
Editorial

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With the emergence of the digital era, people started managing and storing their information online. The emergence of the internet in the early 1990s has significantly changed the lives of people, the way they buy their products and services, and also changed the way they contact their family and friends. Companies are now able to offer their customers customised promotions. An enormous amount of data is being gathered and transmitted every time we use our smart phones, computers, or other devices. Nowadays, the amount of data gathered per minute from various sources such as Google, Facebook, Twitter, WhatsApp, Skype, Imo, etc. exceeds the size of all data that has been gathered since the beginning of time until the year 2000. This vast amount of gathered data, known as big data, is transforming the way businesses operate; by opening a new window into customers' behaviours, preferences and wants.

The challenge is how to understand and leverage big data, in other words, how to transform such data into invaluable assets for businesses. Because data come from multiple sources, the ability to pick up and combine the pieces and turn all this information into valuable knowledge is a major challenge. Businesses use big data to improve, optimise business processes, and predict customers' behaviours. Big data is the impetus of many innovations and R&D projects in science, technology, medicine, transportation, and energy. Using analytics enables us to uncover hidden information, allowing businesses to predict the future and operate with optimum efficiency.

The evolution of the internet of things (IoT; *launched by Kevin Ashton in 1998*) enabled many physical devices such as mobile phones, vehicles, home appliances, and

other technologies to be embedded with sensors and software to connect and exchange information on one coherent network. Billions of devices are connected to the internet, integrating new capabilities and using data analytics to extract and exchange meaningful information on the cloud in real time, as well as to share it with other devices. This ability can transform business in numerous ways such as: creating higher quality products or services, optimising energy usage, and improving transportation systems.

Big data and IoT play a major role in the potential creation and development of smart-cities initiatives. Big data is the backbone of smart-cities' applications and services, whereas IoT provides the bloodstream that lets cities flourish to be smart, intelligent, and prosperous. With the advancement in information and communication technologies and implementation of big data applications, coupled with insights gained from analytics, cities become smarter by having real-time situational awareness and the ability to offer added-value services to citizens and visitors. A smart city has a smart transportation system, smart healthcare system, smart agriculture, smart energy, smart education, and smart government, all aiming to achieve higher levels of comfort for its citizens. Harnessing the flow of data from remote sensors and other devices enables cities to offer more comprehensive services to improve the lives of citizens and make the entire city run smoothly.