BUSINESS ANALYTICS, BACKBONE OF ORGANIZATIONS - A LITERATURE REVIEW

Mr Adheer Goyal[1], Vidhi Jirkuntwar[2], Vanshika Hasani[3], Tarun Burla[4]

[1] Guide: PDGM, M.Com,Mba, Research Scholar Mr Adheer Goyal, Assistant professor ,Dean Admissions &Outreach , school of commerce Management GH Raisoni University Saikheda district - Chhindwara, Madhya Pradesh

[2,3,4] Authors: Vidhi Jirkuntwar, Vanshika Hasani and Tarun Burla

ABSTRACT

Business analytics is the process by which businesses use statistical methods and technologies based on historical data in order to attain organizational goals and make profit. Analytics are now regularly used in multiple areas of life. It should come as no surprise that business analytics is one of the fastest growing markets in enterprise software landscape.

This article discusses about history and terminology of analytics. There is also a brief discussion about how business analytics gives opportunities not only to large scale and multinational companies but also to small and medium enterprises. In this conceptual paper major types of business analytics i.e., decision analytics, descriptive analytics, predictive analytics and prescriptive analytics are included. We also noted how business analytics can help you in supply chain management, analyze the key performance indicators which further helps in decision making, boost relationship with consumers and improve efficiency in the basis of product data.

Then it consists of brief description about advantages and disadvantages of business analytics, difference between business analytics and business intelligence.

This paper concludes with challenges in business analytics posed by the big data analytics, data scientists, business organization etc. and thoroughly researched the impact of business analytics on innovation.

Introduction

Business Analytics collaborate the fields of management, business and computer science. The business feature necessitates both the high- level understanding of the business as well as the feasible restrictions that exist. This collaboration of fields permits business analysts to stimulate between management and technology. Virtual communication and implementing a solution are also component of business analytics to translate perception from data to information that is effortlessly communicated to

administrative.

Business analytics make use of big data, statistical analysis, and data information to apply organization changes. Business analytics has implementations in a wide arrangement of different businesses. Some companies are growing new ideas to use big data in order to surpass their customers experience and maximize profits. Business analytics allow a way for businesses to plan for the future. Planning for future events provides a big advantage to all businesses.

Business analytics can also authorize new types of marketing crusade. The data collected by businesses give intuition into customers behavior which helps businesses understand the success of advertising crusade with various audiences. Targeting audiences that are more likely to answer to specific crusade or product increases organization overall. By recognizing customer who are less likely to return, businesses can offer targeted promotion. This allows a time-saving to achieve customer loyalty.

Evolution of business analytics

Today, business analytics has become the buzzword for companies all around the world. Every business with respect to its size is looking out for different ways to sense the large amount of data available. This is because business analytics is now becoming most important function over decades. Right from targeting the right customers, setting up goals, increasing sales which helps in HR personnel, selecting right candidate and to reduce overhead cost, there is hardly any sector were business analytics has failed.

By now, we can surely say that business analytics plays an important role in today's generation.

Business analytics has evolved over the years stating from 1800-2000s

From the arrival of business analytics in the early 1800's to be a part of every business in 2000's, we have covered every information and gathered every useful data which was important for business analytics to understand business.

Difference between analytics and analysis

The focal point of business analytics is statistics and reporting – analysing previous performance of business and forecasting future performance of business.

The focal point of business analysis is function and procedure – recognizing businesses requirements and endorsing solutions

As both of these fields demands data or system analysis, what is to be done with data and what type of skills are needed can differ.

 CAREER OVERVIEW
o **BUSINESS ANALYTICS:**
• Overviews at dealing statistics, cut-throat market research, logistics data to elucidate significant trends.
• Hand on findings to collaborator and senior management through summaries, statistics, graphs and forecasting models
o **BUSINESS ANALYSIS:**
• Asses an organization's business model, encompasses documents, procedures, systems and technologies.
• Collect and render business problems and requirements into language.
 SKILLS REQUIRED

o   **BUSINESS ANALYTICS**
• Organizing skills in the languages used in organization.
• Data anticipation and presentation skills.
• Ability to Interpret mathematical and statistical methods and result into business language to present to contributor and collaborator.
o   **BUSINESS ANALYSIS**
• Technical and business command.
• Mastery of the particular technology that the business is using.
• Understanding altogether business objective and function as well as the challenges of the business.
• Potentiality to speak in the technical terms used by internal unit.
• Capability to work well with others.

Concept and app. of business analytics
The word business analytics has become an era of experience economy in the present. First and foremost, the growth of the internet and information technology has made business analytics a strong application area. It is unbearable to refuse its significant effect on the fields of information technology, quantitative method, and decision sciences. Industry and academia request to hire talent in this area with the hope of developing an organizational capability to experience a competitive advantage.
Business analytics focuses more on understanding the organizational culture than trifling technology. Thus, for successful execution and utilizing the business of business analytics the knowledge of an organization, strengths, and weakness is unavoidable.
Business analytics constitute techniques and processes namely, statistical analysis, forecasting, predictive analysis, and optimization, which supports and make business performance.

Application of Business Analytics
Business analytics contains various applications are as follows:
• Finance: Business analytics is an important factor in the finance sector. Data scientists are highly in demand in investment banking, portfolio management, financial planning, budgeting, forecasting can be greatly beneficial by applying business analytics. The business analysts use data tools and statistics on the present financial data to notice the trends of the same products in case of a new product or remark the existing product to determine future functions.
• Marketing: Business analytics play a vital role to find out a successful product marketing strategy. Right from managing market research for the product in demand, to create a future road map for product lifecycle, the business analysts are intricated through all the stages of the product. They start by examining consumer behaviour, their buying patterns, trends to decide the target customer. They are also intricated in other areas like determining advertising techniques, recognizing loyal customers, and adding new characteristics to the product when needed.
• HR professionals: HR professionals can use business analytics to recognize the possible candidate for the jobs available. They can use the large available data and examine the same to recognize the right candidate based on their qualification and experience. The analytics can also be used to find out factors like salary expected and

retention rate.

• CRM: CRM can use business analytics to discover key performance indicators like the socio-economic status of customers, purchasing patterns, lifestyles, etc., to evolve a bonding with the customer.

• Manufacturing: Different boundaries of manufacturing like supply chain management, inventory management, and risk management use business analytics to surpass the effectiveness

Types of business analytics

At different stages, a huge volume of data is processed at various stages of market analysis. The four main types of analytics are descriptive, diagnostic, predictive and prescriptive, appropriate to the planned stage and the basis for the data analysis. Together these four forms describe all the knowledge required by a business from what's going on in the company and what solutions should be taken to maximize functions.

The four forms of analytics, are usually carried out in stages, and none of them is better than the other. Each one of these are connected and gives a different meaning. The different types of analytics are as follows:

1. Descriptive Analytics

The first type of analytics provides the reality, stating what has happened. It is the easiest type that "allows you to precipitate big data into Smaller, more useful and valuable fact". Descriptive analytics helps a business to learn from its past behaviour and how it will affect the future. It understands the production of the business on an overall combined level. It is also an important step in an explaining the current sore data to the various stakeholders.

2. Diagnostic Analytics

Diagnostic analytics is the second type of analytics. Like, descriptive analytics, this also focuses on the past and examines the situations in the business. It is also known as root cause analysis because it looks extensive to understand the event's root cause. Diagnostic analytics is characterized by discovering data, data mining, corelations etc.

3. Predictive Analytics

This type of analytics is used to predict the feasibility of a future events with the help of statistical models and ML (Machine Learning) techniques. It boosts up on the result of descriptive analytics to conceive models to extend the probability of items. To run, predictive analytics Machine Learning (ML) authority a employed. They can attain a higher level of accuracy.

4. Prescriptive Analytics

Going a step beyond predictive analytics, it allows endorsement for the next best action to be taken. It indicates all the favourable outcomes according to a specific course of action and also endorse the specific action needed to deliver the most desired results. It mostly depends on two things, a strong responding system and a continuous analysis. One ordinary use of this type of analytics is to create guidance system.

Importance of business analytics

Organizations utilize Business Analytics so that they can make data-driven decisions.

Business analytics gives the business our excellent outline and perception on how companies can become well organized and this intuition will authorize such businesses to optimize and automate their processes. Data-driven companies usually make use of business analytics which enhances their performances and help them to compete to their competitor. The reason for this is that the perception gained via business analytics makes them to understand why specific results are achieved, explore more successful business processes, and even forecast the probability of a certain result.

Business analytics also suggest sufficient support and protection for a business that is looking to take the right enterprising decisions. Business analytics also allows organizations to automate their whole decision-making process, to provide real-time feedback when needed.

One of the evident importance of business analytics is the fact that it helps to perceive crucial business perceptions. It is done by introducing the right data to work on it. This goes a long way in decision-making well organized, but also easy.

Efficiency is area of business analytics that helps any organization to perceive at once. Since, after establishment, business analytics have played an crucial role in helping business to improve their efficiency. Business analytics collect a sustainable volume of data in a well-timed manner, and also in a way that it can easily be examined. This allows businesses to make the right decisions faster and at the right time.

Business analytics help organizations to reduce risks. By supporting them to make the right decisions based on present data such as customer preferences, trends, and so on. It also helps businesses to reduce short and long-term risks.

There is no contradiction that the business analytics changed the energy of business and how they perform. Its importance cannot be misjudged as more and more organizations depend on it for their decision-making process.

Advantages and disadvantages

The business analytics is one of the ruling tools in the business world and it is used as a decision making tool with an available data generated by analyses and computing, social media, mobile apps usage, online and more etc.... This all for the business sharing information about the customer and what are doing and which product are leading in the market and etc... This makes to help business to what the customer needs and what are the choosing. The decision making by evidence of the data it's not only information but also a viable. Indigenous analytics as a pros and cons in the analytics that represent what are the business analytics to improve and maintain

 • **Advantage of business analytics**

1.   This helps to monitor the progress of your business or your mission. Determined values and data help the business to improve their analytical process by calculating the data to gain the clearance of picture of what you expect from your employees. And later make sure to share the result of analytics with you employees. If they are informed about their mistakes, then they can overcome their weakness and will become more productive.

2.   Its helps to increase efficiency

Business analytics can gather large amount of data at faster rate and display it to achieve specific organizational goals. Analytics encourages a culture of efficiency, people to work hard and teamwork by employees to share their views, ppts and ideas

to the decision-making process.

3.   Its helps you to be up to date.

Customers change their minds easily by looking forward to better offers. Analytics give you a hint to target how market thinks, this can allow you to be better with your customer and you will be free to talk to them comfortably.

•**Disadvantage of business analytics:**¬

1) low quality of underlying transactional data: ¬After application the   solution which was provided by business analyst failed because of incomplete data, data collected was very complex and was poorly reconstructed. Business analytics require dedication, logical approach and good level of maturity to become a good analyst.

2) Analytics test is a strategic plan. This is done by research hypothesis. Making of map and unique marketing plans something related the packaging design. It usually performs to change a segment of organisation that is unpredictable.

 3) Absence of commitment:¬ The solution that we are building from analyst are not that difficult to implement. But they can be costly and the return of investment is not immediate. Analytics models requires time to prepare for their accuracy over time. As they are complex model so they need time for dedication to implement themselves.

Scope and Future in Business Analytics

• Business analytics has wide variety of performance or it has a high scope of business analytics.

• A focussed business approached to analytics has allowed companies to update the relevance of their product offerings. Companies can study their marketing campaigns and product offering to create targeting campaign.

• This approving attitude towards business analytics is one key development in India. As per research seven billion people and businesses and at least 30 billion devices will be connected to the internet.

• AI, Machine Learning and Big data will play crucial role in growing business. There will be huge growth in Internet of Things (IoT). Taking business decisions based on data IT is the order of the day. Analytics tools and techniques for dealing with massive amount of structured and unstructured data generated by IoT will continue to gain importance.

•By 2025 more than 163 zettabytes will be generated and most of it will come from internet connected IoT devices and sensors. Business analytics plays major role as it utilizes statistics and other tools to figure out customer's insights. The greatest beneficiary will be the business world who will be managing at least 60% of this data to draw insights for their businesses. Businesses and things communicating, transacting and even negotiating with each other, new world with enormous data is generated.

•The scope of business analytics is ever expanding and companies like Accenture, IBM and Deloitte are using business analytics tools and looking for professionals with extraordinary skills and who can deal with it.

• Currently, business analytics offers good career prospects, both in Financial Service sector and in business.

• Masters in business analytics has so much scope because it focusses on tax analytics which simplify the process of recovering overpaid transaction and taxes and help in preventing future overpayments.

• Growth of cognitive analytics and boost in the demand for data scientists are also the reason why there is so much scope in business analytics. On this basis there will be rise in business analytics and it will expand its opportunities. The scope of analytics, as global phenomena, will open new opportunities for people with analytics skills to pursue career.

• In April, IBM offers applicable software and training programs to BMU faculty members using different industry cases. The overall structure of this program is developed to provide students with the fundamental knowledge and equips them with range of transferable skills which can be potential value to future employers.

• Hence business analytics can have great prospects.

Difference Between Business Analytics and Business Intelligence

Business intelligence is the process of collecting, comprising, analysing existing business data which provides past, current and predictive events in organization, to support better decision making in a real time. It provides comprehensive business metrics.

Business analytics is the process where data experts and professionals use past business information to identify the current challenges and predicting future business planning and driving business towards more successful planning and strategies. Business is more statistical based field.

Business intelligence deals with 'What' happened in the past and 'How' it happened whereas business analytics deal with the 'Why' and 'What' happened in the past. Business intelligence do not go in answering the question 'Why' or predicting future.

For example, business intelligence tells marketers what are the objectives of current customers or what they look like but business analytics might tell business leaders what future customers are doing.

Business intelligence 's main focus is on monitoring about the data itself to make way for more effective insights. On the other hand business analytics includes the conversions and implementation of acquired data, in order to make it more meaningful way to convey the solution in an easy way. Here, business analytics is more crucial in decision making than business intelligence.

Business intelligence priorities descriptive analytics and business analytics priorities predictive analytics. Business intelligence provides a summary of past and present information to show what has happened and what is currently going on. Business analytics predict about what will happen.

Since business intelligence and business analytics differ so much in core format. They both have different methodologies and set of tools. Business intelligence includes dash boarding, data reporting which can help you to monitor current trending developments. Then there is certain web based analytical tools which actually boost business intelligence for example Real Time Analytics, mapping analysing, online analytical processing (OLAP) and standard reporting. These tools deliver real time reports and let users connect and work with top notch visualizations to make your job easier.

Whereas in business analytics the business tools need some software application knowledge. Business analytics require tools which is lot more wide ranging and technologically sound. It incorporates with data modelling user stories, SWOT analysis, predictive modelling, use case modelling, requirement analysis, functional

requirement and non-function requirement analysis. This keeps real time on all your new finds. These were some examples of rapid wireframing tools and real-time management tools..

Since business intelligence is heavily dependent on data it can't deal with unstructured or semi structured data. Business intelligence can only be applied to structured data such as Financial Software Systems or Enterprise Resource Planning (ERP). On the other hand, business analytics can be applied to both semi+ structured and unstructured data by transforming data into more sophisticated way to visualize the analyse data.

Business intelligence is used to run business effectively, it helps companies to stay on the top and to be in it competition. But business analytics can actually make it more productive and bring much needed changes in business model. Business intelligence act as business runner while business analytics work as game changer.

Why is it important to study difference between business intelligence and business analytics?

That was all about difference between business intelligence and business analytics, both of them are crucial. Understanding the differences can help leader to choose appropriate tools and talent. They fit together like two pieces of jigsaw puzzle - a puzzle that makes your business to be more profitable.

Challenges of business analytics
Today, most of the organizations have some elements of business analytics at their place, as well as in data warehouse area. But analytics are mostly viewed on esoteric research at best and irrelevant fringe at worst. This tells us that there is not only lack of appreciation for the usefulness of information but also for lack of trust.
Impact on business analytics
Business analytics is a core asset of companies which are focused to deliver on business objectives of growth and revenue. Now on yearly basis, businessmen spend their 50% for business analytics. Providing data-driven solution, to customers by helping and understanding them. And business analytics should not be compared with business intelligence as they both are different from each other.
Business intelligence provides information in identifying aspect of the business whereas business analytics explains the business and reason behind it also detects the future result and help us to diagnosis the problem.
Even though, business analytics is connected with 'big data' and 'big industry' it has played an important in SMB'Ss as well.

Application area of business analytics
Companies study the marking of their customers – their way of living, likes and dislikes through monotonous activities such as shares on social networking sites. This helps them to advance their marketing strategy and target the appropriate target audience. Sometimes these data play an important role in intelligence agencies and defence department.

Application of Business Analytics
• Finance: Business Analytics is important to the finance department. Demand for data scientist is high in investment banking, budgeting etc

- Marketing: learning buying patterns of target audience analysing their requirements as per trends, enhances the market strategy through statistics and data
- HR professionals: BA helps HR professionals to find out particulars about background of candidates, age, gender etc. These kind of data helps HR to select perfect employee for the business
- Manufacturing: BA can aid you in data management, tally the past and future performance, stock management, enhance efficiency in the basis of product data etc.
- Credit card companies: credit card dealings of an audience can regulate many factors: way of living, new trends, purchases of preferences, behavioural, trends etc

Conclusion

- Study started with the aim to analyses the existing theory of business analytics. Further study has helped to enhance the main difference between analysis and analytics. These two terms regularly come up in our work, but the major difference is that analytics looks towards future and analysis looks towards past.
- Business analytics is all about decision making which relies on data, evidence and mathematical/statistical sciences. This paper provided an overview on how business analytics can enhance decision making process towards more accurate and actionable outcomes.

 The simple assortment of business analytics is composed of three echelons: descriptive/diagnostic, predictive and prescriptive analytics.
- Prescriptive analytics is high echelon in this hierarchical relationship whereas descriptive, diagnostic, predictive analytics aim to create information to explain what happened, why it happened and what will happen. Irrespective of organization and industry, business analytics is essential key to open the profit door of organization.
- Business analytics tools are very much support to the widespread level of improving trustworthy forecasts, support for teaching analytics is available from many major vendors.
- There are many opportunities for academies, students, and industry professionals. Every enterprise whether it is small enterprise or big enterprise have different set of challenges. Business analytics plays crucial role in addressing their challenges, predicting future outcomes.
- It helps enterprise to plan and optimize their business operations. Then we describe the difference between business analytics and business intelligence. Business intelligence deals with past and present information to show current situation and business intelligence predict future.
- Then this paper concludes with the discussion that how business analytics and innovation are interlinked and what is the impact of business analytics on innovation.
- Business analytics and innovation are together extending the areas of process, new technologies, user interface design and system integration are being driven by business value. The convergence of these trends means that we have capabilities required to analyze astonishing data sets quickly and cost effectively for time in history.
- The age of business analytics is here and these revolutionary times if both business and technology professionals work together and deliver on the promise.

References:
1.https://www.omnisci.com/technical-glossary/business-analytics#:~:text=Business%20Analytics%20is%20the%20process,and%20improve

%20strategic%20decision%2Dmaking.

2. https://en.wikipedia.org/wiki/Business_analytics

3.https://searchbusinessanalytics.techtarget.com/definition/business-analytics-BA

4.https://www.mastersindatascience.org/learning/what-is-business-analytics/

5.https://www.oracle.com/in/business-analytics/what-is-business-analytics/

6.https://learn.g2.com/business-analytics

7.https://www.fordham.edu/info/21535/business_analytics

8.https://www.microsoft.com/en-us/microsoft-365/business-insights-ideas/resources/benefits-of-business-analytics#:~:text=Business%20analytics%20uses%20data%20to,image%20of%20goals%20and%20objectives.

9.https://talentedge.com/articles/advantages-disadvantages-business-analytics/

10.https://exeedcollege.com/blog/why-business-analytics-is-so-important-for-success/#:~:text=Business%20analytics%20help%20organizations%20to,short%20and%20long%2Dterm%20risk.

11.https://www.proschoolonline.com/blog/business-analytics-meaning-benefits-and-challenges

12.https://www.mygreatlearning.com/blog/what-is-business-analytics/

13.https://www.upgrad.com/blog/scope-of-business-analytics-in-india/

14. https://www.analyttica.com/scope-and-future-of-business-analytics-in-india/