

# Business Intelligence: An Indian Context

## *BI: The tool for Today's Indian Business*

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**Abstract— Business Intelligence (BI) is a growing tool, adopted throughout the world. In developing nations such as India the use of this tool are growing especially among product and service sectors. This paper analysis about the various ways BI used among Indian companies to measure customers in the heavily competed. The paper also talks in detail, about other issues such as visualization of data results and BI challenges.**

**Keywords- Business Intelligence; Indian Context; Banking Sector; Decision Making;**

### I. INTRODUCTION

The term Business Intelligence (BI) represents the set of tools and systems that plays a key role in the strategic planning process of the organization and corporation. These systems allow a company to gather, store, access and analyze corporate data to aid in decision-making. Generally these systems will illustrate business intelligence in the areas of customer profiling, customer support, market research, market segmentation, product profitability, statistical analysis, and inventory and distribution analysis to name a few. Business intelligence defined as a process of collecting information in the area of business. An essential idea of business is that raw data is enhanced into information and then into knowledge. BI enables the companies to gain an advantage in the marketplace over their competitors by understanding their customers' needs, customers' decision-making processes, and economic, cultural, and technological trends. The companies worldwide have realised the need for business process centric applications that require better integration of business intelligence solutions with intra- and inter-organisational business processes. Globally, companies have understood the importance of pursuing their business strategies and achieving their goals through real-time business intelligence [5]. Currently, business intelligence used to identify positive trends and opportunities to increase future performance. BI helps fulfill the need for fast, actionable intelligence about customers, suppliers, distributors, partners and competitors. It is more than a set of tools to extract data out of enterprise systems [6]. Benefits of business intelligence include improved decision-making, reduced cost, enhanced business processes and identification of new business opportunities especially in the area of marketing research. Also generally, empirical research on pricing strategies employs

survey data and regression methods. Now BI are widely use on the data derived from various log data sources, for price prediction applications and association mining methods are applied for competitor analysis. Also, Location-based services (LBS) can provide personalized information about the users in a specific location at a specific time with the help of mobile technology [7],[8],[9]. Thus, business intelligence has become more critical in the current competitive global market place.

### II. BACKGROUND

As consequence of globalization, from early 1990's Indian companies has exposed to the global business practices adopted by the Multinational companies (MNC). In order to compete with them, the Indian companies sooner than later have to adopt the strategies and practices of the MNCs. As a result, Indian firms have been constantly observing the improvements in business practices and procedures to gain competitive advantage [1], [3]. In the same way, steps taken by the MNC with respect to business intelligence and the resultant competitiveness have motivated the Indian companies to adopt the same or innovative ways. Market research shows that many industry verticals have adopted business intelligence [2], [4]. According to Frost & Sullivan, the total business intelligence application market in India has been growing at a compound annual growth rate (CAGR) of 34 percent. It has reached a significant level of maturity, with organisations realising the value of taking timely decisions.

### III. GROWTH FACTORS

The following factors have contributed to the growth of business intelligence in India. 1) The country has a well-developed technological platform comprising of Transaction processing systems (TPS) such as enterprise resources planning (ERP), customer relationship management (CRM), and supply chain management (SCM) extensively used in the large and medium enterprises. Many of these organisations are using data warehousing, data mining, online analytical processing (OLAP) on transactional data and data mart providing the much needed technological platform. 2) The initial cost involved in the deployment of business intelligence in India substantially minimized as result of the existence of appropriate TPS. This considered as another important factor

driving the growth of business intelligence in India and 3) Also, the availability of a large pool of human resources endowed with technical/knowledge expertise works to the advantage of the country.

#### IV. PIONEER SECTORS

The banking, finance and telecom sectors are the early adopters of business intelligence solutions in India. After the entry of foreign banks, the banking industry has become extremely competitive. It has become essential for banks to retain and acquire customers to survive and thrive in the market. Business intelligence tools are helpful in knowing the background profile of the customer, which in turn enables the bank to offer services suited to him. Likewise, the de-regulation of the cellular and basic telephony market has made it highly competitive. Hence, the significance of customer profiling has motivated the telecom companies to adopt business intelligence to retain and acquire customers. In the following below explains some of the sectors that is using the business intelligence.

##### A) *Housing Development Finance Corporation Bank (HDFC)*

A subsidiary of Housing development Finance Corporation Ltd (HDFC) is one of the pioneering companies in India to adopt business intelligence tools. It has significantly reduced its costs by optimising its channels and reducing the reaction time to emerging market opportunities by deploying business intelligence solutions. Due to integration of the various channels, the business intelligence tools can analyse data and help the bank cross-sell its services. Today the bank can close its account books much faster, and has improved the usage of its ATM network with a better understanding of how its 2.6 million customers use its channels.

##### B) *Orange*

When the Orange brand introduced in Mumbai in Feb 2000, the company noted that competition was steadily gaining ground. After implementing statistical analytical system (SAS)/Warehouse Administrator, which now manages the entire warehousing process, it is now easier for Orange to do 'what if' analysis of new initiatives, track key indices like usage churn, predict key customer traits, and monitor usage behaviour, tariff plans, product performance and product development.

##### C) *United Breweries Group (UBG)*

United Breweries Group (UBG) was searching for ways and means to cut costs that put a strain on the company's reserves. The company decided to deploy business intelligence tools from Microsoft, which quickly spotted areas where expenses were skyrocketing. The company realised that a significant amount of money spent on executive travel and accommodation, more often in certain prime cities in the country. Based on inputs from the business intelligence tools,

the company found that it was more cost-effective to build guest-houses in prime cities.

##### D) *Goodlass Nerolac,*

The second largest player in the Indian paint market, launched its decorative paint brand All Scapes. The sales of the brand was far below the expected level. Unable to figure out the underlying problem, the company embarked upon a business intelligence venture with SAS. After analysing the sales of the product, successful dealers segregated and differential distribution strategies applied. The volume of sales that the company had earlier achieved in one year attained in just six months. Business Intelligence tools increasingly leveraged across wide spectrum of industries, especially those in which customers play a crucial role in the strategic initiatives of a company.

#### V. CHALLENGES IN BUSINESS INTELLIGENCE

Even though India considered itself as a large untapped market for BI, it is still relatively small to other nation's market size. Despite a high awareness level, the level of deployment is low. For example, the size of the Indian market is less than one percent of the Asia pacific market. Another limiting factor is that the Indian companies are at various levels of automation. Some companies have full-fledged ERP in place while others are just considering the idea of integrating their businesses. Also, many companies have legacy systems, which do not have the amount of data required for business intelligence implementations. Higher analytical tools of business intelligence can run only if the information repositories hold a substantial amount of customer and transaction information. The accuracy of the data available with the companies is crucial for the successful implementation of business intelligence. Enterprises all over the world now have an increased responsibility to provide accurate financial numbers in their results. There is a need for significant transformation on the part of the Indian companies when it comes to the accuracy of the data. This is because the accuracy of the analysis is directly dependent on the accuracy of the data that fed into the system. Similarly, the lack of real-time, authenticated and exhaustive information poses a strong challenge to the implementation of business intelligence. The companies are not in a position to compromise on the investments made in their legacy systems. Indian organizations perceive that large investment and higher risks are involved and that the returns not assured. They do not realise that the cost of deploying such applications can offset against the substantial cost savings and increased revenue that gained using intelligence derived from the applications. Another challenging factor is the requirement of the information system to run both huge analytical queries and transaction related queries making very different demands on the query engines. Business intelligence systems will have to cope with analytical and transaction-like queries in the same system. The front end of business intelligence software and the audience keep changing at a faster pace. As the business intelligence system grows and reaches out to a much wider range of employees, it must integrated into the software stack used by the employees

on a regular basis. In some cases, this means rewriting the customised software, but for many it means integrating business intelligence into the application software used by a company. This should enhance the ability of the front-line workers to access and use the results of these analytics combined with operational data, for their daily activities.

## VI. DATA VISUALIZATION IS CHANGING

The way of displaying complex data has undergone significant improvement over a period. At first, there were simple reports and queries; then came multidimensional analysis. While, cubes and star schemas are still very popular, there is movement now toward more complex, deeper analytics using data mining, statistical methods and technologies that support pure ad hoc, unplanned forms of analytics. New trends like in-memory processing, ad hoc queries, and user definable workflows will not be effective unless people can visualise the data easily. This increases the usefulness of data and the number of people who want to use it. Pie charts date back to about 1800 and, useful as they are, we can do better, as the work of respected data visualization researchers Edward Tufte and William Cleveland shows. Several companies including Spotfire (now part of Tibco), QlikTech, Thinkmap, Tableau and others have been looking at this work and producing truly original ways of business intelligence tool. We believe that this will have a profound influence on business intelligence over the coming years, and others such as Roger Oberg, vice president, Spotfire product strategy with Palo Alto, Calif.-based Tibco Software Inc agree with us are democratizing business intelligence," Oberg said. "We are moving from a world in which we push data that is often ignored to a world in which interaction massively happens". The following are some of the reasons:

### A) *Data volumes are growing, year on year:*

Two years ago, data warehouse vendor Kognitio was looking to scale its systems down to 200 GB for some customers, according to Roger Gaskell, product development director. Now, almost every proof-of-concept Kognitio does is above 5 TB, with most in the 50 to 250 TB range.

### B) *Need for More Sophisticated Analytics and Data Visualization:*

Perhaps it is just the natural evolution of business intelligence toward a more mature environment. Certainly, the level of business expertise is much more sophisticated and advanced than it was 10 years ago, and the ease with which even non-skilled users can perform these complicated analyses increases their adoption and utilization. These technologies have enhanced the awareness of predictive analytics or guided decision-making capabilities, making it possible to embed these in operational flows. Companies are now able to perform operational or right-time business intelligence, As exciting as these are it should be remembered that, these capabilities do not just come into being serendipitously. They must fit into the enterprise's overall business intelligence architecture and technological infrastructure or chaos will surely reign.

Operational business intelligence also requires a thorough understanding of the business processes or workflow that it will enhance. Without this understanding, business intelligence implementers cannot know how or where to embed these valuable insights for maximum benefit. There are other technological trends in our business intelligence marketplace, but these seem to be the ones having the highest impact on business intelligence today. It would be interesting to revisit these trends in six months to see if other trends have emerged to captivate our attention and change the direction of our still young and growing industry.

### C) *Ever shrinking Data Latency:*

The big push in business intelligence analytics is to shorten the latency between when a business event happens and an action is taken. According to Dick Hackathorn, this latency has three components a) data preparation latency (the time it takes to get the data ready for analysis), b) analysis latency (the time it takes to get the results of an analytic operation) and c) decision latency (the time it takes for the person receiving the results to understand what action must be taken). For operational business intelligence to be effective, these three latencies must be reduced to nearly zero time. To reduce data latency, we see more and more virtual business intelligence components being created, including virtual operational data stores (ODSs) and data marts using enterprise EII technologies. If operational data is in good shape (minimal integration and data cleanup required), a virtual ODS or even an open mart may be a solution to reducing data latency. However, it is mandatory to monitor the effects of this environment on the operational systems. For analysis latency, we are seeing technologies that offer business activity monitoring (BAM) or operational dashboards as inline operational analytic engines that constantly serve the results to the business user and send alerts or alarms immediately when thresholds are exceeded. Key performance indicators (KPIs), important metrics delivered hourly or even more frequently, and consolidated current operational results can be displayed through the dashboards or portals, giving the operations personnel insight into key events that are occurring. While speeding the collection, analysis and display of operational data is certainly useful to the business, it must be remembered that not all BI data must be included. Many IT implementers do not perform thorough due diligence to determine precisely what data must be included in an operational business intelligence application. They make the catastrophic error of including as much as they can, forcing all data to be "real time," thereby creating an unwieldy and unmanageable business intelligence world. The message is carefully evaluate the push for real-time analytics. Understand the business need completely, and you may find that it is only a very small percentage of data rushed into the hands of the business consumers. Most analytic data can be hours, days or months old and still be relevant to the decision-making process.

## VII. CONCLUSION

Though the basic functionality of business intelligence tools has existed for quite a long time now, business

intelligence as a concept is just picking up in the market. Over a period, as business intelligence vendors show case more success stories, the market is bound to respond in a positive way and as more and more companies seek to find intelligence in their data and take crucial decisions based on it, business intelligence should start looking like a wise choose.

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