

THE CONCEPT OF BUSINESS INTELLIGENCE

JAWAD AHMED.K

Aligarh Muslim University

ABSTRACT

BI (Business Intelligence) is a way to derive insights usable practically from your data, find out what happened and, therefore, analyze why it happened. These insights can be used to track or modify the progress of your business. When you understand the 'why', it becomes easy to identify the factors in the business that favour its growth or make it retreat.

Keywords: *Business, IT, intelligence, Technology, Future*

I. INTRODUCTION

The BI tools and technology give you the ability to quickly collect, organize and analyze data. At that point, it is possible to reapply the insights acquired to the business and drastically improve the results. It is the term used to indicate the set of business processes aimed at collecting and analyzing strategic data and information; it is, therefore, part of the corporate information system, which in turn can be defined as the set of activities, processes, technological resources (hardware and software) and the people involved in information management. Business Intelligence is a set of processes, applications and technologies for the collection, integration, analysis and visualization of data and information present in the company. We can imagine it as an evolved digital map in the hands of decision-makers to guide their decisions and strategies in a timely and effective way, a sort of advanced navigation map for those who today run a company. They are therefore powerful tools for descriptive analysis and mapping of the state of the art of business processes and for this reason BI is often associated with DSS systems (Decision Support Systems). Furthermore, the branches of Data Science and Business Intelligence are interconnected, since the first represents a fundamental block for the second, and allows you to extract value from data through BI analysis reports (in this sense, therefore, Data Science is at the service of BI and not a synonym of it, as we are often mistakenly led to think). BI systems allow you to acquire greater awareness and control of the problems present in the company or of any areas of enhancement. This quantitative analysis and data processing tools and processes provide effective guidance to decision-makers in defining their strategies, therefore based on numerical evidence to guide intuitions. Using this data-driven approach, it is, therefore, possible to identify the way to reach the goal in a timely and targeted way, thanks to the constant measurement of performance that allows at the same time to optimize existing processes and save resources. In essence, all those who are called to make decisions within companies can take a big advantage of the strategic value of Business Intelligence, acquiring a clear and detailed view of the operational status of the company and capillary control of internal processes. The performance monitoring dashboards and BI platforms for processing and displaying data, even those without technical skills can read and interpret the insights quickly, in detail and effectively. The aim is to transform the data and information collected into "knowledge". The corporate IT system today has a more important role than ever derived from the evolution of the economy and business models as well as the emergence of globalization that has made the amount of data to be analyzed increase exponentially. The presence of many competitors, the need to act in ever shorter times and with increasingly narrow economic margins has led to a good IT system within the company management [1-7].

The BI system therefore basically consists of:

- Data collection of the company's assets;
- Cleaning and validation of this data;

- Data processing and analysis;
- Use of this data in business decisions.

In BI, the first 3 steps of collection, cleaning and data processing are obviously carried out automatically; it would indeed be unthinkable to do it manually, let's think for example of all the movements of current accounts that occur in one day in one bank!

II. THE AREAS OF APPLICATION OF BI

They are different and include practically all sectors, both economic, industrial, commercial, large-scale distribution, but also banks, insurance companies, the pharmaceutical sector, the food sector etc. In reality, there is no definitive answer to decree the best solution for strategic business analysis. Very briefly we can say that BI was born with the aim of collecting large volumes of data and processing them in such a way that they are able to provide a general vision of the company and that at the same time form the basis for predicting possible future conditions. In fact, BI analyzes also include data relating to elements external to the company, such as sector or market data; therefore we can say that BI does not focus on a specific part of the company business but analyzes it as a whole. While CRM, as we have already seen, is more focused on customers, sales and marketing and aims to create and maintain better relationships with customers. Let's say that the former has a more comprehensive view while the latter more specific of the corporate environment, the former has the ability to process data from multiple sources, while most CRMs can only access data stored in the connected database. So the choice between the two tools depends a lot on the needs and objectives that the company has set itself. If there is a need to establish or better to strengthen the relationship and customer satisfaction then the best solution is undoubtedly the CRM; if, on the other hand, we need a complete and more general analysis of our company, also in relation to external elements such as the market or competitors, then what you need is a rather expert analyst who can better manage the BI tool. The types of business data that can be analyzed and processed by BI systems are potentially infinite. However, it is necessary that they are structured data as much as possible, in order to be able to organize correct and effective quantitative displays and processing [6-10].

III. BUSINESS INTELLIGENCE FOR DECISION MAKING

There are more and more companies that need to know their data thoroughly to extract information and develop effective strategies based on it. There are just as many reports attesting that this phenomenon is rapidly expanding: one of all the "2018 Global State of Enterprise Analytics" 1, by Microstrategy Inc., which says that about 57% of the main companies in the world are using big data and data analytics to accelerate its digital transformation and performance, but this percentage is increasing and is expected to grow further in the coming years. Downstream of the 7 new EU guidelines on the use and ethical development of Artificial Intelligence, which sanction the fundamental and essential role of man in controlling these new technologies, only companies that will be able to analyze and use these massive quantities of data in a coherent, aware and effective way will be able to survive the change and growing competition, taking advantage of the winning market, therefore only those that will adopt Business Intelligence (BI) systems and will be able to govern them in the best way to bring new information, visions and new knowledge in the company [11-15].

IV. FUTURE PROSPECTS FOR BI

The future of Business Intelligence will be strongly governed by the technological advancement of Industry 4.0 and by the growing availability and interconnection of data within companies: for this reason, BI will become an increasingly "intelligent" and evolved service. On the one hand, it will be possible to take advantage of more data and more sophisticated techniques to extract data from previously inaccessible sources (for example through the processing of natural language, Natural Language Processing) and on the other it will be possible to create increasingly advanced information reports, thanks to the use of artificial intelligence models and techniques for the processing of insights from company databases (as in the case of the forecast model built on management databases) [15-17].

V. BUSINESS INTELLIGENCE IN ENERGY WAY

In Energy Way we use BI as the first functional step to the advanced study of processes: through descriptive algorithms, we analyze the relationships between the variables that characterize the specific processes

under examination - strong and weak correlations - arriving to define their behaviours using special mathematical models. Based on this first descriptive we then develop Artificial Intelligence models, or predictive algorithms capable of anticipating the future behaviour of the phenomenon, and prescriptive algorithms, on the basis of which to define and effectively guide future strategies and optimization plans.

VI. THE CORPORATE IT THAT MAKES YOU COMPETITIVE

Why is Business Intelligence so valuable? Excellent question. The analysis of big data not only allows you to have the past and present of performance at hand but with a focus also on critical issues but also to predict the future. Do you know what this means? Thanks to the business intelligence tools you can enrich your strategies by knowing some of the possible results. By playing in advance and having concrete predictions in your hands, based on structured reports, you will not only help your company, but you will also have all the cards to beat the competition [18].

VII. BIG DATA ANALYTICS: THE BUSINESS ORACLE

But how does business intelligence give you this oracular power? The predictive analysis takes place thanks to the use of so-called big data. Big data are voluminous, fast and varied: three "v" to indicate the revolution they have brought in the business. Clearly, big data are catalogued thanks to specific software, which allow you to have a 360-degree overview. Many companies decide to keep the data in special warehouses that take the name of Data Warehouse. These "containers" collect and store all information, both internal and external to the company, but above all coded in a uniform way, so as to always have it available when there is a need for strategic analysis. The Data Warehouse is, therefore, one of the tools used by Business Intelligence, which has the task of analyzing this data and of obtaining fundamental information to be fed to companies to improve performance, reveal critical points and foresee some future scenarios: think only of all emails, sales and social network data. A manager can make valuable use of all this data to speed up and improve decision-making processes, make operational efficiency significantly higher, but also control the market trend and take advantage of it thanks to authentic KPIs. A traditional market analysis is no longer able to grasp a thousand nuances of the fluid reality in which we live: it is time to look to the future, with an analytical look. Or rather, analytics [17-20].

VIII. CONCLUSION

Business Intelligence (BI) refers to the use of tools and the application of strategies aimed at transforming information into knowledge with the aim of improving the decision-making process within a company. Information is everything that is obtained from market investigations, competitors, customers, suppliers and even from its employees. The data collected on internal production as well as a report on a new sector in which the company can invest are both Business Intelligence. So it is the combination of internal and external information that a company collects to be analyzed and processed in such a way as to become understandable to anyone. Of course, the information collected must be safe and reliable for this reason it is important to assign this role to real professionals in the matter. The challenge is to arrive at fast and easy-to-use solutions even for those who are not technicians. We must know that in recent years the use of BI has grown exponentially since data sources are multiplying: the Internet, social networks, IoT devices, mobile applications and much more. Business Intelligence tools continue to increase their power, becoming increasingly sophisticated and capable of interpreting an infinite number of data and sources, helping companies to draw the right conclusions.

IX. REFERENCE

1. S.Chen, T. L.Chim, Z.Li, B.Yan, H.Wijaya and S. Nepal, PBCP: A Process-based Bussiness Collaboration Platform. *Proceedings of the 18th International Conference on Enterprise Information Systems*. doi:10.5220/0005834305750582(2016).
2. V.D. Soni, Importance and Strategic Planning of Team Management International Journal of Innovative Research in Technology | July 2020 | Volume: 7 | Issue: 2 | PageNo: 47–50, Available at SSRN: <https://ssrn.com/abstract=3638886>(June 1, 2020).
3. M. R. Hafiz, Bussiness Notation. doi:10.31219/osf.io/zs34r(2019).

4. I. Strutyńska, Digital Platform For Determination And Monitoring Of The Digital Transformation Business Structure. *The Economic Discourse*, (4), 132-142. doi:10.36742/2410-0919-2019-4-14(2019).
5. K. W. Juniarta, Business Process Management Initiative. doi:10.31219/osf.io/u68r5(2019).
6. Hult International Business School: Sergison Bates Architects. (2015). *Palimpsesto*. doi:10.5821/palimpsesto.14.4719
7. Business award. *Electronics and Power*, 30(6), 431. doi:10.1049/ep.1984.0220(1984).
8. Z.Czako, G.Sebestyen and A.Hangan, Evaluation Platform for Artificial Intelligence Algorithms. *Proceedings of the 10th International Joint Conference on Computational Intelligence*. doi:10.5220/0006888900390046(2018).
9. V.D. Soni. Role of Artificial Intelligence in Combating Cyber Threats in Banking Vishal Dineshkumar Soni, "ROLE OF ARTIFICIAL INTELLIGENCE IN COMBATING CYBER THREATS IN BANKING", IEJRD - International Multidisciplinary Journal, vol. 4, no. 1, p. 7, Jan. 2019., Available at SSRN: <https://ssrn.com/abstract=3654422>(January 13, 2019).
10. Z.Czako, G.Sebestyen and A. Hangan, Evaluation Platform for Artificial Intelligence Algorithms. *Proceedings of the 10th International Joint Conference on Computational Intelligence*. doi:10.5220/0006888900390046(2018).
11. Business and Personal. *Scientific American*, 42(2), 27-27. doi:10.1038/scientificamerican01101880-27(1880).
12. Business and Personal. *Scientific American*, 23(8), 122-122. doi:10.1038/scientificamerican08201870-122(1870).
13. M.Keniger and D. Walker, (n.d.). Developing a Quality Culture— Project Alliancing Versus Business-as-Usual. *Procurement Strategies*, 1-32. doi:10.1002/9780470690635.ch8
14. A. Nabila, Evaluasi tata kelola sistem informasi Business intelligence pada pt. Sosro Bandar Lampung. doi:10.31219/osf.io/kqrsz(2019).
15. Y. Tsyarkin, Rutgaizer V. M. Assessing the Value of Business. *Voprosy Ekonomiki*, (9), 150-152. doi:10.32609/0042-8736-2007-9-150-152(2007).
16. V.D. Soni, Emerging Roles of Artificial Intelligence in Ecommerce 2020. *International Journal of Trend in Scientific Research and Development*, Volume 4, Issue 5, , 223-225, Available at SSRN: <https://ssrn.com/abstract=3648698>(August 2020).
17. S. Hartatik, Optimization Entrepreneurship Learning Through Contextual Teaching And Learning (CTL) Approach among High School Business Student. doi:10.31227/osf.io/un328(2019).
18. Overview of Microsoft's Business Intelligence Platform. (n.d.). *Pro PerformancePoint Server 2007*, 17-32. doi:10.1007/978-1-4302-0588-3_2
19. J.Wang, X.Hua and X. Zeng, Spectral-Based SPD Matrix Representation for Signal Detection Using a Deep Neutral Network. *Entropy*, 22(5), 585. doi:10.3390/e22050585(2020).
20. L.Yao, H.Liu, Y.Liu, X.Li and M. W. Anwar, Biomedical Named Entity Recognition based on Deep Neutral Network. *International Journal of Hybrid Information Technology*, 8(8), 279-288. doi:10.14257/ijhit.2015.8.8.29(2015).