

# APPLICATIONS AND BENEFITS OF BUSINESS ANALYTICS

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## ABSTRACT

The research is conducted to provide a better understanding of the areas where the application of business analytics may be the strongest. The concept of business analytics (BA) has evolved dramatically over the last decade. It has grown in popularity and piqued the interest of academic and commercial communities alike. In today's competitive environment, business analytics is a powerful weapon. Business analytics can be important for the activities of an enterprise and a key part of decision-making. Acquiring a thorough understanding of business analytics will serve as a stepping-stone in a professional or business career as well as helping to produce informed decisions. It is possible to have an incredible impact in an enterprise using data analytics. Analytics facilitates an efficiency culture and collaboration, encouraging workers to exchange knowledge and engage in the decision-making process. The paper investigates the application of business analytics in different areas and the potential benefits of using business analytics.

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## 1. INTRODUCTION

Many businesses today are striving to ensure that their decision making is effective through the use of analytics. Data guided decisions are the name of the game in today's business world. Data-driven businesses have often out-performed others, particularly when it comes to financial and operational data. When it comes to making proactive decisions, business "analytics" delivers sufficient support and comprehensiveness. An analytics-based approach to managing business has the potential to capture the importance of both historical and real-time data and to work to generate new knowledge. Applications, tools, platforms, and approaches to collecting, keeping, retaining, obtaining, and reporting information for corporations to aid in decision-making (Watson, 2009). Business analytics is used to determine "what has happened" and "what will happen" using sophisticated mathematical and predictive models and databases (Wicom et al., 2011). Organizations in all industries produce huge numbers of data that, in turn, increase the demand for specialists who understand and analyze this information. Market analytics provides a tremendous information that enables businesses to be more competitive and automates their processes.

Quantitative methods applied to extract sense from data to create knowledge in the market Analytics has significant advantages when making a strategic decision. Data and analytics are extremely lucrative for companies who commit to them. Data analytics will benefit operations as well as increase profits. A major aspect of business analytics is the construction of predictive models as well as their delivery to employees and customers. It is made use of a data-driven approach to maintain the company, and thus employs statistics and data modeling. For data "enterprises" Business Analytics is a trendiest technology. For IT worldwide organisations, future activities or decision-making based on historical records or current knowledge are predicted. Business analysis tools are very important for management to direct and assist. Business analytics is a very common technology in the business world. Similarly, (Gartner 2011) shows that big data management is a key business competence. For a variety of purposes, companies invest in BA programs. Business analytics should also be seen as a way to decide and solve problems. Every company strives to produce more, better, and smarter decisions in order to generate value for itself. By applying Business "Analytics" strategies, managers can link diverse data, measure patterns, identify business opportunities, and enhance results. The vast advancements in analytic technology have always had the potential to reshape business; it's only just becoming interesting now. Business analytics has grown over the years due to increased computing capacity. Business analytics' influence is increasing. Now, business analytics is widely employed and essential in Silicon Valley because start-up businesses want to make use any data-driven improvements that can help them access the majority of the market. In addition to in-house analytics firms, there are also several consultancy ones that provide services to large corporations, such as KPMG and Deloitte. The method of collecting, analyzing, and ultimately,

drawing conclusions from the large volume of data available for business purposes. Statistics show that companies are now using analytics to help decide how to get the most out of data and maximize profits. For many people, particularly businesspeople, analytics has developed into a "booming" word over the last decade. Most organizations are currently using it to alter their decision-making practices. Today's information systems are drastically changing the way managerial function, company structures, and companies perform in an ever-changing marketplace.

## **2. LITERATURE REVIEW**

Today, business analytics is one of the most popular words in the business world. Business analytics seeks to learn from data through a scientific approach to improve decision making (Camm et al., 2015). Business analytics can bring efficiency benefits and competitive advantages. Business analytics seeks to allow companies to decide faster, easier and smarter to produce business value. Business Analytics has become one of the most rapidly growing markets as a possible business facilitator both in the public and private sectors. Analytics have always been about market transformation, but recent major developments in analytical technology have provided new opportunities for entrepreneurial innovation. (Elliott, 2010). Google recently formed a large analytics department, reorganized into an equivalent 4,000-person consulting arm of its company, and IBM centralized its consulting group and renamed it to Sales and Marketing Analytics (Liberatore & Luo, 2010).

Econometric applications offer businesses a powerful range of tools for harnessing the power of data to make better decisions (Kolluru and Mishra 2012). Because of the importance placed on human factors in providing long-term competitive advantage, understanding organizations and their citizens has gotten a lot of attention in the current business world (Barney, 1991). Devonport and Harris (2007) emphasized the importance of analytical requirements and stated that most high-performance working systems/organizations have high-level analytical employees. Incorporators who use creative thinking in their decision-making have an advantage over those who don't. By combining management and data analysis, both managers and analysts may provide a better understanding of what could come in the future (Shmueli and Koppius, 2010). Other companies use business intelligence and big data to address data-driven issues (Chen, Chiang, & Storey, 2012)

## **3. METHODOLOGY**

The methodology relates to a key feature of analysis, as well as the selection and arrangement of data activities based on the study's unique problems. I have collected secondary data. The posts, write-ups and abstracts of influential papers on business analytics appearing in leading business dailies have been reviewed. A number of informative blogs, brochures from different organisations, some job directories, and souvenirs from conferences on similar topics added new dimensions to the current studies.

## **4. TYPES OF BUSINESS ANALYTICS**

### **4.1 Decision Analytics**

Decision Analytics enables end-user decisions by visualizing the data, which is reflected in user models. Decision analytics allow companies to turn data into important corporate choices. Tools, scoring models and software applications for the evaluation of data, analytics are useful to companies. It controls credit risk, prevents fraud, targets and automatically makes decisions.

### **4.2 Descriptive Analytics**

Descriptive analytics deals with clustering, scorecards and reporting of the historical results. It responds to the question 'what's been done?' It uses data mining and data aggregation techniques to provide past perspective.

### **4.3 Predictive Analytics**

"It's looking at the past success of whatever you're analyzing, understanding the current, and applying the past to the present to forecast the future," says CEO Fred Shilmover. Predictive analytics uses machine learning, statistical methods, data processing, modeling, and artificial intelligence to build predictive models.

### **4.4 Prescriptive Analytics**

Prescriptive analytics suggests making decisions based on optimization, simulation, and other methods. It responds to future-oriented questions such as, "What do we do now?" To analyze future-based problems, Prescriptive Analytics used simulation and optimization modeling techniques. It outlines various options for intervention and directs the company toward a solution.

## **5. BUSINESS ANALYTICS AND IT'S APPLICATIONS**

### **5.1 What is Business Analytics?**

In today's marketplace, business analytics is an effective tool. In all branches, companies generate large volumes of data, thus increasing the need for experts who are able to understand the information and evaluate it. It needs quantitative methods, proof-based data and decision-making for the modeling of the business, so the use of big data is required. A recent survey by McKinsey shows that a growing proportion of organizations use analytics to generate growth. The study of skills, innovations, and practices for continuous review of past business results in order to improve future business processes is known as business analytics. In simple terms, business analytics is a data-driven method that businesses use to gain insights into their past success so they can make better decisions in the future. Big data, predictive analysis, and the power of visualization are used to transform business practices in organizations. Analytics can be used in any company regardless of their size or industry. Other businesses are figuring out how to better serve customers by using big data to enhance both the consumer experience and benefit. The great thing about business analytics is that it allows companies to set their long-term goals in advance. New types of marketing strategies can be empowered by business analytics. When companies collect data, they use it to figure out how successful various promotions are with different groups of customers.

## **5.2 Applications**

### **5.2.1 Business Analytics in Agriculture**

A business analyst will ensure timely crop availability, crop production, seed quality and quantity, and more. Most of the economy is dependent on farming. The sector contributes significantly to the country's economic development. However, the distinction between economic growth and economic development must be understood. The agriculture sector faces extreme and dramatic climatic conditions such as rural water scarcity, climate change, rural land emigration in the urban region, urbanization etc. Agriculture therefore requires considerable attention to be concentrated on improving investment and development.

### **5.2.2 Business Analytics in Manufacturing**

Company analysts are seeking to work with the best products on the market for production and supply. They study the comprehensive dataset for business "growth" analysis and implementation. They look at the data in depth in order to interpret it and bring it to use in business growth. In the manufacturing industry, business analytics has become increasingly important. It can use the information to provide valuable insight into inventory management, supply chain management, goal efficiency, and risk reduction strategies. Business Analytics software can also enable businesses to improve their operations' productivity. Supply chain management, inventory management, and performance measurement can all be aided by business analytics.

### **5.2.3 Business Analytics in Healthcare**

The business analyst may also help to improve medicine output. He suggests methods for lowering drug manufacturing costs and expanding product lines. A business analyst makes predictions about the stocks of medicinal supplied in hospitals and medical shops, medicinal products shipments on the local markets, disease-related predictions, effects of various medicinal products on identical illnesses, appointments and doctor availability, arrangement for slots for patients and medication for cures. For example, allocating free slots for the patient in view of working hours, jobs of hospital workers, etc.

### **5.2.4 Business Analytics in Marketing**

In marketing, business analytics is gaining ground because important data on customer behavior and industry dynamics can be revealed. It can also assist businesses in identifying their target consumers as well as potentially growth-promising markets. To study customer behavior pattern purchase, analyze trends, help to define the target audience, use advertisement technologies that can appeal to customers, predict supply requirements, etc. For instance, use business analytics to assess the efficacy and impact on customers of a marketing strategy.

### **5.2.5 Business Analytics in Human Resources**

HR professionals may use data to learn about high-performing candidates' educational records, employee turnover rates, employee years of service, age, gender, and so on. This knowledge can be particularly helpful in a candidate's selection process. For example, based on data generated by Business Analytics, HR manager may forecast employee retention rates. Data can be used to create loyal customers by providing them with exactly what they want, according to their preferences

### **5.2.6 Business Analytics in Finance**

For the finance field, business analytics are critical. Using a business "analytics" software, businesses can process large quantities of available data to uncover useful insights into the output of inventories and advise the customer whether to sell or retain them. The finance industry relies heavily on business analytics.

### **5.2.7 Cutting Costs**

Many businesses spend a considerable amount of money in preparing or grooming a new employee, which is a significant investment. As a result, many businesses use analytics to evaluate new applicants' past experiences and track records before hiring them. Nowadays, Big Data may also inform company headhunters about employees who are unhappy with their current position and seeking new opportunities. For large businesses, which are always prepared to pay a large buck for the right candidate, this has rendered human resources a real smoother aspect. Analytics may also lead an organization to manage over expenditure by identifying areas that are more commercially difficult to manage. Analytics also assists corporations with indirect cost accounting. Big data analysis may include some truly informative baselines that indicate a company's wasteful expenditures.

### **5.2.8 Business Trend and Cash Flow Recognition**

The changing market situation and new business models are having a direct effect on all financial units. Change is absolutely inevitable, especially in digital age, so the need for the hour is a data-based strategy to find out the major market trends and forecast them before they take their toll on businesses. This lets businesses focus on developments other companies may not have forecast and therefore compete. Also, predictive analysis can be useful for problem "determination" or financial setbacks, especially before losses are experienced. Product profitability often requires the market; companies have to recognize or know that they will either make profits or recover losses. Analysis will evaluate and rectify product output that works commercially. This allows businesses to profit from developments that other businesses could not have foreseen, allowing them to stay ahead of the competition.

### **5.2.9 Risk Analysis**

In risk control, analytics effectively tests the likelihood of losses occurring on a regular basis. Furthermore, an organization faces a variety of threats, and they are not all sourced from the same place. Global financial transactions need the support of Big Data analysis and blockchain technology in order to allow smooth transfers in real time and also avoid fraud or technological mistakes.

## **6. BUSINESS ANALYTICS BENEFITS**

For the health of a competitive company, a business analysis program is important. The leadership team of the organization will make better choices that add value to the business as a whole by reviewing key business indicators.

### **6.1 Transactional profits**

The concrete direct outcomes of a business analytics system are known as transactional benefits. Time savings, fewer meetings, and re-use are just a couple of the advantages. These advantages include saving time, reducing meetings and lower staff members. The software and the online analytical processing systems usually support a business analytics program. When a company wants to grow into new markets, it would have to maintain its agility in order to expand its business processes to handle new markets. A market analysis programme, while remaining efficient in assigning resources, can help business handle increased work loads.

### **6.2 Information Benefits**

The most significant impediment to analytics adoption is a lack of data. The primary advantage that a company would experience is a rise in sales. In some cases, this will happen right away, and in others, it will take time. This would happen as a result of a thorough understanding of the market and consumer requirements.

### **6.3 Customer Relationship Management**

The Business Analyst takes the appropriate steps to ensure that the organization's consumer relationship is good and stable. He assists in the creation of emotional connections with customers. Data analysis provides marketing professionals with the information they need to assess which marketing campaigns are most successful for particular groups of customers. Big data provides marketing professionals with the knowledge they need to build the most effective strategies possible, whether it's knowing how different audiences react to different types of ads or using consumer analytics to map how product desirability differs based on context and environment. According to a recent report by SpencerStuart, 58 percent of Chief Marketing Officers see areas like search engine optimization as direct winners of "data" analytics advances. The analysis of data for marketing professionals offers the requisite information to determine which marketing strategies are best for particular customer groups.

### **6.4 Company Analytical Advantages**

A competitive organization's wellbeing depends on the business analytics program. Through evaluating key market metrics, the company's leadership team will make better decisions that result in more value for the company as a whole.

Software and online analytical processing systems are often used to administer business analytics programs. When a company is trying to grow into new markets, it must maintain its agility in order to survive.

### **6.5 Sales and Data Analytics**

How they are used in sales is closely related to the manner in which data analytics are used for marketing. Once again, the key is that information offers insight: insight into pricing strategy, customer response, public involvement in the brand, consistency of lead sales, price winning and product loyalty over time. For example, data analytics may show how much time it takes to communicate with particular customer groups. It may also disclose which offers and sales promotions have higher-than-average closing rates. While a major deal can still make headlines and pique executive attention, good data analysis will help a company's many smaller transactions move more quickly to completion, impacting the bottom line significantly. When a sales cycle is successful, it leaves a trail of empirical evidence as to why it was successful. Managers will dig into these moments and apply winning tactics to their current and future campaigns by knowing the facts.

### **6.6 E-commerce and Data Mining**

As with marketing and sales, large quantitative data can be an incredible opportunity to understand how consumers are shopping online. While a large number of headlines and executive attention will still be received, the powerful analysis of data will help to make countless smaller transactions more productive and have a huge effect on the basis of an organization. If a sales cycle works, an analysis of why is left behind. Understanding this evidence enables administrators to immerse themselves in these times and apply winning tactics for their present and potential campaigns. The way companies generate sales through mobile devices is particularly important over recent years; the more a seller understands mobile shopping, the more persuasive and positive experiences can be generated that further enhance the chance of additional sales revenues. Big data are also a major source of knowledge about the use of social media to communicate with companies by users. One company will, for example, figure out that Facebook links produce a large percentage of its Internet traffic. Studying market purchasing habits, analyzing trends, assisting in the identification of the target audience, employing consumer-friendly promotional tactics, forecasting supply requirements, and so on. Data analytics can also demonstrate which items are most common by connection references on some social networks. If a manager is pursuing a certain sort of insight into the social media, good information may be available to support this insight.

### **6.7 Credit Card Companies**

The retail industry will help credit card companies locate their target audience. Retail firms can forecast customer choices, their shopping patterns and preferences over the purchase of goods of competitors, etc., according to transaction reports. The facts, both historical and in real time, allow them to guide their marketing campaigns so that they reach the right audience. For example, the manager is interested in learning about the efficiency of machinery that has been in operation for the past ten years. Historical data can help measure the machinery's efficiency and determine whether maintenance costs outweigh the costs of purchasing a machine. Many variables can be determined by a customer's credit card transactions, including financial health, lifestyle, purchasing habits, behavioral patterns, and so on.

## **7. HOW DO WE CAPTURE IMPACT FROM BUSINESS ANALYTICS?**

We must begin with the organization's charter. We need to be very transparent about the function's role within the organization and how it's expected to communicate with the rest of the company. Some organizations begin with a narrow focus on support for conventional functions such as marketing, pricing, and other specific areas. Other organisations, on the other hand, have a much wider view of the market. I believe we should first define the function. The information is used to the best inform the required framework, forums, and, eventually, more granular levels. However, we must all be on the same page in terms of how we'll run the business and how we'll communicate with the rest of the company. This helps to educate the structure, fora and eventually establishes the most compelling levels of service, such as preparation, recruiting etc. However, it is completely crucial to align ourselves with how we do business and how we communicate with the larger organization. Everything others should be in line from there.

That's how we began our journey. One thing we have come to know that when we begin and concentrate on a result, it is an excellent way of rapidly delivering value and getting people excited. Firms often begin with the experience of their customers. That's the most important thing. They have a wide range of extremely complex items in the customer service centres. In order to address a complex situation more efficiently, we used big data techniques to evaluate all possible permutations. We eliminate the difficulty and make it easy and workable. The customer experience is often the starting point for companies. That is what is most important. They now have a large range of very complex items in customer service centers. We take the complication out of it and make it clear and actionable. As an example, consider driving supply-chain optimization. An example from outside the business is how we use analytics to boost asset efficiency. Asset performance control is what we term it. We call the management of asset efficiency. You can support a power generator that uses the same wind as it is, and we demonstrated our ability to generate up to ten per cent more energy from the same amount of wind by correctly pitching the turbines and understanding how they can optimise this level of wind.



## 8. DISCUSSION

By the use of analytics, an organization would be able to make better decisions. "Extracting insights from data to make informed decisions and identify problems" is what business analytics is all about. By being very clear about what goods and services to sell, this also links back to a rise in sales. After all, "if companies want to remain competitive and ahead of the curve, they must implement efficient market intelligence and reporting." A business analytics software can assist a company in better understanding its business and making timely business decisions based on market data. Most importantly, the solution is needed to facilitate intelligent decision-making. Business analytics therefore have the crux of integrating mathematical methods with business knowledge. A company strategy should represent the changing market and corporate environment as its analytics show. Market analytics would allow a company to remain creative and competitive. Decisions are the vital mechanism that determines or breaks the objectives of an organization. A business analytics program will support a company's growth over the next few years. Analytical talent competition is extremely competitive. There's a lot of competition for good analysts.

In a key study by Spencer Stuart, it has been observed that 58% of CMAs are clearly benefiting from advances in data analytics, such as search engine optimization. Furthermore, it is available to see how clicks and eventual sales of an enterprise's products are produced in individual advertisement forms – search engine advertisements, email newsletters, banner ads, etc. For those who have thapitude and interest, we want to continue to cultivate that talent. We want to make sure they can develop their abilities while still having access to the resources they need to be productive. Along every data and analytics journey, finding the right people is key. And, in my view, analytics talent is no longer adequate on its own. We can't have people with specialized abilities. Analytics has been widely adopted for the benefit of the running of a company, resulting in substantial improvements in procedures. However, incorporating analytics data into wise and efficient business decisions is not as simple as snapping one's fingers. According to McKinsey & Company found that using data would boost marketing efficiency by as much as 20%. So think of this case: A good example of this is Target's "pregnancy prediction." Business analytics can quickly collect a vast volume of data and present it in a formulated and attractive format to aid in the achievement of clear organizational objectives. By encouraging workers to share their experiences and contribute to the decision-making process, analytics promotes a culture of productivity and collaboration.

## 9. CONCLUSION

Business analytics is a technique or tool that analyzes past results in order to create a strategic strategy and make informed decisions. Every company today is attempting to use business analytics for decision-making purposes. It's a must-have for companies looking to succeed in today's dynamic environment and remain ahead of the competition. It assists companies in making sound commercial decisions, allowing them to improve their organization's profitability, market share, and revenue, as well as achieve a higher return on investment. It allows companies to gain a competitive advantage over their competitors by allowing them to make data-driven, educated decisions and learn from their past mistakes. As a result, companies are better able to avoid threats in the short and long term. Businesses' productivity has steadily improved since the introduction of business analytics, which allows them to quickly collect vast amounts of data, research it, analyze it, and derive sound, actionable insights from it.

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