ABSTRACT

In current world, every organization mostly looks how to cut the cost on the project and they invest that money in the investments. Because the business become so competitive in the current market which is the fact to focus by improving the efficiencies in the analysis from the historical to the current data related to the company to make decisions in the strategies which it makes too successful to meet the challenges in the future. For several years, it has become challenge for IT employees to meet the goals in the business requirements from their stake holders. Most of the companies use BI for the reports and some company’s fails to use the BI where they lack in requirements from the stake holders and they end up the process manually. In this paper I, have discussed about the how the IBM company using the BI tool with the Cognos analytics for self-service which makes more efficient as a result the company in the current growth in the market economy.

Key words: Business intelligence (BI), Informational technology (IT), On-line Analytic processing (OLAP), Decision Support system (DSS), Cognos analytics.

1. INTRODUCTION

Nowadays, Business Intelligence system plays an important role in many companies to solve the problems in projects by handling the financial and economic crisis, too many rules to follow, so much complexity is the process of making decisions by improving the implementation of Business intelligence systems. In which the business intelligence and analytics are the related field in which it has big data analytics is important in academic and business communities. The management teams take decisions frequently in the companies by using modern technologies which makes the decisions to look carefully that makes to take better competitive advantage.

The term Business Intelligence was first used by the Hans Peter Luhn, who is from an IBM researcher. He described an “automatic method to provide current awareness services to scientists and engineers” this is the controversy between the scientific and technical literature (Luhn, 1958).

According to (Turban et al, 2007, p.772) is defined BI as an “An umbrella term that encompasses tools, architectures, databases, data warehouses, performance management, methodologies, and so forth, all of which are integrated into a unified software suite”. According to (Atre, 2003, p.543) is defined BI as an “It is an architecture and a collection of
integrated operational as well as decision-support applications and databases that provide the business community easy access to business data”.

Business intelligence was attached with the tools of data information. The definition of Business intelligence was explained by expanding the business process and administrative is separated from technology. This is basic, because BI does not have certain limits in technology, but has human interface, decisions, knowledge administration. The main aim in BI is to improve the priority and estimation available for decision making (Brooks, 2015).

Business Intelligence system gives perfect information of the present perspectives of business operations, frequently using data can be stored and working from data. Programming segments that make the BI structure for reporting, investigations, recognition and measurable data mining. Analysing the information to suspect the market patterns of products and benefits, and to improve the execution of big business structures, to maintain the competitive advantage (Azvine, 2005). Business intelligence system helps the organization to make significant, decisions and changing huge number of organized and unstructured information (Lorenc, 2014).

1.1. BUSINESS INTELLIGENCE

Business intelligence (BI) is the technology by using computing device to identify and analyse the business data. In today’s world, it is tough to be stable in the business market, to survive in the market the organization should maintain the cost-effective and rapid access of business information by the users. For solving this issue, we can use business intelligence technique which provide the set of products and technologies to supply the information to the users where they need to answer for business questions and make decisions with related to the strategic methods. The concepts using in the business intelligence are not new which can be remove some basic experience gained from the past information systems and the data were stored through applications (White, 1999).

From the wider path the intelligence framework is the communication facility conduct a business of service. Nowadays two unique terms of the Business Intelligence exist one is data centric another is process centric. The data-centric position utilizes Business Intelligence frameworks to consolidate operational data with analytical tools to present complex and competitive data to organization and taking decisions. The aim is to enhance the timeliness and quality of contributions to the decision process. Business Intelligence is therefore mostly used to understand the capacities available in the firm (Tobias Mettler, 2009). The process-centric position identifies the inadequacy in this inherent data-centricity. Since the gathering, transformation, and integration of information and in addition data supply and investigation are usually separated from business process execution, a great piece of the data that intrinsically exists inside an organization either stays unused or is in partially utilized but is deprived of its interpretation context. An organization is viewed as a set of well-coordinated process, Business Intelligence should integrate the data with the process to smoothen the decision making with a comprehensive data.

Business intelligence systems combine data and analytical tools to present complex, competitive, information to decision makers. Business intelligence helps to improve the quality of inputs in the decision-making process. They help users to make decisions faster and better (Ekholm & wallin, 2000; Hansen, otley & van der stede, 2003; Libby & Lindsay, 2010).
Framework of an intelligence might be characterized as "an integrated set of tools, technologies and programmed products that are utilized to gather, integrate, scrutinize and make data accessible". Business Intelligence frameworks are consistently referred to as the successor to "Decision Support System (DSS)" and regularly encourage different sorts of enterprise reporting tool. Business Intelligence changes data into knowledge and has the capacity of "putting the right information under the control of the right user at the perfect time to facilitate the decision-making procedure" (Bonneya, 2013, p.258).

BI is “The process of collection, treatment and diffusion of information that has an objective, the reduction of uncertainty in the making of all strategic decisions”. He describes the Business intelligence as a “business management term used to describe applications and technologies which are used to gather, provide access to analyse data and information about an enterprise, in order to help them make better informed business decisions” (Zeng, 2007, p.472).

![Diagram of Business Intelligence System](image)

**Figure 1: Data Analysis in Business Intelligence System (Tamar Gilad, 1986, p.53)**

The term Business intelligence is relatively new, but the computer-based business intelligence system is appeared already which is closely related to both the business systems (Thomsen, 2003). From the figure 1 it shows the variety of information inputs which provides to take the decisions in business intelligence. The analyst should look over the structured and unstructured which it is connected to the input for the business intelligence which makes decision in the
quick process. In Structured OLAP (On-Line Analytic Processing), DW (Data Warehouse), DM (Data Mining), EIS (Executive Information systems), ERP (Enterprise Requirement planning), DSS (Decision Support System).

To understand the concept in the business intelligence first we need to define the tasks involved in the business intelligence. Every task need organizational solutions but some of which are old organizational such as motivating the employees. BI activities have five tasks they are collecting data, evaluating data, analysis, storage of data, dissemination. These are the activities have raw data which makes the decision makers to take decisions. The input data consist of external environment, the data will be evaluated for the usefulness which it reduces the large amount of materials used for finding process. After that the business intelligence will be spread through the organization (Tamar Gilad, 1986).

1.2. HOW IBM IMPLEMENT BUSINESS INTELLIGENCE BY USING COGNOS ANALYTICS?

IBM Cognos Analytics is a BI platform where they create the reports and dashboards by the governed data which makes the users to do by their own with the freedom manner. The user experience is intended for business experts so they can prepare, create, and visualize the built-in intelligence to guide them (Robles, 2014).

The important features in Cognos Analytics are when they have similar experience which works on the same web or mobile devices, where they can find quickly, analyse, create and share through on and off-line. Working with data should be straightforward and productive but it should not make the restless. By that the people can make the data proficiently.

Cognos Analytics of the data is ready then they intuitive interface let’s all users quickly author content, Dashboard is created for using to drag and drop on mobile device or desktop. In this the visualization, will be recommended automatically. Certain action comes from data to eliminate risk and debate over numbers. Were they control and protect data from one person creating many reports or many person creating single report, they schedule and give alerts (Robles, 2014).

2. METHODS

In this Paper, I have discussed about the Literature review on business intelligence tool also data collected from the secondary sources are used. The paper is explained by understanding what is Business intelligence tool and how BI is implementing in the organization by using the review of literature on Business intelligence, educational institutions using BI software and the main topics related to the importance of information and making decisions. Then I have collected information from analyses paper. The paper is concluded by understanding the main topics of using BI tools using in the self-service analytics.

2.1. BUSINESS INTELLIGENCE IN GAMESYS - CASE STUDY

It was founded by 2001. They fought the competition after five years in 2006 they were named as no.1 in the Sunday times tech track. They mainly focused by developing the online instant win, slots, bingo and casino games. Gamesys is one of the most dynamic online business in UK, they use more innovative approach for adaption of IBM Cognos Business Intelligence. Gamesys applied IBM Cognos Business Intelligence tool to use the capabilities and functionalities to expand their business Nick Hughes, who is the business intelligence manager
in the gamesys has worked with IBM Cognos products for several years. He was completely involved in the implementation and framework development and became the main decision maker for the BI product in the company. Nick also stated that “IBM Cognos BI is an integral part of our business” in which he tells about so many departments are working for adding the value for their efforts were inconceivable for them to work without it. He also tells that people need certain control and the ability to choose to run the reports, which made them really a difference to the way in work.

The solution for this is by allowing flexibility in IBM Cognos BI which makes the service department to do some alternative report on customer correspondence, from which they have work previously. Nick ran the project where he collected information from different sources of data and attached in one report. By tracking the budget in Gamesys from excel driven Nick explained that metrics was run once in every month but now it running in a daily manner which gives more accurate in representation. Now the users get more benefits through graphs, spreadsheets and hard numbers. Gamesys wanted to grow their business by staying competitive with the use of cutting edge technology. BI tool Cognos is used at various departments and also at different levels of international offices. It has help the company with transparent process of calls being opened and progression of documentation (Hughes, 2016).

2.2. ARCHITECTURE OF BI

In most cases, BI application collect data from data warehouse or data marts where it does not require but its common practice. When distinguish the concept between business intelligence and the data warehouse from the Forrester research it defines in two ways: one with broad definition: "Business Intelligence is a set of methodologies, processes, architectures, and technologies that transform raw data into meaningful and useful information used to enable more effective strategic, tactical, and operational insights and decision making" (CindiHowson, 2008, p.407). From this definition, we can understand that technologies involved in business intelligence such as data integration, data quality, data warehousing, master data management, text and content analytics, and many others that the market sometimes lumps into the Information Management segment. Second with narrower definition: “referring to just the top layers of the BI architectural stack such as reporting, analytics and dashboard” (CindiHowson, 2008, p.407).

In BI architecture, there are some set of attributes for maintaining effective BI systems which will be deployed widely around the organizations.

Usability- It is one of important attribute in the BI tool which has to reach the maximum possible audience in the company. Because if the BI tool usage is hard then user-friendly will be tough in business users to use the tool for their purpose.

Interoperability- The BI tool should have the single interface for all functions to navigate from one to other function. Because IT must be able and disable the function based on the groups plays in the company.

Common business review- It is very important that BI should provide a common view of the business to the users in the company about the company data asserts and the applications of the users. To make sure that every user using the same number of data with no difference in calculation.
Agility- Due to the market solutions the strategies should be change with the new ideas for the business growth. It is important that business should adapt with the changes quickly with the business as per new ideas developed in the organisation.

Scalability- Across the global organization the BI tools should scale the position of the users.

Reliability- BI is the core the business with available of 24x7 for the basis with redundancy in the capabilities and services for most of the organizations.

Openness- The tool of the BI should be open because the data should be accessed and should be open for integration with new and existing applications.

Manageability- IT should manage the BI tools with effectively and proactively by avoiding the problems and keeping the system operating effectively.

Existing Infrastructure- Most of the BI applications have to implement a new infrastructure which makes the cost for the solution high. Because of that IT looks aspect very closely to make the cost low by working within the existing environment and by re-usable materials.

Security- Based on the Organization needs every company has its own security. BI solution should work with security so that we can identify that the information in that system is secured or not.

2.3.BI PRODUCTS BENEFITS IN IBM COGNOS

For a complete understanding combine data from any source to explore any views of opportunities, treats and trends. The users will not depend upon the IT, the business users will use the adhoc-reports by their own. It helps us to view and assemble as well as personalize the data easily. Also, helps to identify the opportunities from different types of information from different angles to access the current situation in the business. It helps us to analyse and identify implications and thereby allowing us to more advanced and predictive or what-if analysis. For establishing the decision networks, it collaborates to share the insights and drive towards the collective intelligence. Which provide the transparency and accountability which drive the alignment and consensus. For accessing the information and taking action anywhere they use mobile devices and real-time analytics (Biere, 2010). They integrate the everyday work for business workflow and process.

2.4.BI ARCHITECTURE IN IBM COGNOS

From figure 2 IBM Cognos Business Intelligence provides all business intelligence capabilities in a web browser based user interface. It is the presentation layer that handles user interaction in the web environment. The application layer has purpose- built services to handle BI processing. It acts as a control centre of the Cognos platform which manages all incoming requests. A data layer provides access to any data source or it combination to develop common metadata across them for a common view and to leverage the view to deliver any business intelligence capability to any user (kirankumar, 2012).
3. ANALYSIS AND FINDINGS

Business intelligence is expected for business competency for improving the effectiveness in the decision making. In organization, all workers, executives, and managers can take decision through effective action through business intelligence. It starts with the data and analytical tool which makes the success for the organization. Although IT-based, engineer BI solution characterize initial approaches, more advanced decision making and scenario modelling demand social-science skills. The ultimate aim of the social-science of BI is to take decisions on real time also for future vision scenario modelling which shows the business culture regarding products, operations and customers. From figure 3 I have analysed three approaches which applied in the small-scale industry in the IBM Cognos of BI.

Midsize firms expanding on a BI strategy will find everything they need to get started in a single package which is IBM Cognos Express. This integrated reporting, analysis and planning
solution provides a low-cost, low-risk entry into leading edge BI for business with small IT staffs and limited skills and budgets. There are no hidden costs – IBM Cognos Express includes everything needed to deploy BI out of the box without requiring additional software investments and because it is simple to manage, it saves time and resources while delivering faster time to value. To further lower any upfront capital expenditure, both software and services can be financed through IBM, enabling firms to make BI a reality today (Gartner, 2011).

From the analysed method in an organization the top management is not only getting benefits from the Business intelligence software, but also the employees working under the management also can access the information to make better decisions (Mohamed Z. E., 2008).

<table>
<thead>
<tr>
<th>Author</th>
<th>BI concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, c. J</td>
<td>According to his theory business intelligence is not a new concept in which from the experience gained in the past about information system and the data were stored in applications.</td>
</tr>
<tr>
<td>Zeng, L</td>
<td>He defined Business intelligence as a collection and combine the data and information together to make better decisions in the organization.</td>
</tr>
<tr>
<td>Thomsen, E</td>
<td>The term business intelligence is comparatively new in which the computer-based is appeared already in business intelligence for both business systems.</td>
</tr>
<tr>
<td>Bonneya, W</td>
<td>According to him the business intelligence is integrated into a set of data which changes into knowledge to the user by talking decisions.</td>
</tr>
<tr>
<td>Ekholm, B. G</td>
<td>Business intelligence combine data and analysis tool to make decisions faster and better.</td>
</tr>
</tbody>
</table>

4. DIRECTIONS FOR FUTURE RESEARCH

For the future research our analysis is not without limitations for the literature in BI. It reviews the search for the broader domain for research outlets. The Bi studies should consider as the research gaps for the further research. Moreover, most of the new technologies in our sample addresses and BI issues attempting without the explanation of the fundamental informational system which relate to the Business Intelligence.

For analysts to keep on address questions in BI is important, were future studies needs to utilize a more extensive for research strategies. From the research strategies, how theories are developed by using the triangular method. Due to timeframe, very less triangulation is occurred to conduct the literature review. However, the good news is that most of the categories and research strategies in BI research are open for future research efforts. That is the research analysis has laid the foundation for such efforts which will enhance the information system the body of knowledge and theoretical progression is relative to BI.
5. CONCLUSION

In current world, most of the companies will concentrate on how to improve the business by analysing the data and invest wisely on IT. The BI is the tool which gives the additional success to most of the companies. In IBM Cognos BI is the tool for their success and it provides unified, interactive workspace for the business users to create their view on data by combining all views into single sight to make business decisions. The trends in BI changes drastically but one of the most upcoming trend is mobility which has the ability to use smart phones in the IBM Cognos BI product. Another trend is Business users where they become ownership of BI instead of having IT which makes the company successful in the current era (Kirankumar Gollapudi, july). The landscape of BI in research an industry is getting wider today. Data acquisition is become easier and large data warehouses are becoming common. By implementing BI changes in hardware technology like decreasing the cost in main memory which impacts the architecture of data warehouses. Finally, there is increasing demand for interactive BI experiences for today’s knowledge workers. Thus, BI software has many exiting technical challenges and opportunities ahead to reshape its landscape.

REFERENCE


