THE IMPORTANCE OF BUSINESS INTELLIGENCE

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The objective of this article is to emphasize the impact of Business Intelligence in organizations. CIOs use BI to improve business processes. BI has the potential to transform organizations. Accordingly, BI is a key tool for improving performance and profits at any company and in any industry.

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1. INTRODUCTION

Business intelligence (BI) has found its place in CIO's top priority list for a reason: Information is growing deep. As information grows, the need for organizations to manage it and make it actionable grows as well.Getting that information in a timely manner and to the right people in the right places, throughout an organization is an important means to enterprise success.

2. BUSINESS INTELLIGENCE TRENDS IN THE VISION'S EXPERTS

BI applications include the activities of decision support systems, query and reporting, online analytical processing (OLAP), statistical analysis, data mining and forecasting (D. A. Berta, 2014).
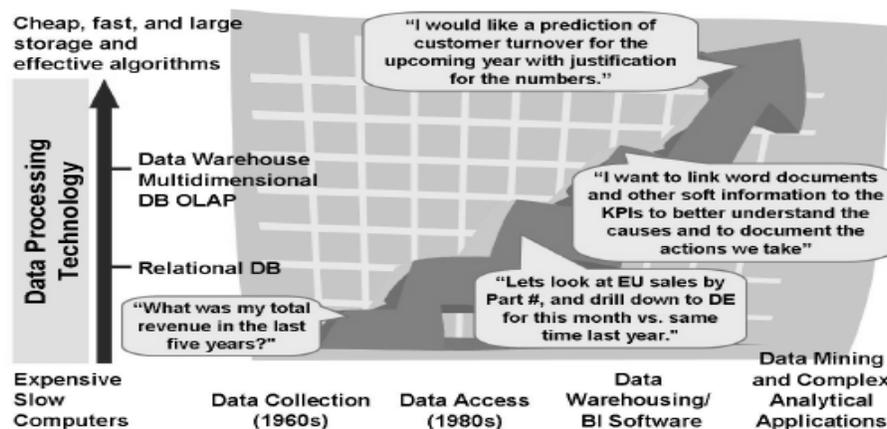

Figura 1. A Historical Perspective of Data Analysis Demands(D. Alexander, 2014)

As seen in the above figure result, information systems need to meet the following requirements requested by decision makers (SAP AG, 2008):

➢ Immediate, single-point access to all relevant information

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- ➢ Coverage of all business processes
- ➢ High quality of information
- ➢ High-quality decision-making support
- ➢ Short implementation time with less resources

For these business requirements, were defined the top business intelligence trends, following worldwide BI experts from this niche industry in 2014. These latest ideas can help to improve and predict some of the further evolution of the industry, in order to optimize daily work activities for are detailed below(R. Drew, 2014).

➢ **Equilibrium between demand and supply**

Elizabeth Hedstrom Henlin, who is part of Technology Business Research (TBR), forecasts that vendors who set to grow in BI software market are aligning portfolios and go-to-market strategies with customers' evolving business intelligence needs. They meet a BI landscape where growth dictates being able to equally serve advanced customers who got on board early and know which niche tools they need to expand current deployments, as well as lagging adopters who know they need to have fundamental BI implementations and don't know where to start.

➢ **Advantages when cracking the Data Code**

Eric Kimberling, managing partner at Panorama Consulting Solutions, continues this theme. He notes that while companies have had roughly 20 years of experience gathering operational and transactional data in their enterprise systems, they need to figure out how to make sense.Also, he believes the real battle in the next year will be over who can see the best way to provide fast answers from the big data they are accumulated.

➢ **Educate the Masse**

Helin, another expert in this technology, declared that is a critical need for vendors to sustain investment around user education. The self-service aspects of BI tools and applications place tools into the hands of business users who do not possess fundamental knowledge bases in how to use them in support of the business. Therefore, education is the key.

➢ **Mobile BI and Cloud BI Services for optimizing activities**

Hiro Yoshikawa, co-founder and CEO of Treasure Data said regarding companies using data in creative ways and harnessing cloud services to roll out big projects quickly, easily and on the cheap, there comes a need to change the way of thinking. This means rapid recognition of successes and failures, scaling up the winners and ditching or revising the losers.

➢ **Developing BI Businesses independently from IT Industry**

Mark Torr, director of the SAS Analytical Platform Center of Excellence, thinks IT needs to get out of the way of the data analysis juggernaut. Instead of saddling it with burdensome storage requirements and traditional IT procurement processes, he thinks the line of business leaders can do better by grabbing the reins.

➢ **Evolution, development and expansion of BI Industry**

David Smith, vice president of Marketing and Community at Revolution Analytics, expects a growing presence for embedded business intelligence this 2014 year. He thinks a significant trend will be adding BI as a feature embedded in other hardware, software and equipment.

➢ **Piloting Cloud BI**

Capgemini's North America lead and Senior Vice President for Business Information Management Scott Schlesinger said the companies are still somewhat hesitant to utilize the cloud for analytics, 2014 will see more organizations choosing to pursue smaller, piloted initiatives in the cloud. This way they can evaluate data on a smaller scale and more quickly respond to demand for actionable insights, rather than going all-in with cloud out of the gate.

Also, Gartner predicted that in 2014, "Business Intelligence and Analytics will remain CIO's top Technology Priority" (Gartner ,2014).

In the period 2013-2018, experts said global BI market will grow with 9.19 percent. This

is due to the fact that the volume of information generated in almost all industries is increasing, but the challenge for the evolution of this market is, for most of CEOs, the high costs of BI applications implementation. Most important key vendors are big companies like SAP AG, IBM Corp., Oracle Corp., SAS Institute Inc., Information Builders Inc., Infor Global Solutions Inc., Microsoft Corp., MicroStrategy Inc., QlikTech Ltd., and Tibco Software Inc. (Spotfire) and the regions they represent are EMEA, Americas, and APAC.These aspects with which the big vendors of the business are handling today was already predicted by Gartner Group in September 1996, when they have affirmed the following:"By 2000, Information Democracy will emerge in forward-thinking enterprises, with Business Intelligence information and applications available broadly to employees, consultants, customers, suppliers, and the public. The key to thriving in a competitive marketplace is staying ahead of the competition. Making sound business decisions based on accurate and current information takes more than intuition. Data analysis, reporting, and query tools can help business users wade through a sea of data to synthesize valuable information from it - today these tools collectively fall into a category called "Business Intelligence"(Gartner ,2014).

3. THE IMPACT BIG DATA ON THE BUSINESS INTELLIGENCE INDUSTRY

Due to the increase rate of information in the past years, and with the impact of the social platforms, the companies are in the position of using this information and in this way can get an advantage in the market, or ignore it and use the traditional BI technologies.

Forbes defines big data like this:The promise of Big Data is the ability to access large volumes of data that can be useful in gaining critical insights from processing repeated or unique patterns of data or behaviors. Another big advantage is that the analysis process required a minimal intervention from the analyst."Big data is a collection of data from traditional and digital sources inside and outside your company that represents a source of ongoing discovery and analysis" (R. Smolan, J. Erwit, 2012). This is a more business approach, more practical and more business oriented than other definitions.

Big data is a mix of unstructured and multi structured data, those types of data are analyzed together to get more knowledge and information to company than could be get using the usual methods and infrastructure.Unstructured data is information that is not organized or easily interpreted by traditional data models or databases, and usually is text-heavy. Good examples are posts from twitter, LinkedIn and other social media services. Multi-structured data is represented by a variety of data formats that came from interaction between peoples and machines, such as web applications and social services. Those includes text and multimedia formats, like photos and videos, with structured data (R. Smolan, J. Erwit, 2012).

Is a process of collecting, analyzing, and executing on insights you've derived from big data to encourage customer engagement, improve marketing results, and measure internal account-ability.

Companies are focused on harnessing new data types and utilizing data to drive customer experience. Social media is driving most text analytics initiatives:

43% of respondents expected to focus budget on "Customer data integration".

44% expected to focus budget on "Social media monitoring software" (R. Smolan, J. Erwit, 2012).

Future focus is on improving online customer experience.

77% of respondents stated "Improving online Customer Experience" as major objective for 2012.

Maybe the most use approach in defining Big Data is the one that was made by Gatner in 2001. According to Gartner Big data is high volume, high velocity, and/or high variety information assets that require new forms of processing to enable enhanced decision making,

insight discovery and process optimization. This approach will be discussed in the next chapter (J. Hurwitz, A. Nugent, Dr. F. Halper, M. Kaufman, 2013).

Many companies are seeing the Big Data concept a must as a tool to collect and extract accurate information about their activities. The most important issue is the costs of infrastructure and of experienced human resources, but in time those things will not be necessary as many big players in the BI market are developing solutions for their customers.

3.1. Big data dimensions

Big Data is different from the others more traditional BI solutions, by the characteristics of its information. Unlike other technologies in big data are used different kind of analyze algorithms that can bind multiple types of information and get more accurate and valuable knowledge about clients, market or science.

The three V's of Gartners definition are:volume, velocity and variety.

Volume: big data is that "Ocean of data" that we talk about in the rows above. It Is represented bay information that can came from every possible sensor, and some even say that we people are also sensors and data gatherers for big data(L. Arthur, 2013).The challenges of having such a big quantity of data is that is very hard to sustain it, to store it, to analyze it and ultimately to use it.

Velocity: is all about the speed of data traveling from one point to another, and the speed of processing it. Sometimes it is crucial for the manager to be able to decide in a very little time on a variety of issues (L. Arthur, 2013).The most important issue is that the resources that analyses data is limited compared to the volume of data, but the requests of information is unlimited and usually information gets through at least one bottleneck.

Variety: the third characteristic is represented by the types of data that are stored. Because there are many types of sensors and sources, the data that came from them is vary very much in size and type. It is very complicated to analyze text, images and sounds in the same context and get a result that can be relied on.And then is the issue of dark data, data that sits in the organization and is unused and also is not free. There are one new dimension that were added to the existing ones: Veracity.

Veracity: is the hardest thing to achieve with big data, because due to the Volume of information and the variety of its type   is hard to identify the useful and accurate data form the "dirty data". The biggest problem is that the "dirty data" can lead very easy to an avalanche of errors, incorrect results and can affect the Velocity attribute of Big Data. The main purpose of the Big Data can be corrupted and all the information can lead to a useless and very expensive Big Data environment if there is not a good cleaning team.The Veracity attribute is in itself also an objective for the Big Data developers. If the data cannot be accurate, is redundant or is unreliable, the whole company can have a big problem, especial the companies that use big data to sell information like the marketing ones, or theones that make market studies.

Variety is the dimension that is making all the difference, the possibility of using different and often not related types of data a getting an accurate and valuable result is amazing, and offers endless analytic possibilities.
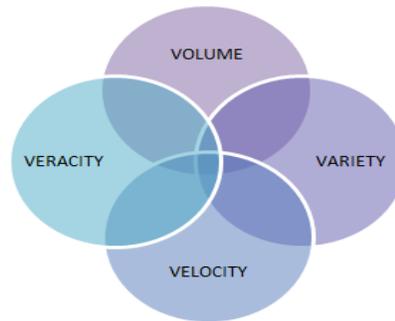
Figura 2. Big data four V's

3.3 Future of Big Data

Clearly Big Data is in its beginnings, and is much more to be discovered. Now is for the most companies just a cool keyword, because it has a great potential and not many truly know what all is about.

A clear sign that there is more to big data then is currently shown on the market, is that the big software companies do not have, or do not present there Big Data solutions, and those that have like Google, does not use it in ca commercial way.

The companies need to decide what kind of strategy use to implement Big Data. They could use a more revolutionary approach and move all the data to the new Big Data environment, and all the reporting, modelling and interrogation will be executed using the new business intelligence based on Big Data (Dr. A. Sathi, 2012).

This approach is already used by many analytics driven organizations that puts all the data on the Hadoop environment and build business intelligence solutions on top of it.

Another approach is the evolutionary approach, Big Data becomes an input to the current BI platform. The data is accumulated and analysed using structured and unstructured tools, and the results are sent to the data warehouse. Standard modelling and reporting tools now have access to social media sentiments, usage records, and other processed Big Data items (Dr. A. Sathi, 2012). One of the issues of the evolutionary approach is that even if it gets most of the capabilities of the Big Data environment, but also gets most of the problems of the classic Business intelligence solution, and in some cases can create a bottleneck between information that came from the Big Data and the power to analyse of the traditional BI or data warehouse solution.

4. CONCLUSIONS

Due to the improvements and the way Business Intelligence is implemented, this technology has the potential totransform organizations. CIOs who use BI to improve business processes contribute to their organizations infast ways than by implementing basic reporting tools.The BI has demonstrated the ability to improve profits. This profit impact of Business Intelligence gets a successful value to business.

As illustrated above, one of the main important features of business intelligence is that this type of applications allow us to manage revenue delivery and reduce costs. Also, the importance of Business Intelligence is when the customer has direct access to their data and get important reports with business dashboards, they are really grateful (A. Fereydoon, A. M. Mohammad, 2012).

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