


# Chapter 1

## Business Intelligence and Cloud Computing: Benefits, Challenges, and Trends

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### ABSTRACT

*Organizations need to make quick and quality decisions to survive in today's competitive environment. The business intelligence (BI) market has moved away from IT-centric solutions to user-driven solutions. Business intelligence and cloud computing are two important technologies that have been widely adopted in business organizations in recent years. Interestingly, the two technologies have merged together to deliver superior benefits for businesses. Business enterprises are moving their business applications to cloud platforms to become more agile and accessible. The key benefit of cloud-based business intelligence applications is the ability to access on multiple devices like laptops and mobile phones from different locations. In this chapter, the authors outline the benefits, challenges, and trends involved in deploying business intelligence technology through cloud computing platforms. They discuss how the consolidation of these two emerging technologies can enhance the businesses to improve decision-making processes. They also address the challenges cloud-based BI faces.*

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## **INTRODUCTION**

Business organizations are moving towards adopting Business Intelligence (BI) to address the challenges of business decisions posed by vast amounts of data (Market Research Future, 2018). Organizations today are moving from traditional reporting to real-time analytical tools that accelerate data preparation and data cleansing. The business intelligence (BI) can be defined as set of technologies, applications and practices for the collecting the raw data, analyzing and presentation meaningful and useful business related information (Evelson and Nicolson, 2008). The BI involves the process of collecting data, cleanse the data, store,, analyze, present and delivery (Zheng, 2017). It has the ability to transform the data collected through business transactions, interactions, social exchanges or other methods into business insights. The main purpose of business intelligence systems is to support management decision-making process using data. Business intelligence provides historical, current and predictive reports of business operations using the data gathered from data warehouse and data marts

The speed of business activities is accelerating and organizations need to react very fast to customer interactions, operational commitments, competitiveness and other time sensitive issues (Russom, Stodder and Halper, 2014). The recently data management technologies can handle real-time data than comes from online sources including machine data, sensors, robots, mobile and social media. Streaming data can come from various sources but special software are required to manage it and it creates new applications for monitoring business, surveillance, customer service, automated responses and so on. Organizations today are moving towards real-time reporting which provides the insight live to the managers. Not only reporting real-time analytic models are widely used to understand customer interactions, fraud detection and situation intelligence.

According to Gartner, the BI market will touch US\$22.8 billion by 2020 which includes tradition BI, cloud BI, social BI and mobile BI (Ghosh, 2018). Top management, operations and sales are the key roles driving business intelligence adoption (Columbus, 2018). Dashboard, reporting, end user self service, advanced visualization and data warehousing are the top five technologies and initiatives of BI in 2018. According to Walters (2018) business intelligence market guide report shows that's 50% of BI professionals use BI for operational analytics and to present visualization tools to the business to help strategic decisions making (Walter, 2018). The report also mentions that 8 out of 10 professional plan to use BI for dashboard reporting. Increasing adoption of cloud may act as a major driver in the growth of business intelligence market.

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