International Journal of Recent Development in Computer Technology & Software Applications
Vol. 3, Issue 1 - 2019

RESHAPE YOUR BUSINESS WITH DATA ANALYTICS TECHNOLOGIES

AJIT C VICHARE*

INTRODUCTION

The evolution in Information and Communication Technologies (ICT) increases the use of networks and electronic devices, and the digitalization of production practices signifies the ample volume of data is generated regularly by social and economic activities. As such, observing the complication of data and revealing its true competence is of predominant importance to enterprises. Unfortunately, plenty of enterprises are in lack of adopting a decisive and coherent approach to handle this data growth. Thus, they fail to influence the power of information available. The growth of data significantly influences the performance of enterprises in terms of processes, people, and technology. Hence, it is vital to recognize the encounters arising from enormous data.

A large number of enterprises have already started turning the big data sources into pertinent information as well as actionable insights. As we are in an era where data entails insights, there are immense possibilities to gain as well as sustain competitive advantages. Significantly, organizations are actively in search of a solution on how to enhance their business through analytical insights. This is where the analytics technology appears. The goal of advanced analytics is simple -delivering real-time data in an accurate, timely, reliable, and relevant manner. Thereby businesses can make decisions quickly, get to market sooner and differentiate themselves unique in the exceptionally competitive landscape.

This paper introduces-what analytical solution is, and discusses the value to the enterprise of adopting the big data analytics technologies.

DEFINITION OF ANALYTICS

Analytics can be defined as the systematic evaluations of patterns in data. The systematic evaluation comprises discovery, clarification, and communication. The real-time applications of computer programming, operational research and statistics form the spirit of analytics. The domain of analytics is ideal for areas loaded with the recorded information. Analytical solution occupies a prime position in businesses and can be applied to define, predict, and move forward in business. Analytics obtains realistic and optimal decisions in accordance with examining the existing data, typically large volumes of business data, with the support of statistics, mathematics, specialized systems as well as software.

In the past years, the application of analytical solutions to extract meaningful insights from data has achieved more importance and has supported several enterprises to enhance their business performances. Though enterprises know the value of analytics, they are struggling to understand the different capabilities of analytics and deciding when to use them.

*Principal Solutions Architect, Digital Supply Chain-AI, ML, RPA, Analytics, Author and Thought Leader.
Correspondence E-mail Id: editor@eurekajournals.com

 ISSN: 2581-6276

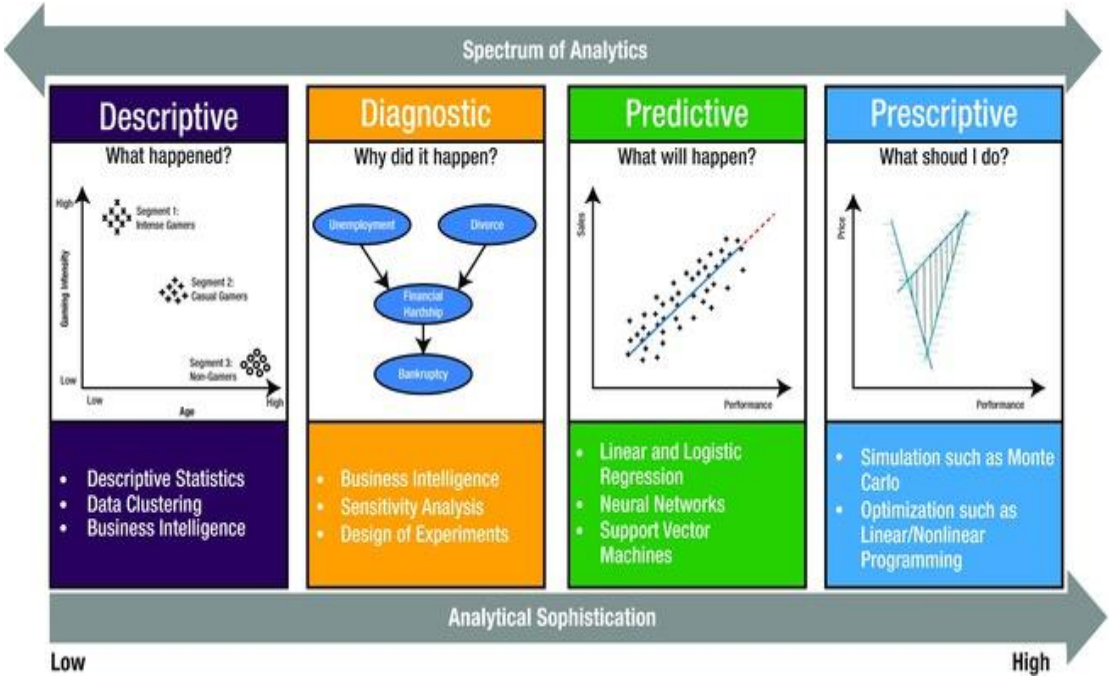


Figure 1.Spectrum of Analytics

The following diagram depicts the spectrum of analytics with descriptive, diagnostic, prescriptive, and predictive analytics.

Whether it is developing new medicines, determining credit risk, discovering more effective ways to deliver services and products, mitigating fraud, addressing cyber threats or retaining valuable customers, analytics can support organization to understand their business and the world around it.

ANALYTICS IN ACTION: BIG DATA ANALYTICS TO MAKE BETTER CAMPAIGNS

Regardless of industry, analytics becomes accessible and influences businesses in critical ways. This section aims to highlight the impact of analytics at a macro level. Let us consider using big data analytics in Market Research. In today's business strategy, market research remains as a critical component as it provides vital information to find and analyze the market size, competition, and market requirements.

The following points describe the challenges faced in market research firms as well as how big data analytics address those issues:

As depicted above, market research firms can obtain a comprehensive view of various media channels like print advertisements, email campaigns, social media, banner advertisements, videos, mobile apps, etc. With the functionalities listed below, they can make better marketing campaigns:

- Data acquisition from large volume feed
- Real-time analytics through a custom visualization dashboard
- Data processing into big data platform and search engines
- Data enrichment with technologies like machine learning, manual evaluations, and predictive analytics

With data accuracy and completeness, market research firms can perform insightful analysis as well as take well-informed decisions. Moreover, they are empowered to collect, analyze, visualize, and process a massive amount of data to attain an unparalleled competitive advantage.

 ISSN: 2581-6276

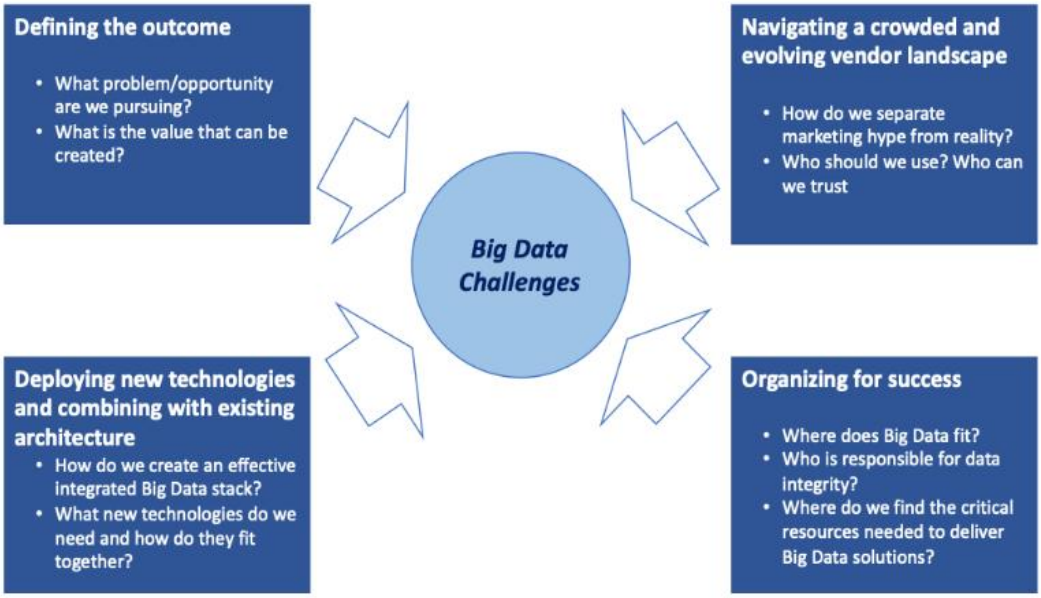


Figure 2.Analytic Data Challenges

OVERVIEW OF ANALYTICS MARKET

Analytics solutions have gained prominence in the last few years. In the recent past, the market has grown significantly. A new market report revealed that the analytics market would grow at a predominant rate between the forecasted the year 2016 and 2021. The significant drivers for this market growth are IoT (Internet of Things) & the explosion of the large volume of data via connected devices, enhancing the attention on competitive insights, the requirement for raising business scalability & agility and increasing variety & volume of business data over the industry verticals.

Data analytics is predicted to be the top analytics technology with the compound annual growth of 24.9% during the forecasted period as it is likely to grasp the largest market share. High-performance analytics together with big data analytics can be used to extract actionable visions from the large volume of data with faster speed and higher resolutions. Most enterprises come forward to adopt HPDA (High-Performance Data Analytics) technologies, as they offer an advanced solution to analyze data at an adjusted cost. Similarly, analytics as a service gains more popularity among industries; therefore, the highest growth rate is expected in this market between 2016 and 2021. Consequently, cloud-based analytical solutions are gaining traction because of their cost-effectiveness and scalability along with the capability to offer direct access to business data. The analytics as a service solution includes risk analytics, financial analytics, customer analytics, marketing analytics, web & social analytics, sales analytics, network analytics, and supply chain analytics.

Enterprises are increasingly shifting from conventional reporting to advanced analytics tools, which stimulate data cleansing and data preparation. However, not all the enterprises are completely analytics-driven, but they are evolving in their stages of analytics adoption.

Here is the analytics maturity model that indicates the adoption level of analytics in enterprises given below:

 ISSN: 2581-6276

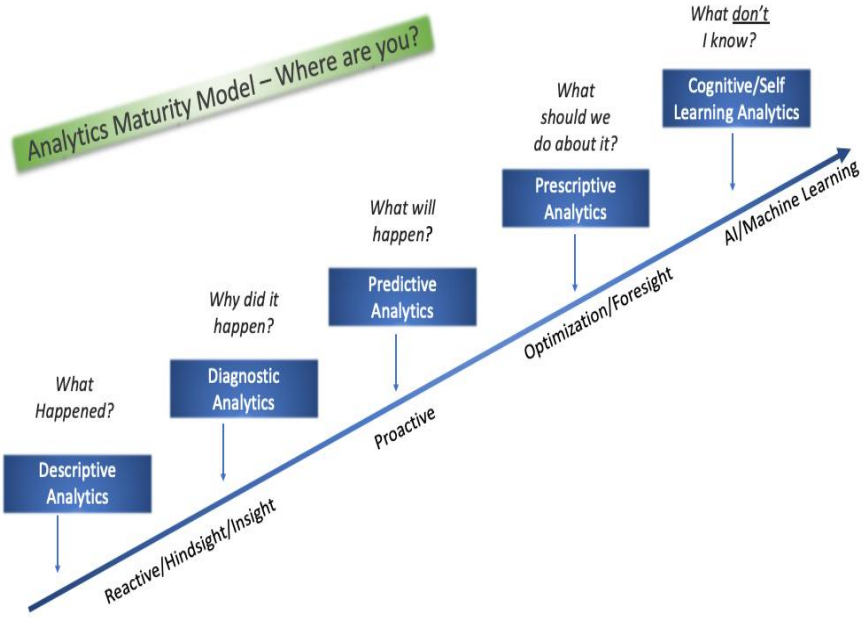


Figure 3.Analytics Maturity Model

CHALLENGES ADDRESSED WITH ANALYTICS SOFTWARE

New technology trends like Big Data, Internet of Things, and Predictive Analytics have taken the analytics to the next level. Let us explore, what precisely do they mean and how they can generate business value?

A. REPLACE SPREADSHEETS

Even today, most of the companies depend on spreadsheets or isolate data sources as a core for operational reporting. These approaches can be time-consuming and cumbersome. Modern analytical solutions are the ideal step to replace statics as well as isolated reporting solutions.

B. VISUALIZATION AND CLEAR PRESENTATION

Visualization is one of the most significant benefits of analytics. When it comes to operations reporting, dashboards and visualization features of analytics tools support users to explore, observe, and present data. Thereby they can take better decisions and spot a consolidated outline of all associated KPIs. In addition, the remote access using mobile devices enables data available anywhere at any time.

C. REDUCE DEPENDENCE ON IT EXPERTS

Self-service analytics tools empower business users to access user data without requesting IT experts support. This solution makes it easier for non-technical users evaluate the immense volume of data instantly. As such, the analysis becomes a section of their routine activities rather than an infrequent request to business analysts and IT developers.

D. SUPPORT TACTICAL DECISION MAKING

When the requirement of business goes beyond reporting, monitoring & alerting and focuses on visions for tactical decision-making, then there is a need for visual analysis and discovery solutions. In addition, there is also a demand for examination with a broad range of data sources. As such, it is essential to iterate, perform test & learn inquiries and use visual functionality for comparing, filtering, and correlating data. Fortunately, businesses today can use analytics to make tactical decision-making.

 ISSN: 2581-6276

E. ENHANCE MONITORING & ALERTING

Using operational monitoring and alerting to detect issues, analyze the root cause, and find the next action in accordance with insights, demands the real-time updates. Analytics software with in-memory technology (like SAP S/4 HANA) makes this possible. A further benefit of the analytic solutions is that it avoids the use of burdensome data warehouse for reporting process.

F. PREDICTIVE ANALYTICS-LOOKING INTO THE FUTURE

While it is vital to understand what happened in the business over the last quarter, month or week, it is just as important to observe what might happen in the next week, month or quarter. The predictive capabilities of analytics software - the power to find hidden risks, trends and patterns become more relevant to enterprises. Predictive analytics can be applied in marketing to forecast and analyze consumer behavior. Considerably, it can be used in predictive maintenance, which involves monitoring of the equipment's condition and predicting when maintenance needs to perform.

FOUR MAIN DOMAINS WHERE ANALYTICS IS IN ACTION

Analytics technologies have been actively employing across multiple sectors. It is transferred from initiation stage to the most vital practice throughout various industries like Healthcare, Finance, Retail, Manufacturing, E-commerce, and so on. While these sectors consider the practice of analytics very important, it is also used in the various business domains. Regardless of any sorts of industries, analytics becomes a vital practice in terms of business domains, especially business reinvention, operational excellence, customer experience, and trust & compliance as shown below:

Figure 4.Four Main Domains Where Analytics is in Action

A. BUSINESS REINVENTION

Making new products and service with the insights gathered from analytics can build business reinvention. Enterprises operating in a furiously competitive landscape develop several new opportunities to make value and as such build competitive benefits. Some enterprises, even move a step forward, alter their basic business models based on analytic techniques and generate a blue ocean of benefits for themselves.

 ISSN: 2581-6276

B. OPERATIONAL EXCELLENCE

Enterprises employ their analytical solutions on operational excellence to enhance operations, resource management& development and financial & asset management. The objectives of analytics that strive to enhance the operations comprise targets that intent to enhance the predictions of product fatalities, delays, energy management, supply chain management, business process management, operation assets, and costs associated with IT. Furthermore, an enterprise that aims to enhance financial & asset management using analytics express intents like enhancing fraud detection, predicting loan default, predicting non-payment and enhancement of revenue management.

C. CUSTOMER EXPERIENCE

Enterprises can boost their existing customer value using the analytical solution by better targeting customers and optimizing existing services and products presented to the customer With analytics technique, enterprises can get a broader view of their customers to enhance direct marketing, personalized offers, predicting retentions as well as cancellations of customers, targeting idle customers, the propensity to buy, choosing the exact marketing channels, selecting the right promotions, and setting the right price.

D. TRUST & COMPLIANCE

An enterprise that engages their analytical efforts towards trust & compliance activities employs analytics to identify and minimize existing and potential portions of cost leakage as well as better concentrate on their loss reduction struggles. Analytical solutions accomplish this by focusing on the following:

- Fraud Management that involves the prevention, detection, recovery, and investigation of revenue leakage
- Surveillance of risk analysis containing credit risk and debt collection
- Regulatory compliance like AML (Anti-money Laundering), record management, enterprise content management, and knowledge management
- Information security as well as threat management like data leakage, cyber-attacks, security log file analysis, and threat analysis

APPLICATION OF ANALYTICS

Analytics extract details from data sets to uncover complex relationships, understand unknown patterns, forecast actual trends, detect associations, etc. A countless number of applications of analytics are in practice today. Here are some of the most popular applications of analytics:

A. MARKETING OPTIMIZATION

Analytics are now applied everywhere from determining the marketing campaign's effectiveness in taking decisions in a marketing domain. With techniques like customer segmentation and demographic studies, now analytics are used for understanding as well as communicating marketing strategy.

 ISSN: 2581-6276

Figure 5.Marketing Optimization

Most commonly used analytics are sales force optimization, marketing mix modeling and promotional and pricing analytics. It supports enterprises in focusing on potential customers with an effective marketing message via the right channel at the right time.

B. PEOPLE ANALYTICS

Enterprises use the analytics in their HR management. This will aid in deciding whom to recruit, whom to allocate duties to, and whom to offer appraisal to.

C. PREDICTIVE ANALYTICS

Predictive analytics enables enterprises to make predictions on what to happen in the future. Modern technologies like artificial intelligence, statics, data mining, etc. are involved in this technique to make such predictions. The prototypes identified in historical as well as transaction data are being utilized to analyze and predict the dangers that can appear in the future.

This analytics stimulates businesses or industries to be proactive and prepared for the future, based on the outcome of the resulted data rather than assumption.

D. PORTFOLIO ANALYTICS

Portfolio analytics is the one among the most significant applications of analytics. This analytics serves as the key to effectively market financial services, and products in order to have a customer-centric practice, create partnerships built on an observation of financial requirements and customization solutions.

E. RISK ANALYTICS

This kind of analytics is applied in the insurance and industry sector. Especially online payment gateway firms adopt this technology to examine whether genuinely the financial transactions made. Just consider the process of credit card transaction. If there is an increase of abrupt in a customer's credit card transaction, he or she might get alert to re-check its credibility.

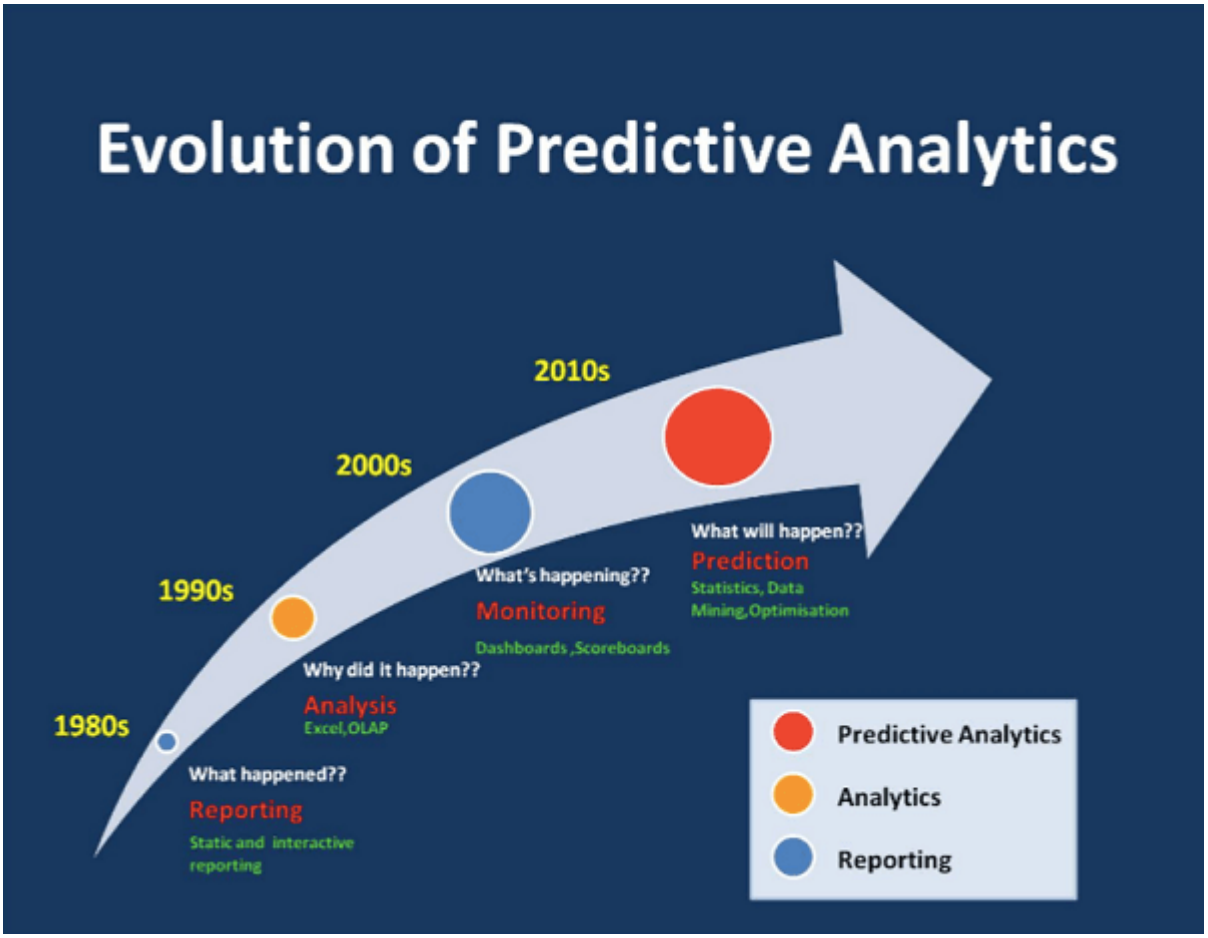
 ISSN: 2581-6276

F. DIGITAL ANALYTICS

It is an arrangement of technical and business activity to collect, analyzes, and change digital data into understandings, researches, recommendations, predicts and so on. SEC (Search Engine Optimization) also comes under this analytics. Here, they track the user access pattern for marketing purpose.

G. SECURITY ANALYTICS

Security analytics enables enterprises to collect and analyze the security events as well as drive awareness about the risk. It supports the IT staff to examine such events in order to address the issues.



CONCLUSION

With analytics tools, now it is simpler than ever to access as well as analyze data in real-time and employ it to provide appropriate insights into the business. With timely, precise data, offered in real time, C-level executives can make game-change decision, which spurs innovation, enhance time to market and empower to stand ahead of their competition. Most traditional analytics platforms are too inflexible and rigid to attain the benefits of recent technological innovations. Hence, it is the time to adopt the advanced analytics platform. The recent big data analytics technologies are competent enough to manage the unprecedented variety and volume of data. They can combine multiple types of data, data transformation and provide report template and forecasts in no time. In addition, the analytics technology can support to identify as well as leverage the critical subset of data, which drives business value.

 ISSN: 2581-6276

REFERENCES

[1]. Web Resources: https://www.marketsandmarkets.com/Market-Reports/top-10-analytics-technologies-market-25097079.html.

[2]. Web Resources: https://www.searchtechnologies.com/sites/default/files/Search%20Technologies/white%20paper%20downloads/Rebrand/Top-5-big-data-analytics-use-cases.pdf.

[3]. Web Resources: https://www.edupristine.com/blog/spectrum-of-analytic-abilities.

[4]. Web Resources: https://atos.net/wp-content/uploads/2016/06/Atos-Ascent-White-Paper-Analytics-driven-organisations-2.pdf.

[5]. Web Resources: https://www.marketsandmarkets.com/PressReleases/top-10-analytics-technologies.asp.

AUTHOR PROFILE

Ajit C Vichare
Principal Solutions Architect, Digital Supply Chain-AI, ML, RPA, Analytics, Author and Thought Leader

Published on: 18th-Nov-2019

 ISSN: 2581-6276