Diagnostic Analytics aims to find the causality to show "why" and "how" something occurred.

Consequently, there is more complexity in performing diagnostic analytics because it requires more information and more varied techniques to get to the heart of a specific problem than simply stating the existence of a problem.

This can be done using data mining techniques such as regression analysis, anomaly detection, clustering analysis, and others.

Examples

Below are a number of examples that illustrate how Diagnostic Analytics can be used in various industries:

- **If a business is experiencing a declining click-through rate, Diagnostic Analytics can get to the core of the cause by conducting a thorough investigation.**
- **For time-series data of sales, this type of analytics can offer an insight into why sales have increased or decreased for a specific year.**
- **It can also be used to examine and explain certain changes for which the reasons are not immediately obvious, such as a sudden drop in website traffic or a considerable rise in sales during a particular period or season.**
- **When searching for someone to fill a certain vacant position, the HR department can use Diagnostic Analytics to select the right candidate for that position by having the ability to search, filter, and compare individuals using interactive data visualization tools that centralize information from various sources.**
- **It can help a retail store discover sales based on weather, location, traffic, parking, and other variables.**
- **In the case of a sudden spike in volume on the ER site in a very short period of time, Diagnostic Analytics may help indicate the cause and explain the reasons for the given issue.**

Content Source: https://whatagraph.com/

Tools of data analysis platforms

There are many core features of a data management platform. These are:

- **Data preparation: Taking raw data and getting it ready for analysis**
- **Data mining: Applying algorithms to raw data to uncover new insights**
- **Data modeling: Creating database categories to put raw data into**
- **Data discovery: Collecting data and putting into categories**
- **Data warehousing: Gathering data from multiple sources and putting it all together**
- **Data processing: Turning unstructured data into data ready for analysis**
- **Data integration: Combining different kinds of data into a unified system**
- **Data transformation: Converting data of one kind into data of another kind**

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