A Review of Data Analytics Adoption in Business Industry

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Abstract

This paper presents a review of data analytics adoption in various companies from the different business industry. An introductory analysis on how these companies solve problems encountered and relate their action plans with business analytics and/or business intelligent solutions especially in Customer Relationship Management (CRM), Supply Chain Management (SCM) and Decision Support Systems (DSS). Many business organizations and communities are finding and getting advantages from powerful knowledge by analyzing the resource of data analytics. Data analytics actually is only part of what big data can offers. By using analytics, an organization gets even greater value in order to serve its customer better through changing how they think, work and interact with them. Those new insights come from the powerful knowledge of big data and resulted in powerful actions to gain competitive advantages. Some companies manage to transform their business models by driving growth in new sectors using new ways with the help of big data and its analytics. This paper used three major companies in the study i.e. Starbucks, Heineken N.V and Electronic Arts (EA). The studies found that all those companies are able to meet their market supply and demands opportunities by utilizing their past historical data in the data warehouse to understand the underlying hidden trends and patterns that will enable them to make better decisions.

Keywords

Descriptive analytics, Predictive analytics, Big data

Introduction

Rapid decision-making has become increasingly important over the past two decades for productivity improvement. Studies show that through data analytics, companies increasingly deliver value which includes three main parts of the organization i.e. people, processes and technologies. In this view, data analytics is powerful because it turns data into significant insights and drives business decisions and actions accordingly. IBM Tech Trends Report in 2011 identified data analytics as one of the four major technology trends since the year 2010 (Lim, Chen & Chen,

2013). Bloomberg Businessweek has reported in 2011 that 97 percent of companies with revenues exceeding $100 million were found to use some form of data and business analytics. Any organizations with enterprise data analytics capabilities will establish a sound foundation of high-quality, usable and integrated data (Wixom, Yen & Relich, 2018). This data is delivered to business users via a diverse selection of data analytics tools and techniques in data query, descriptive analytics and/or predictive analytics software. Over time, eventually, organizations manage and evolve their data analytics capabilities through IT and data governance mechanisms. Hence data analytics is leading as it enables business users to identify perceptions from the data, make decisions and solve important business problems. On top of that, it triggers actions that generate a wide range of tangible and intangible business value.

This paper focuses on the review of data analytic adoption in three big companies that are well known in the world i.e. Starbucks Corporation, Heineken N.V and Electronic Arts (EA). The selection of these companies generally comes from the idea of "what people do in daily life" whereby the majority of people ever drinks coffee, some of them drinks beer and some of them watching the movies during leisure time. Hence, Starbucks is selected to represent companies that mainly produce coffee. Heineken N.V is selected to represent companies that produce beer. And Electronic Arts (EA) is selected to represent companies that produce interactive games. These companies were selected in these studies because they are using various techniques in big data analytics as a solution to maximize their business values. In the next following sections, the methodology and coverage of this paper are presented with results and discussion.

Methodology

This section describes the research methodology that is designed and implemented towards a comprehensive review in this paper. In order to gain more understanding of how the different companies use various data analytics techniques in generating actionable insights to solve the solutions they faced, literature research on these was conducted and studied.

The authors designed the following research methodology (in figure 1) to describe the flow of data gathering and analysis in this paper.
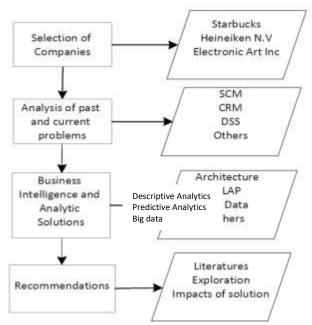
Figure 1. Research Methodology

Results and Discussion

This section presents the findings of the three selected companies. Starbuck company has been using HighJump software, an Internet-based supply chain executive (SCE) to automate their product distribution within their network (Peter, 2002). HighJump is selected due to software ability to offer supply chain analytics module on top of its warehouse management and data collection solutions (Peter, 2002). Besides that, Starbuck uses a website to gather opinions from its customer in term of satisfaction and innovation (Marr, 2019). Starbucks market planning team use the business intelligence tool developed by Esri to evaluates massive amounts of data such as locations, demographics, traffic patterns, and others in order to recommend a new store location and the result of analysis even predicts the impact of the new store opening to the other Starbucks locations (Marr, 2019). With the use of Big data and business intelligence tool, Starbucks can leverage in many ways to improve customer experience and to help direct marketing, sales, and business decisions. The big data also allow Starbucks to cluster their customers based on characteristics to provide customers, the better recommendation of products and offer.

As for Heineken N.V, they have been using a software called Sales Force Automation (SFA) which is also known as Jeans system for their CRM. This Jeans system offers an integrated and customized CRM tool, able to automate and streamline sales inventory, forecasts, leads, performance, analysis and also enable sales employee to get all the operational information such as warehouse stock balance, outlet log files and a number of visits on their mobile device. Heineken N.V. uses big data to determine their area's sales and understand when to make special competition and event to attract more customers to boost sales. The company also analyze customer buying habits to identify what drinks are sold quicker at certain times especially in providing various promotion events the customers interested in and the data collected also explained the reason why

certain products are not selling well in a certain period. As results, Heineken N.V volume has raised 7.7% ("Latest Reports", 2019).

Similar to both companies above, Electronic Arts (EA) has been using IT and data analytics in their process. For Electronic Art Inc (EA), the usage of big data and business intelligence techniques are significant to increase advertising revenue, improve gameplay, and efficiently manage the user experience. EA using big data for keeping a track of gameplay which helps predict the performance of the play. These data will be further analyzed to turn into business insights for the development team to understand how the players interact with the games and to help them adjust on the game to enhance gameplay experience and to retain the customers (Miller, 2012). As a large company that produces games of AAA quality, mobile, and others, EA has its own on-gaming service called Origin. Origin has been stated to collect the users' data for various reasons inclusive of descriptive and predictive analytics ("Turning Decision Making into a Right-Time Electronic Art with Informatica", 2018). Descriptive analytics benefit EA for checking the inventory, the amount of average customer spends on the company per year and how much company make for good. Predictive analytics benefit EA to identify patterns in data and find the core relationship of products and customers from especially salesforce in customer relationship management (CRM). According to Bradburn (2019), Senior Director of Support Systems of EA, building a good gaming experience is no longer enough. As the company business evolved, they need to provide a richer experience to customers, build stronger relationships and able to capture real-time feedback to support customer needs and demands.

Conclusions

The review in this paper has brought more insights and a clearer understanding of how the three selected companies operate and the implementation of big data analytics solutions have resolved the challenges faces to improve the business operations. Thus, big data analytics also provide recommendations to the companies to enhance their effectiveness and also them to make better decisions.

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