BIG DATA FOR ORGANIZATIONAL PERFORMANCE

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Big data is an abundance or immense volume of data from various sources at an organization's disposal. This happens when an entity keeps receiving, processing and accumulating data for its operation. Big data technologies describe a new generation of technologies and architectures designed to economically extract value from large volumes of a wide variety of data by enabling high-velocity capture, discovery, and analysis (Gantz & Reinsel, 2012). This big data was previously ignored at the organization's level but now has become an essential asset to the business to drive higher performance. Many business entities are now valuing their big data as valuable sources that can help them drive their entities to higher organizational performance.

However, what is big data, and what are its characteristics? Big data consists of several traits, namely volume, velocity, variety, and velocity (Gartner Group, 2024; Chen & Liu, 2014). Volume refers to the abundance and size of data available to an organization. Velocity refers to the speed at which data is generated. Variety refers to the different data types, and veracity is related to data accuracy. Data analytics has four basic types (Delen & Ram. 2018).

- Descriptive analytics describes what happened in the past few months. Are revenues more substantial this month than last? This is more towards recognizing the problems.
- Diagnostic analytics explains the reasons why something happens. For example, why do problems exist? This is more about identifying the causes of the problems.
- Predictive analytics focuses more on what will happen in the future if the current problem is not solved. For example, if a company is experiencing low sales now, that could lead to a loss-making performance at the end of the year. This is about forecasting what will happen in the future if this problem is not solved now.
- Prescriptive analytics looks at ways to solve the problem. What steps must a company take to increase sales again to avoid plummeting sales continuing to the end of the year? This last analysis is about finding ways to solve the existing problems.

To illustrate the application of big data and its 4 data analytics processes, let us look at the example of an airline company. When an airline system captures online booking by customers, it can record the demand for a destination. For example, an airline operates two flights weekly to a destination with a plane carrying 200 customers per flight. That translates to 400 seats per week. Nevertheless, based on the online demand by customers reaching 800 seats per week, the airline must increase its flight frequency to 4 times a week to meet its increasing customer demand. This online data analysis captured by its system will help an airline company further increase its sales and profit. The same principle applies to other businesses, like retailing, when they can look at past sales to determine future stock purchases and revenues. In the hotel industry, the exact utilization of big data applies when hotel managers can analyze previous data on room occupancy to determine future planning and marketing.

To conclude, the importance of having big data and big data analytics in order to improve an organization's efficiency and performance can be determined.

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