

Digital Analytics, Big Data and Technologies: A case Analysis

Author's Details:

- ⁽¹⁾Arslan Ali Channa-MBA student-Kaplan Business School Melbourne, Australia
⁽²⁾Dr.Nadeem Bhatti-HOD-Department of Business administration-North American College-730, Young St.Suit No.207, Toronto, Ontario, Canada ⁽³⁾Riaz Dahar-Postgraduate Student-ANU-Canberra Australia ⁽⁴⁾Dr.Faiz Muhammad Shaikh-Associate Professor-SZABAC-Dokri-Email:faizs045@gmail.com
Dr.Naheed Arian, Associate Professor, University of Sindh Jamshoro

Analytics tool(s), description & capability

Good Data is software that provides business intelligence to companies through big data and advanced analytics. Good Data is one of the strongest and highly rated software for supporting businesses to gather real marketing and customer related information. The key strength of the software is that it helps marketers to understand the requirements and needs of their customers in a better way. The marketing analytics is a major feature of GoodData which allows companies to understand the overall purchasing history and journey of their clients (GoodData, 2018). In addition, it provides social analytics to connect a company's revenue with marketing expenses.

GoodData consists of comprehensive cloud analytics that links with a company's cloud data to help them make better and faster business decisions concerning resource utilisation, sales, and other operations of the business. It provides companies with specific operational insights to enhance the efficiency of decision-making and smoothen the velocity of sales (GoodData, 2018). The cloud model that GoodData is based on is an innovative Insight as a Service model that allows cloud resources to integrate well with on-premise data. Thus, GoodData is multi-purpose business intelligence software that provides virtually all operational areas of companies to benefit from in a tangible way.

GoodData offers exceedingly useful features for sales analysts. It supports statistical techniques and tools that can be utilised by companies to make accurate sales forecasts. The statistical functions supported by GoodData include outlier analysis, trendline, and regression. Through these functions, companies can readily predict anomalies and sales in addition to predicting what-if scenarios and running affinity analysis (GoodData, 2018). Not only is GoodData capable of providing accurate sales forecasts, it can also generate insights into recent changes in sales trends in the past, such as a company performing below expectations in terms of sales in the last quarter. On the basis of these insights provided, sales professionals can focus on high-performance opportunities and allow business analysts to make recommendations for enhancing sales-oriented decisions of the company as a whole.

Associated job role(s)/team & skills

Forecasting analysts routinely require software like GoodData to make sales forecasts. In the existing economically turbulent environment, where sales trends can change in an instant, forecasting analysts require business intelligence software to sense sudden changes as well as predict future fluctuations. It is one of core responsibilities of a forecasting analyst to ensure that supply meets demand in an optimal way. It is easy to meet demand through high production, but this approach leads to the risk of overproduction that can ultimately result in loss. In order to maintain a steady equilibrium between demand and supply, forecasting analysis must utilise knowledge of market trends and big data suggest how a company may make the most profit with minimal wastage of resources (Foley and Guillemette 2012). A competent forecasting analysis has a sound grip of economics and can apply this knowledge to perform statistical tests that GoodData supports for predicting future sales and capitalising on emerging trends in the market.

Business need/application

GoodData offers a wide range of features to companies. Big data, business intelligence, machine learning, and predictive analytics are all core components of GoodData that enable businesses to make faster and better operational decisions. In businesses, every effort or activity comes at a cost. Business decisions are no different

in this regard. Manual methods of making decisions are a cost in modern businesses that can be reduced through the utilisation of analytics (Box et al., 2015). Through analytics, it is possible not only to make decisions more effective and impactful for a business, but also to reduce the costs of processing these decisions. Providing visualisation at the point of work enhances the quickness of decision-making processes, which can be just what a given company needs to achieve a competitive edge over their rivals (Provost and Fawcett, 2013).

Threats and opportunities are constantly emerging and disappearing in markets. The reason why speed of decision-making is so important is the transient nature of business opportunities and threats. Failure to make a timely decision can result in many missed opportunities and expose a company to threats (Najafabadi et al., 2015). GoodData streamlines decision-making processes that allow companies to capitalise on the opportunities brewing in the market while also driving threats further away from becoming a reality that could harm the company. These are extremely important advantages of big data analytics as supported by GoodData, and survival in the corporate world in contemporary times is almost dependent on the response time of a company in making the right operational decisions.

Analytics is therefore an invaluable part of modern businesses. Forecast analysts, having the right tools such as GoodData in their hands can add value to companies by enhancing the accuracy of their predictions on sales trends and discerning long-term trends that can inform a profitable business strategy. These characteristics and functionalities of GoodData render it a strong business intelligence and analytics software for elevating the quality, accuracy, and speed of decision-making of companies.

Possible Reflections

Excelling in forecasting requires substantial experience and level of skill. It is a statistically demanding job that is becoming more and more important as the degree of competition between companies intensifies. Transitioning from manual decision-making processes to automated and data-driven decisions requires time and experience. For my own learning, I have set it as a goal to train myself in the main analytics features of GoodData and learn how to make quick and accurate sales forecasting on the go. This skill would certainly be beneficial to me in my future career as a forecasting analyst, as information-based sales decision-making has become an essential business process in today's age.

Case 2

Analytics tool(s), description & capability

Adobe Analytics is a web analytics software that is quickly becoming one of the top-rated software for digital marketing intelligence. It provides detailed reports and data visualisations through dashboards. Marketers can utilise Adobe Analytics to gather information for a wide variety of purposes presented in different levels of complexity depending on the depth of analytical information required by a user (Järvinen and Karjaluo, 2015). Adobe Analytics provides users with a wide range of useful features. Flexibility is one of the most important aspects of Adobe Analytics. The reports that it generates for tracking social media and website activity allow companies to choose a variety of metrics to measure the performance of a social network or webpage of the company. Some of the most prominent metrics include visits, exits, entries, number of visitors, bounce rate etc. (Couldry, Fotopoulou, and Dickens 2016). Furthermore, the software also allows considerable customisation options for the users, so that user-defined mathematical functions can be created to develop metrics as per a user's requirement.

Segment creation is another useful feature boasted by Adobe Analytics. The software lets users choose from a large spectrum of parameters to filter data. The audience visiting a social network or website of a company can be easily segmented by visit number, device type etc. Using these reports, a user can compare data from two segments and determine the difference between them. For instance, a company might be interested in determine how much traffic lands on their website from smartphones as compared with PCs. This knowledge can be used refine the marketing activities of the company, and improve the quality of their decision-making through crystal clear customer data (Siemens, 2013).

Every report that Adobe Analytics generates can be viewed in the form of charts and graphs to present data through visualisation. The trademark flexibility built into Adobe Analytics also applies here, as users can choose from a wide number of metrics to focus on certain parameters in the graphs and charts (Järvinen and Karjaluo, 2015).

2015). It is also possible to split data into two graphs for comparison purposes. This flexibility in data visualisation enables companies to discern consumer activity trends to improve their marketing campaigns. As such, Adobe Analytics is one of the best web analytics software for understanding customers that businesses can utilise to gain business insights.

Associated job role(s)/team & skills

Digital Analytics Managers are important members of any organisational team that has an online presence and focuses on digital marketing. The main duty of a digital analytics manager is to understand what motivates a customer, and utilise this information to improve the customer's experience while also ensuring a high conversion rate on websites (Indeed, 2018). Data generated from customers is available in many forms owing to the emergence of various platforms such as mobile, emails, and web. A digital analytics manager is required to organise and interpret data from these varieties of sources and recommend strategic actions to support marketing and other operational teams in the company. The role of a digital analytics manager can be critical in improving user and customer experience, leading to growth of the organisation as a whole. However, to facilitate digital analytics manager in making good recommendations and suggesting decisions, a powerful web analytics software such as Adobe Analytics is needed.

Business need/application

Big data is playing a critical role in improving the decision-making processes of organisations. The example of Netflix serves to illustrate the power of big data in enabling a company to secure strong customer satisfaction and anticipating the wishes, expectations, and desires of customers. Netflix uses big data to organise and interpret a large array of data points to learn the preferences of their customers. Using this information, Netflix is able to recommend shows that a given customer is likely to enjoy, ensuring that these customers would stay on the website for long periods of time in each session (Chen, Chiang, and Storey, 2012).

The decision-making of companies can be directly impacted by software tools such as Adobe Analytics. Users leave information that can be tracked to learn whether they are enjoying the content of a website or not. Deploying the various metrics offered by Adobe Analytics, a company can make impactful decisions to enhance traffic on their website and convert potential customers into actual purchasing customers (Couldry et al., 2016). To be able to do this, the multi-dimensional insights displayed in data visualisations offered by Adobe Analytics can be used as a basis to form fast and accurate decisions, and improve the efficiency and effectiveness of a company's marketing strategy.

Possible Reflections

The field of digital marketing is advancing at a rapid pace, driven by big data and other analytics tools such as Adobe Analytics. Proficiency in Adobe Analytics is an indispensable skill for any digital analytics managers. The current industry trends show that employers have a preference for digital marketing professionals that are adept in the usage of Adobe Analytics and similar software. Not only expertise is required in these software, but also the ability to offer definite recommendations to colleagues and superiors that can translate into actual decisions towards marketing campaigns and winning more customers. I personally feel the need, as a learning goal, to enhance my understanding of all the features of Adobe Analytics so that I may be able to utilise the software optimally, and also offer useful recommendations to business leaders.

Case 3

Analytics tool(s), description & capability

Enablon is an energy management and compliance software that has many components from oil and gas industry to air quality management. The air quality management software (AQS) developed by Enablon enables organisations to perform business activities in an environment-friendly way. Air pollutants and greenhouse gas emissions have strict compliance and regulations that must be met by organisations (Jamous, Alwafaie, and Dahma, 2012). The AQS ERP system is capable of handling millions of individual data points to ensure compliance with air pollutant regulations and keep the amount of emissions within the safe limits prescribed by regulations. With Enablon's AQS, companies can comply with emission and air pollutant regulations and air

permit requirements.

AQS is able to provide this function by integrating a number of sophisticated tools and techniques that can perform complex calculations at extremely high processing speeds. One of the greatest challenges with controlling air pollutants and complying with regulations is that it requires frequent readings on a wide array of parameters (Mann, 2012). This is only possible by performing on-going calculations at a very high volume so that the emissions being released by each piece of equipment can be monitored and calculated accurately. The software is able to automatically perform measurements by on the basis of a number of regulations such as Clean Air Act (CAA), GHG MRR, New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), among others.

An important feature of Enablon's AWS is that it can automatically determine applicability of any regulation or rule to the equipment possessed by an organisation. This allows companies to learn if a certain piece of equipment lacks the provisions to comply with air pollutant regulations, so that such equipment might be replaced with compliant technology (Ganesan, Dupont, and Theodore, 2016). The software is also capable of constantly tracking regulatory limits and the actions that need to be implemented in case the limit of regulation is exceeded by any equipment.

Associated job role(s)/team & skills

An air quality project manager is entrusted with the duty to calculate emission estimates and interpreting regulations at state, federal, and local levels. Ensuring the quality of air through compliance with said regulations is one of the key duties of an air quality manager. Experience and proficiency in software such as Enablon's AQS is an important part of the skillset of a competent air quality manager, since it is almost impossible to fulfil the duties of an air quality manager without sophisticated ERP software (Mann, 2012). As an air quality manager must ensure compliance with air pollutant emission regulations, they find AQS as an extremely useful software package that can be deployed across facilities of a company and measure, monitor, and control the levels of emissions below acceptable levels.

Business application/need

There is an increased pressure, from stakeholders to regulatory bodies, to comply with regulations and prevent environmental degradation through pollution and greenhouse gas emissions. As such, companies are making an effort to control greenhouse gas emissions and air pollutants resulting from emissions. However, controlling air pollutants and greenhouse gas emissions is a complicated task (Melville and Whisnant, 2014). The primary difficulty that arises when a company intends to control emissions below safe levels is that the amount of emissions must first be measured and calculated. Regulations usually specify a safe limit under which the emissions released by a company must fall. However, companies can have thousands of individual equipment distributed across several plants and facilities. Monitoring and calculating the amount of emissions can be extremely costly and practically infeasible to perform accurately (Ganesan et al., 2016).

In order to accurately monitor and calculate emissions of air pollutants, a dedicated ERP such as AQS is needed. This software enables an organisation to monitor their equipment and their contribution to greenhouse gas emissions. Detailed and comprehensive reports generated by the AQS enable companies to pinpoint pieces of equipment that are performing badly in terms of compliance with regulatory standards (Jamous et al., 2012). As such, this knowledge can be of critical importance as a company can continuously track all of their equipment and systems on an on-going basis, ensuring complete compliance with regulatory requirements. As a result, AQS allows organisations to adopt more sustainable practices, which is the starting point of ethical and sound decision-making in all business areas. These factors make AQS an extremely important software package in the present day, with issues such as climate change and environmental degradation gaining in importance as the negative effects of these phenomena become clearer.

Possible Reflections

Ensuring compliance with air quality standards and regulation is an important responsibility from a sustainability point of view for organisations. The whole world is currently facing significant problems in the form of climate

change which is being worsened by greenhouse gas emissions. As air quality managers, professionals serve a highly important role by using software solutions such as Enablon's AQS to monitor and control the amount of air pollutants in greenhouse emissions. As the world continues to become more aware of the importance of sustainable operations and the dangers of climate change, stakeholders in industries are putting on organisations to adhere to air quality regulations. On the basis of these developments, I have set it as one of my learning goals to learn how AQS can be used to improve compliance with air quality standards and contribute to a more sustainable environment.

References

- i. Box, G.E., Jenkins, G.M., Reinsel, G.C. and Ljung, G.M., 2015. *Time series analysis: forecasting and control*. John Wiley & Sons.
- ii. Chen, H., Chiang, R.H. and Storey, V.C., 2012. *Business intelligence and analytics: from big data to big impact*. *MIS quarterly*, pp.1165-1188.
- iii. Couldry, N., Fotopoulou, A. and Dickens, L., 2016. *Real social analytics: A contribution towards a phenomenology of a digital world*. *The British Journal of Sociology*, 67(1), pp.118-137.
- iv. Foley, É. and Guillemette, M.G., 2012. *What is business intelligence?. Organizational Applications of Business Intelligence Management*. *Emerging Trends*, IGI Global, Hershey, pp.52-75.
- v. Ganesan, K., Dupont, R. and Theodore, L., 2016. *Pollution Prevention: Sustainability, Industrial Ecology, and Green Engineering*. CRC Press.
- vi. GoodData, 2018. *Official Website*. Data retrieved from: <https://www.gooddata.com/>
Indeed, 2018. *Digital Analytics Manager*. Data retrieved from:
 - a. <https://www.indeed.com/viewjob?jk=97580cc7455d83da&from=serp&vjs=3> Jamous, N., Alwafaie, R. and Dahma, M.A., 2012. *Corporate Environmental Management Information Systems (CEMIS)-Sustainability Reporting Tools for SMEs*.
 - b. *In EnviroInfo* (pp. 657-664).
- vii. Järvinen, J. and Karjaluoto, H., 2015. *The use of Web analytics for digital marketing performance measurement*. *Industrial Marketing Management*, 50, pp.117-127.
- viii. Mann, T., 2012. *An Evaluation Perspective on Environmental Management Information Systems Software Selection using a Principle Agency Framework*.
- ix. Melville, N.P. and Whisnant, R., 2014. *Energy and carbon management systems*. *Journal of Industrial Ecology*, 18(6), pp.920-930.
- x. Najafabadi, M.M., Villanustre, F., Khoshgoftaar, T.M., Seliya, N., Wald, R. and Muharemagic, E., 2015. *Deep learning applications and challenges in big data analytics*. *Journal of Big Data*, 2(1), p.1.
- xi. Provost, F. and Fawcett, T., 2013. *Data science and its relationship to big data and data-driven decision making*. *Big data*, 1(1), pp.51-59.
- xii. Siemens, G., 2013. *Learning analytics: The emergence of a discipline*. *American Behavioral Scientist*, 57(10), pp.1380-1400.