

Relevance of Business Analytics in an Organisation

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Abstract

Any organisation operating in today's market focuses on competitive advantage. Business analytics (BA) enables companies to automate and optimize business processes. BA is a method used by organisations to access past, vast and complex information and later uses the data and information for better analysis of the organisation. BA has a wide range of applications in Human Resource Management (HRM), Customer Relationship Management (CRM), Financial Management, Marketing, Supply-Chain Management etc. Each field of application helps the organisation to improve its efficiency in the corresponding fields. This paper puts forward to show how the tools and techniques of BA help an organisation to grow in the market.

Keywords: *Business Analytics, Information Technology, Human Resource Management, Customer Relationship Management*

1. Introduction

Data from data warehouse and applying them in the business intelligence tools can lead to the success of an organisation. Business analytics is used for evaluation of business firms and is a combination of technologies, skills, processes and applications used by organisations to understand their business based on data and statistics to do business planning. Using various tools and techniques, business analytics helps in analysing the data and hence helps to make a better and faster decision. Now-a-days the world of business analytics is changing. Business analysts, developers, data architects and IT leaders are expanding the scope of business analytics. BA professionals utilize methods and tools such as data visualization, data extraction, series matching and analytical modeling to optimize and anticipate results and to gain profit from data. The emphasis of BA lies on time-series analysis, forecasting and econometrics to facilitate predictions of potential results on the basis of historical patterns. Companies and governments need BA to transform all the available data into needed information and perform competitively in both global and local markets. BA has a wide range of applications in customer relationship management, financial management, marketing, supply-chain management, human resource management etc. CBAP is one of the world's most accepted BA course. This article reviews the growing literature on business analytics and briefs about the high end use of analytics being used in human resource field in detail. Since, business analytics is a vital part of any business and it includes a large portion of decision support systems, continuous improvement programs and many of the other techniques used to keep a business competitive.

1.1 Benefits of implementing BA in an organisation

1. Accurately transferring information
2. Make strategic decisions
3. Reduction in costs
4. Improvement in efficiency
5. Improved decisions

6. Sharing information with a larger audience

There are three types of business analytics: Descriptive, Predictive and Prescriptive.

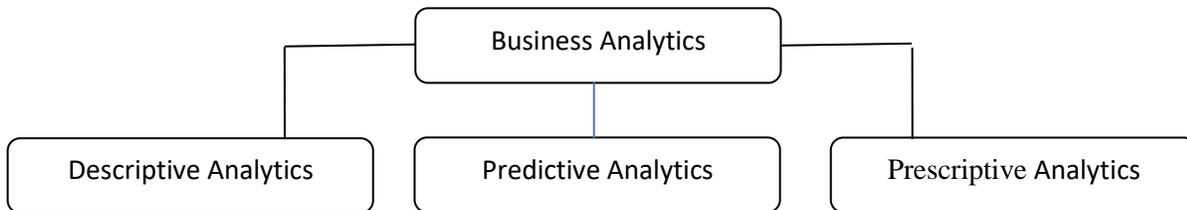


Figure 1: Types of business analytics

- Descriptive analytics: This basic form of analytics attempts to describe early records by looking at the scorecards, reports, dashboards and charts like income statements, balance sheets, report cards etc. But this technique does not help in prediction of the future performance.
- Predictive analytics: Predictive analytics can use maximum utilization of the existing data that sum up the descriptive analytics and using the historical performance it predicts the probable future.
- Prescriptive analytics: Prescriptive analytics aims to provide the action steps necessary to achieve results of predictive analytics and how each action will impacts everything else.

1.1 BA Process:

1. Business need: First stage will determine the need for collecting the data.
2. Collect data: Collection of necessary data.
3. Analyse data: Once the data is collected, it is analysed in this stage.
4. Predict: Based on the analysis, the business can make certain predictions.
5. Find best solution: Finds one of the best solutions that meet the need.
6. Make a decision: Once the best solution has been found then action must be taken on the decision.
7. Update: The final step is to evaluate the effectiveness of the decision and update the information the business has access to.

1.2 BA tools:

Self-service has become a major trend among business analytics tools. Users now demand software that is easy to use and doesn't require specialized training. This has led to the rise of simple-to-use tools from companies such as Tableau and Qlik, among others. These tools can be installed on a single computer for small applications or in server environments for enterprise-wide deployments. Once they are up and running, business analysts and others with less specialized training can use them to generate reports, charts and web portals that track specific metrics in data sets.

Some of the commonly used tools are:

1. R Programming: A leading analytical tool used for statistics and data modeling.
2. Python: This is an object oriented programming tool which is easy to read, write and maintain.
3. SAS: This is a programming environment and language for data manipulation and has wide range capabilities from data management.
4. Excel: Excel is a basic, popular and widely used analytical tool almost in all industries. It analyses the complex task that summarizes the data with a preview of pivot tables that helps in filtering the data as per client requirement.
5. Splunk: Splunk is a tool that analyses and searches the machine-generated data.

2. HR Analytics

The best known scientific definition of HR analytics is by Heuvel & Bondarouk. According to them, HR analytics is the systematic identification and quantification of the people drivers of business outcomes (Heuvel & Bondarouk, 2016).

HR analytics helps human resource management. This is the science of gathering, organising and analysing the data related to HR functions like recruitment, talent management, employee engagement, performance and retention to ensure better decision making in all these areas. HR departments are creating a large amount of data every day, by using various types of HR software and technology. The area of human resources analytics can involve a wide range of activities. There are generally four core functions that manifest within the field and they are acquisition, optimization, development, and paying of the employees within a business or organisation. To optimize each of these core functions, human resources analytics representatives will work with managers by gaining information from them regarding the issues and problems that pertain to their unique workforce.

Using HR analytics, the departments are not only reporting what already exists in an organisation, but also predicting the possibilities in work culture, recruitment, training, compensation and employee retention.

How to Use HR analytics?

- Long term planning and strategic decision making
- Using automated tools
- Building an analytics savvy HR team

Every manager should take care of the following HR Analytics in an organisation:

- Capability analytics: Capability analytics is a talent management process that allows you to identify the capabilities or core competencies you want and need in your business.
- Competency acquisition analytics: Talent matters, and the acquisition and management of talent is often a serious factor in business growth. Competency acquisition analytics is the process of assessing how well your business acquires the desired competencies.
- Capacity analytics: Capacity analytics seeks to establish how operationally efficient people are in a business.
- Employee churn analytics: Hiring employees, training them and integrating them into the business need time and money. Employee churn analytics is the process of assessing staff turnover rates in an attempt to predict the future and reduce employee churn.
- Corporate culture analytics: Culture is essentially the collective rules, systems and patterns of behavior that embody your business. Corporate culture analytics is the process of assessing and understanding more about corporate culture or the different cultures that exists across organization. This then allows to track changes in culture you would like to make, understand how the culture is changing, create early warning systems to detect toxic cultures in their development and ensure you are recruiting people that don't clash with the corporate culture.
- Recruitment channel analytics: Recruitment channel analytics is the process of working out where your best employees come from and what recruitment channels are most effective.
- Leadership analytics: Leadership analytics unpacks the various scope of leadership performance via data to uncover the good, the bad and the ugly.
- Employee performance analytics: Employee performance analytics seeks to assess individual employee performance. The resulting insights can identify who is performing well and who may need some additional training or support in order to improve performance.

2.1 Benefits of HR Analytics

- Increased need of data and analytics tool in HR to make better HR decisions
- Better quality of Hire is one of the benefits
- Employee retention
- Transformation of HR as a strategic partner is one of its benefits
- Business Analytics in HR can help predict the hiring needs of an organization
- Improves HR performance
- Identify best performing talent
- Identify attrition and its causes
- Predict in demand skills and positions within organization
- Transforms the role of HR as a strategic partner

2.2 Disadvantages of HR Analytics

While the advantages of HR Analytics are immense, there are also a couple of disadvantages to using it in the current scenario. Since HRs deal with huge amount of sensitive and confidential data, security and privacy are two main concerns. Any HR analytics system which handles this data must be designed to prevent any unauthorized access. There have to be multiple levels of access and the system must be constantly monitored for any data theft. Maintaining such a system will obviously lead to greater costs and that's the second main disadvantage to implementing HR analytics. High acquisition and maintenance costs mostly act as a deterrent, especially for smaller companies to implement such a system. Also, operating a sophisticated HR analytics tool requires special expertise and that results in additional training costs, or the costs of hiring an IT expert to handle this system.

2.3 Aspects of HR Analytics

- Recruitment: The growth of recruitment analytics is a good news for companies looking for a competitive edge when fighting for top talent.

Recruitment Analytics is tracking, evaluating, gathering and analysing employee and candidate statistics which help in making better hiring decisions in order to improve business performance. Besides giving you a better hiring picture, it provides unique opportunities to reframe the retention methods and control attrition rate.

Hiring is an extensive procedure comprising of days of efforts where you can't afford to make errors. Making recruiting mistakes would adversely affect the organizational goals. A good hiring decision-making isn't based on the perceptions; it relies on the available data and analytics. Moreover, a good hiring team isn't the only factor for quality hires.

Following are some of the benefits a recruitment analytics system can offer:

- Locating required candidates: It helps to find the potential candidates right from the initial stage of recruiting. You can use the data to calculate the candidates' potential to grow and excel within the organization. It also helps to assess candidates' attrition risk.
- Filtering sourcing process: You can easily extract data from popular job aggregators and social media platforms to learn crucial things which your company should emphasize on. It would give you better understandings about different preferences of candidates such as location choices etc.
- Collecting performance statistics: It helps you know whether newly hired talent is meeting the expected standards in their respective job roles.
- Evaluating hiring experience: Recruitment analytics helps to understand the errors during the hiring process and helps you communicate it to the HR department so they can resolve the issues and flaws at the earliest.

- Fine tuning profile: When the profile-tuning is perfect, the recruiting becomes less complicated and offers maximum success rate.
 - Recognizing best platforms: Helps to identify the best platforms.
- On-boarding: On-boarding, also known as organisational socialisation, refers to the mechanism through which new employees acquire the necessary knowledge, skills, and behaviors in order to become effective organizational members and insiders.

4C's of On-Boarding analytics

- Compliance
 - Clarification
 - Culture
 - Connection
- Staffing: This says how to use data to better analyze the key components of the staffing cycle: hiring, internal mobility and career development, and attrition. Different analytic approaches are used in predicting performance for hiring and for optimizing internal mobility, for understanding and reducing turnover, and for predicting attrition. Using this, the organization gets right people into the right jobs and helping them to stay there, to benefit not only your organization but also employee's individual careers.
- Learning: Learning Analytics is the use of intelligent data, learner-produced data, and analysis models to discover information and social connections for predicting and advising people's learning. Learning analytics and its key concepts was provided by Professor Mohammed Chatti and colleagues through a reference model based on four dimensions, namely:
- Data, environments, context (what?),
 - Stakeholders (who?),
 - objectives (why?), and
 - Methods (how?)

Learning Analytics does:

- Performance Prediction
 - Attrition Risk Detection
 - Data Visualization
 - Intelligent feedback
 - Course Recommendation
 - Student skill estimation
 - Behavior Detection
 - Grouping & collaboration of students
 - Social network analysis
 - Developing concept maps
 - Constructing courseware
 - Planning and scheduling
- Training: Learning analytics helps organisations to invest wisely and distribute training budget by informing educators about the areas of greatest need. This way, analytics holds an important role in maintaining cost-effectiveness and productivity within employee training. In today's modern learning environment, responses and interactions of every employee during the learning phase, such as engaging in forum discussions, employee assessment matrix, and engagement in online assessments, produce data which is recorded in the log file and is further analyzed and used during the training process to improve the overall workforce training. With the maximum utilisation of data analytics, effective course completion, time spent to complete it, scores, badges, feedback, and assessments can be evaluated.

- Performance and skill gap: Performance analytics can help businesses to develop performance and promotion strategies in order to determine how top performers should be rewarded. It is accessing past performance and how an employee has performed throughout the previous year. Performance can be analysed by indicators, Breakdowns, Scorecards, Dashboards, Widgets and Data collector. A skill gap analysis is an evaluation tool for determining training needs of an individual or organisation. This analysis gives the difference between the required and existing skill levels and the recommended strategies for reducing the differences.
Steps for Skill gap analysis:
 - i. Plan
 - ii. Identify important skills
 - iii. Measure current skills
 - iv. Act on the data
- Compliance: Compliance analytics is a growing category of information analysis. This involves storing and gathering relevant data and mining it as per necessities. This helps organisations to identify issues, take corrective actions, And self-report to regulators on a timely basis.
- Attrition and Retention: Attrition or total turnover or wastage rate is the reduction in the number of employee's voluntary/involuntary resignation, death or retirement is called attrition. Attrition analytics can be measured with a metric called attrition rate, which simply measures the number of employees moving out of the company.
Retention analysis helps product teams to understand how they can keep more of their users. Employee retention rate is a helpful tool used for calculating the retention rate in an organisation. This can be done by dividing the number of employees who left during a period by the total number of employees at the end of a period.
- Compensation and Benefits: This gives the management and the board of directors the tools to apply effective oversight of benefit programs and the ability to evaluate the sufficiency and correctness of these benefits. Compensation analysis can be done using: market data comparison, labour cost analysis, people count analysis, retention analysis, high performer analysis, sales compensation analysis, geographic pay analysis.
- Promotion and succession planning: Promotion analytics helps to identify potential growth opportunities, understand past promotions, and streamlines planning workflow. Succession Planning is the Identification and development of possible successors and helps to increase the availability of experienced and capable employees. It ensures constant development of employees to fill organizational role. Guarantee that you have employees on hand, ready and waiting to fill new roles. This process generally involves human resource managers or senior leaders of the company and board members may also be involved for the top positions, including CEOs, in a company.

3. Financial Analytics

In modern world finance is facing more demands and more complex. Financial analytics help businesses to understand current as well as past performance, predict future performance and make smarter decisions. This is the art and science of pulling together data in a more meaningful and logical view to support compliance and decision making with confidence. Financial analytics encompasses finance, accounting, controllership, investor relations, tax, treasury, risk and compliance. This also refers to the assessment of validity, profitability and stability of a business, sub-business or project. Financial analytics solutions helps organisations through a combination of organisational alignment, cost savings and the enablement of higher value business risk analysis that was previously not solved by the finance function. This helps an organisation to respond to the to rising opportunities for revenue enhancement and cost reduction.

Financial analytics helps a business to understand the performance of an organisation, to measure and manage the value of tangible and intangible assets, to manage the performance of an organisation,

manage the investments of the company, to forecast the variations in the market, increase the functionalities of information systems and to improve the business processes and profits.

Oracle is one example of financial analytics software in the market. This helps to improve the financial performance of an organisation through proper information about expenses and revenue of all its departments. This software also helps to improve the financial health of business.

4. Marketing Analytics

Marketing analytics involves processes and technologies. This type of analytics gathers data from all sources and channels and combines it. It is difficult to determine effectiveness and return on investment of marketing campaigns without marketing analytics. One of the most important benefits of marketing analytics is the way in which it empowers organizations to make apt decisions. If your marketing efforts remain stagnant, your company cannot grow because you are not engaging modern customers.

Three types of marketing analytics success are

- Use a balanced variety of analytic techniques.
- Access the analytic capabilities and fill in the gaps.
- Act on what you learn.

5. Web Analytics

Web analytics is the process of analysing the behavior pattern of visitors to a Website. The use of Web analytics is to enable a business website to attract more visitors, retain or attract new customers for goods or services, or to increase the dollar volume each customer spends. Web analytics is the collection, measurement, analysis and reporting of web data for purposes of understanding and optimizing web usage. However, Web analytics is not just a process for measuring web traffic but is a tool for business and market research as well, and to assess and improve the effectiveness of a website. Web analytics applications help companies in measuring the results of traditional print or broadcast advertising campaigns. It helps an organisation to estimate how changes traffic to a website after the launch of a new advertising campaign. Web analytics provides information about the number of visitors to a website and also includes number of page views. It helps gauge traffic and popularity trends which is useful for market research.
