
The implementation of business intelligence in Algerian institutions.

The implementation of business intelligence in Algerian institutions

- Assistant professor : **BOUKLIA MOHAMED**
the Faculty of Economics and Commercial Sciences
and Science management - Algiers University³

Abstract

This paper seeks to explore the tools and methodologies used by Algerian institutions to implement Business Intelligence and build it . The process begins with the researching and development of an IT strategy with learns from the past and forecast the future, many companies are adopting Business Intelligence (BI) tools and systems with international method. Companies have understood the importance of enforcing achievements of the goals defined by their business strategies through business intelligence concepts. It describes the insights on the role and requirement of real time BI by examining the business needs. The paper explores the concepts of BI, its components, emergence of BI, benefits of BI, factors influencing BI, practice with companies Algerian, used technology requirements, designing and implementing business intelligence in companies, and various BI techniques.

Key word: business intelligence (BI) , future business intelligence , reason business intelligence Practice of business intelligence

Résumé

Ce document examine les outils et les méthodes utilisées pour construire l'intelligence économique. Le processus commence par la recherche et le développement d'une stratégie informatique à apprendre du passé et de prévoir l'avenir, de nombreuses entreprises adoptent de l'intelligence économique des outils et des systèmes avec la méthode internationale. Les entreprises ont compris l'importance de l'application de réalisations des objectifs définis par leurs stratégies d'affaires grâce à des concepts de l'intelligence économique . Il décrit les connaissances sur le rôle et l'exigence de temps réel l'intelligence économique en examinant les besoins de l'entreprise. Le document explore les

The implementation of business intelligence in Algerian institutions.

concepts de la l'intelligence économique , ses composants, l'émergence de la l'intelligence économique , les prestations de l'intelligence économique , les facteurs qui influencent l'intelligence économique , la pratique avec des entreprises algériennes, les exigences technologiques utilisés, la conception et la mise en œuvre de l'intelligence économique dans les entreprises, et différentes techniques de l'intelligence économique .

Mots-clés: l'intelligence économique , futur l'intelligence économique , la raison l'intelligence économique,Pratique de l'intelligence économique.

Introduction

Popularized in recent years, the term of Business Intelligence(BI) in academia and media specialist in the economic and the strategic studies after that will be come all fields overlapping each other in this term has emerged in developed countries and has achieved notable successes in all fields, hitting many countries in the application of this term.

However, in most of the Arab countries have not been able to keep speed with these developments and the economic integration of intelligence within their economic and scientific.

Which indicates the adoption of the Arab countries on the applications successes spared in Western countries and try to apply in the countries of the Third World , Algeria is like of these countries seeking Today, more than every time of the current challenges and existing conflicts and to work on the advancement of the national economy to work in the embodiment of business intelligence on the ground and more clearly and optimal application of this model that has emerged successes in countries very much like that in France , Japan , the United States and other countries , which have succeeded in the application of this model in the much sectors.

The term business intelligence has emerged as a result of the emergence of the Knowledge of the Economy, which is regarded as the main engine of economic growth depends on the availability of information, technologies of the communication, use of innovation, education and development that is the term recently in Arabic they have many names for example : business intelligence or

The implementation of business intelligence in Algerian institutions.

strategic intelligence , in the French language is called term “ intelligence économique” .

Through the above will try to put the problematic with main question :

What is the reality of use and implement business intelligence models in Algeria institutions ?

For discussion this paper you organized as following: Section (1) discuss Business intelligence concept . Section (2) reason and stage of business intelligence. Section (3) future of business of intelligence. Section (4) business intelligence models in the world (French and the U.S). Section (5) Practical business intelligence in Algeria institutions . Section (6) Conclusion and Recommendations for business intelligence in Algeria instutions .

I. Business Intelligence Concept

In fact, there are many definitions of the term for businesses intelligence . This idea was the subject of many discussions of that concepts have emerged in the past have difficulty in formulating a comprehensive definition of what we will try in this side to give a historical about the businesses intelligence and after that I will give a definition of this The term .

Firstly : I will try to discuss this aspect historical stages of businesses intelligence¹ :

- In 1950, **Japan** developed a system based on businesses intelligence, the Ministry of International Trade Industry (MITI) and the Japan External Trade Organization (JITRO) to revive the economy.
- Used businesses intelligence in an article in 1958 by **HUNS PETER LUHN** researcher by **IBM** and who knew him, "the ability to understand the link between the events, for the guidance of the required actions towards achieving the goals.
- In 1980 with the globalization of markets and the tremendous development in the field of information technology in the United States has taken steps to support the regulatory work of international institutions

¹ Planning Commission, Marten Report. Business intelligence and corporate strategy, Paris, The French Documentation, 1994. Pp 65 .

The implementation of business intelligence in Algerian institutions.

with **Mikel Porter**, professor at Harvard University, played a major role in the evolution of the concept of business intelligence.

- In the 1990 was the beginning appearance in France.
- **Marthe** in the 1994 publication of a report entitled "**l'intelligence économique et stratégie des entreprise**".
- In the 2002 with **Minefi** combine the concept of defense within the economic concept of business intelligence.

Secondly : will be explaining a definition from different views of business intelligence:

The concept of Business Intelligence (BI) is brought up by **Gartner Group** since 1996. It is defined as the application of a set of methodologies and technologies, such as, Web Services, data warehouse, , Data Mining, representation technologies, etc, to improve enterprise operation effectiveness, support management/decision to achieve competitive advantages.²

- **Stackowiak et al.** define Business intelligence as the process of taking large amounts of data, analyzing that data, and presenting a high-level set of reports that condense the essence of that data into the basis of business actions, enabling management to make fundamental daily business decisions.³
- **Cuiet al** view BI as way and method of improving business performance by providing powerful assists for executive decision maker to enable them to have actionable information at hand. BI tools are seen as technology that enables the efficiency of business operation by providing an increased value to the enterprise information and hence the way this information is utilized.⁴
- **Tvrđíková** describes the basic characteristic for BI tool is that it is ability to collect data from heterogeneous source, to possess advance analytical methods, and the ability to support multi users demands.⁵

² - JAYANTHI RANJAN (2009) , « BUSINESS INTELLIGENCE: CONCEPTS, COMPONENTS, TECHNIQUES AND BENEFITS » , Journal of Theoretical and Applied Information Technology. Pp 61

³ Gartner.com. (February, 2013). Gartner Says Worldwide Business Intelligence Software Revenue to Grow 7 Percent in 2013. Gartner.com. Available: <http://www.gartner.com/newsroom/id/2340216> Pp 56- 98 .

⁴ same reference

⁵ same reference

The implementation of business intelligence in Algerian institutions.

- **Cody** describes of BI systems combine data gathering, data storage, and knowledge management with analytical tools to present complex internal and competitive information to planners and decision makers.⁶

Through the above definition we get to a comprehensive definition : The process is carried out by the organization collects information on competitors and the competitive environment, for use in decision-making and planning processes in order to adjust the activities to improve performance . Business Intelligence by today is never a new technology instead of an integrated solution for companies, within which the business requirement is definitely the key factor that drives technology innovation. How to identify and creatively address key business issues is therefore always the major challenge of a BI application to achieve real business impact.

II. Business Intelligence Reason and Stage

In this section we will talk about reason BI in organization as first part with explanation of that, in the second part will explain stages of BI in organization.

Firstly: Reason Business Intelligence :

Business Intelligence enables organizations to make well informed business decisions and thus can be the source of competitive advantages.

This is especially true when firms are able to extrapolate information from indicators in the external environment and make accurate forecasts about future trends or economic conditions. Once business intelligence is Gathered effectively and used proactively then the firms can make decisions that benefit the firms⁷.

The ultimate objective of business intelligence is to improve the timeliness and quality of information. Timely and good quality information is like having a

⁶ Cody, W.F. et al. (2002) "The Integration of Business Intelligence and Knowledge Management", IBM Systems Journal, (41)4, pp. 698.

⁷ Adelman Sid , Moss Larissa and Barbusinski Les. (2002) "I found several definitions of BI", DM Review. Retrieved 17 August 2002 from http://www.dmreview.com /article_sub.cfm?articleId=5700

The implementation of business intelligence in Algerian institutions.

crystal ball that can give an indication of what's the best course to take. Business intelligence reveals⁸:

- The position of the firm as in comparison to its competitors .
- Changes in customer behavior and spending patterns .
- The capabilities of the firm .
- Market conditions, future trends, demographic and economic .
- The social, regulatory, and political environment.
- What the other firms in the market are doing.

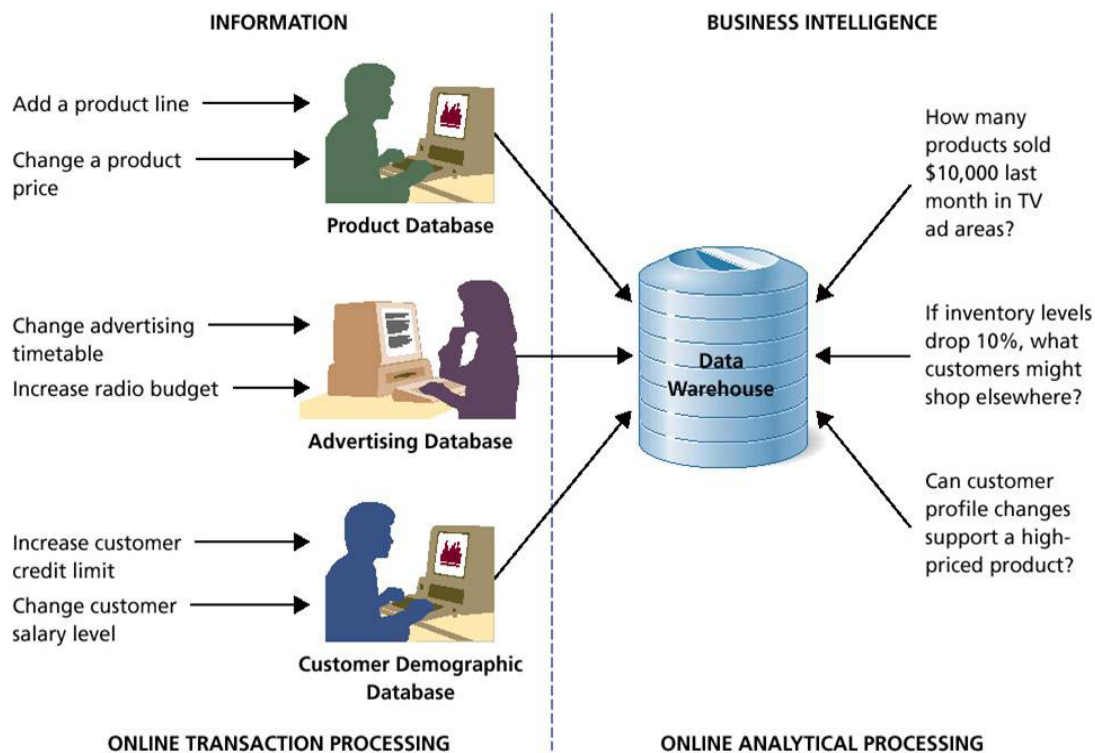


Fig 1. A reason for understanding of BI⁹

you see in this figure (01) there three types of information : product , advertising , customer demographic database after that there are collect all information of database of the data warehouse you can find all information , BI applications can be:

⁸ Gibbons P.T & Prescott John E, competitive intelligence processing organisations, Journal of Technology Management, vol 11, n° 1, 1996.Pp 115

⁹ http://exonous.typepad.com/mis/business_intelligence.jpg consulte 6/04/2014

The implementation of business intelligence in Algerian institutions.

- mission-critical and integral to an enterprise's operations or occasional to meet a special requirement
 - enterprise-wide or local to one division, department, or project
 - centrally initiated or driven by user demand
- Defined in many different ways, but not rigorously ¹⁰.
- A decision support database that is maintained separately from the organization's operational database
 - A consistent database source that bring together information from multiple sources for decision support queries
 - Support information processing by providing a solid platform of consolidated, historical data for analysis

Secondly: Stages of economic intelligence:

The first phase of the activity of Business Intelligence is to determine the need for information, the information acquisition, processing, transmission, and used. They can show the most important stages of business intelligence with four steps¹¹ :

1- Determine the need for information : They are depending on two questions :

- What is the information that we want to get it?
- And how can get that information?

2 - collection of information :

Once you determine the need for information, forms are chosen to search for this information, as follows mention the most important sources of information¹²:

- **Official sources:** are principally contains:

- The press; Books; the media; Sources of official information.

- **unofficial sources:**

The most important characteristic of these sources that the information provided by the personal effort required of an individual who wants to collect the information, you should keep in touch, to move, time is wasted Etc. Until he gets it, these varied sources, including the following:

¹⁰ JAYANTHI RANJAN (2009) , « BUSINESS INTELLIGENCE: CONCEPTS, COMPONENTS, TECHNIQUES AND BENEFITS » , Journal of Theoretical and Applied Information Technology. Pp 68

¹¹ Pirttimäki V & Hannula M, Business intelligence suomalaisissa suuryrityksissä, 2002, Business Research Center, Tampere (cité dans Vilma Vuori, the employees as a source of external business information, scientific proceedings, European Productivity Conference, Finland, 30 august- 1 september 2006.Pp 65

¹² Miller J.P, information science and competitive intelligence: possible collaborators, Bulletin of American Society for Information Science and Technology, vol 3, Issue 1, 1996.Pp 56

The implementation of business intelligence in Algerian institutions.

- Competitors; Suppliers; Missions and travels the study; Exhibitions; Student interns; Internal sources .

3- The processing of information:

The processing of information is the basis of business intelligence; this procedure is mainly based on the value of the information for the user. Treatment and means to collect all the data obtained for analysis smoothly. With translate the information is considered a key step to perform the treatment. It gives a picture of analytical, rich in all the information that are always hidden in the lines of the documents.

We know that members of the organization are facing today is not lack of information but plentiful and so must be dealt with information, what requires the following operations:

- Evaluation; Sort useful; analysis; converted to a format suitable.

4- Information for decision-making :

The next step for the previous three steps is to give value for this information is broadcast within the organization even contribute to creating value.

All previous operations, identify, processing of information, be without interest, as it is not broadcast this information and the delivery for decision-makers of the organization. Information not only is of value if a timely manner and to be, for the person who used that¹³.

Costing a lot of information, so it must be provided for those who need them in order to use it.

III. Future of Business Intelligence

In this rapidly changing world consumers are now demanding quicker more efficient service from businesses. To stay competitive companies must meet or exceed the expectations of consumers. Companies will have to rely more heavily on their business intelligence systems to stay ahead of trends and future events.

Business intelligence users are beginning to demand Real time Business Intelligence or near real time analysis relating to their business, particularly in frontline operations. They will come to expect up to date and fresh information in the same fashion

¹³ Michael Maccoby, successful leaders employ strategic Intelligence, Research Technology Management, Vol 44, n° 3, may-june, 2001. Pp 13

as they monitor stock quotes online. Monthly and even weekly analysis will not suffice. In the not too distant future companies will become dependent on real time business information in much the same fashion as people come to expect to get information on the internet in just one or two clicks¹⁴.

Also in the near future business information will become more democratized where end users from throughout the organization will be able to view information on their particular segment to see how it's performing.

So, in the future, the capability requirements of business intelligence will increase in the same way that consumer expectations increase. It is therefore imperative that companies increase at the same pace or even faster to stay competitive¹⁵.

IV. Business Intelligence Models In The World:

This forms a system to collect information on the level of countries or companies and between models known leader in this field we mention the most important:

1- American system :

He knew the American scene in the field of business intelligence a major shift in the nineties of the previous century, according to many of the international changes, including the size of the economic development achieved by both Japan and Europe as the main competitors to the United States. And, for example, and the company faced "**the Boeing**" stiff competition from the American side, "the Airbus," the U.S. Department of Aviation and Space (**NASA**) by the station "Arianne" of space.

It includes these drivers, many types of information sources, brokers, universities, research bodies and think, libraries, private security agencies. The primary objective of the process of business intelligence in the United States is to support and influence the work of lobbyists to achieve the objectives of the public interest at home and abroad¹⁶....

¹⁴ Glynn Marie Ann, innovative genius : a framework for relating individual and organizational intelligence to innovation, Academy of Management Review , vol 21, n° 4 , 1996.Pp 130

¹⁵ JAYANTHI RANJAN (2009) , « BUSINESS INTELLIGENCE: CONCEPTS, COMPONENTS, TECHNIQUES AND BENEFITS » , Journal of Theoretical and Applied Information Technology. Pp 63

¹⁶ Tyson Kirk, the complete guide to competitive intelligence, 2nd edition, Chicago, IL: Leading Edge Publications, 2002.Pp 69

The implementation of business intelligence in Algerian institutions.

In addition, the share of all bodies and institutions in the preparation of the national strategic priority for the country, and planning to implementation, according to the mechanisms of action of the Court of precision¹⁷.

Report noted **MARTRE** , business intelligence in America is based on the ability of large organizations to manage global networks of information with addition to a set of (lobbying) market presence of competent professionals in the business intelligence and collective pressure .¹⁸

Federal agencies that produce technical and business information. Characterized companies and business intelligence and the huge size of America extends to all parts of the world, used the energies and immense human. For example, Foundation and Kroll International, which employs between 5000-6000 employee distributors to 60 offices around the world, and achieved a turnover of an estimated 10 billion dollars annually? This institution is working on an analysis of the risk of economic and trade on the basis of the following six factors: queries, and business investigations, professional background check, security and protection services, security of information networks, judicial assistance and the strategic and competitive analysis.

2. French system :

The French system is characterized by the presence of a strong role for the government in the field of business intelligence as well as public institutions and the major public initiatives in France to overcome all that is special¹⁹.

How insisted **Martre** report on economic intelligence to support education, which provided an opportunity for some graduate schools of business in France to offer lessons in economic intelligence along the lines of a group of Higher Commercial Studies (HEC).

And what draws attention is the adoption of the idea of supporting a regional economic intelligence to ensure the best intervention for local communities (administrative departments and municipalities) and for the benefit of small and large organizations that are active in these regions. And the objective is to transform the skills of intelligence economic institutions in these institutions and

¹⁷ Simon Herbert A, the new science of management decision, Editions Harper & Row, 1960.Pp45

¹⁸ Report Martre, opcit, 38-43.

¹⁹ International seminar on business intelligence, SAFEX, Algiers, December, Algeria, 2008.

The implementation of business intelligence in Algerian institutions.

help them overcome obstacles to improve the production and support the competitiveness and export²⁰.

V. The Reality Of use the application of Business Intelligence In Algeria:

All countries are actively interested in research and development and allocate budgets for it, saying through the Ministry of Higher Education and Scientific Research, with various research centers concerned with technological development.

The weakness of the integration between the sectors of industry and scientific research which witnessed the Arab world in general and Algeria in particular of the most important impediments to development that must challenge them we find scientific procedures for redress²¹.

Other factors have contributed to the extent of the delay in granting technological as reduced students to study abroad , especially in countries of Europe from year to year , as well as declining European grants destined for foreign students . And the emergence of a crisis in the education and training systems and their inability to reproduce competencies in the fields of science and technology. As the field of information and communication technologies have not known a remarkable development despite regarded as a criterion for determining the competitiveness at the international level²².

The imperative given the circumstances have led the government to issue a number of executive decrees in order to identify the tasks and goals, and including²³ .:

Executive Order 99-243, dated October 11, 1999 to specify the organization and management of branch offices for scientific research and technological development.

²⁰ Report Martre, opcit, 38-43

²¹ International seminar on economic intelligence, SAFEX, Algiers, December, Algeria, 2008.pp2

²² Saddik Solbi, assessment ensures Morocco, day of business intelligence for strategic corporate governance, National School of Computer Science and Systems Analysis "ENSIAS", Rabat, March 3, 2010.Pp56

²³ <http://www.joradp.dz/HAR/Index.htm> 05/06/2014

The implementation of business intelligence in Algerian institutions.

- Executive Order 99-256, dated October 31, 1999, which defines the rules and regulation Created management research laboratories.
- Executive Order 99-257, dated November 16, 1999, which defines the rules Created, organizing and managing the institution of public character Commoner technology.
- Executive Order 99-258, dated November 16, 1999, which defines the modalities for the exercise of financial control institutions of higher nature, and professional, and the institution of public character of scientific and technological, and various and research units.
- In addition, the fund has been established for scientific research and technological development has been allocated annually the amount of five billion Algerian dinars (about 71 million U.S. dollars), the management of private laboratories and centers and research units of the various.

System Components of business intelligence

We find that it consists of a set of centers and bodies, which can be divided and classified as follows²⁴:

1- Statistical Information System :

Where is the core by which the embodiment of the national system of economic information, this system is a "group of the collection, processing, storage and dissemination of information related to a particular area, which is considered as a tool for decision-making", these operations take digital format of the information collected or published, and the most prominent representative bodies for this system²⁵:

- centers National Bureau of Statistics;
- sub-centers of the National Center for Statistics ;
- central banks;
- specialized centers civil (private);

2- Accounting information system:

This means the system is basically information on financial activity during the session, which comes out how much information can be collected, analyzed and stored, and there are published, so for those interested in its utilization. The

²⁴ Hisham elephant, a draft outline for a regional economic intelligence in Tunisia, Forum March 22, 2012, House, addressing CEPEX Tunisia.

²⁵ CHAPPELLIER, P.; MOHAMMED, A. (2010): "The Syrian SMEs accounting information system: Complexity and compelling", paper presented at the 10th International Francophone congress in Entrepreneurship and SME, Bordeaux, France.

The implementation of business intelligence in Algerian institutions.

system of national accounting essence of this system, which is a "tool for observation and analysis of economic life at the same time, aims to find out the total economic channels and its connections, and allows stifling and recording all operations of an economic nature that took place during a certain time period in a particular country, it all in the framework of a common accounting and accurate and can represent all of the system²⁶:

tax authorities through what is authorized by law for institutions;

- financial institutions (banks, insurance centers, social security funds, etc.),
- economic institutions (private and public), which owns its own bulletins can be issued periodically (shareholders, scholars ... etc.) to find out when and how financial.

3- research centers and documentation:

The total laboratory in charge of the search, whether independent or affiliated laboratories to universities or schools or senior specialized institutes, as under this element involves both national libraries or libraries of universities or other, in addition to all the documentation centers²⁷.

Practices: applications of organizations that included the successful experiences in Algeria:

- Sonatrach competent in the production and refining of oil and gas and that the establishment of a center for the collection of information in July 2008 to look for ways and success factors, taking into account the privacy of the hydrocarbon sector activity²⁸.
- Company NAFTAL competent in the distribution of petroleum products and that has embraced Activity vigilance in order to increase the supply of its products and increase its appeal and improve the quality of the product oil and cope with international standards and the development of knowledge and improve the administrative capacity imposed by the new

²⁶ Mohamed Triki , Hazar Daoud "Accounting Information Systems in an ERP Environment and Tunisian Firm Performance " The International Journal of Digital Accounting Research Vol. 13, 2013, pp. 1 – 35 ISSN: 1577-8517 . Pp6

²⁷ WANG, E. (2003): "Effect of the fit between information processing requirements and capacity on organizational performance", International Journal of Information Management, vol. 23, n. 3: 239–247. [http://dx.doi.org/10.1016/S02684012\(02\)00106-8](http://dx.doi.org/10.1016/S02684012(02)00106-8)

²⁸ <http://www.sonatrach.com/> 01/07/2014

The implementation of business intelligence in Algerian institutions.

law of the fuel, which devoted the competition in the field of distribution²⁹.

- Algeria Telecom: published on its technological and vigilance is a special service for the dissemination of technological information and events related to the field of communication and the Internet in order to strengthen its competitive position and help stakeholders to adapt to changes and improve the outlook when managers³⁰.

VI. **Conclusion And Recommendations :**

In this part will talk about conclusion and recommendations of the reality of business intelligence in Algeria.

Firstly : Conclusion for Business Intelligence in Algeria institutions

The Business Intelligence among the means necessary for the rehabilitation of the economic institutions of the Algerian, with economic development required at all levels, it has become among the topics of concern to the attention of the Algerian state, this is reflected through its efforts to support and work on the rehabilitation of the institutions and help them to adapt to the requirements of the Business Intelligence.

The competition posed by the current situation at the international level include "Algerian institutions in an unprecedented situation requires a radical change of mentalities and behaviors," especially since our institutions concerned are mainly in small and medium enterprises can not only resort to the state, with their inability to create interests that specializes in collection and processing of information.

Today, while the development of information and communication technologies (TIC) with the emergence of the Internet has become the information available, but the most important is how to structure this information and analysis, enriching, directed to the target because the research methods, monitoring and dissemination of knowledge worked to transform information into valuable leads to the production of a commodity or service , when receiving information about the market must go to them quickly and effectively to achieve a head start, where it was discovered that there is a new technology in the country are being

²⁹ <http://www.naftal.dz/fr/> 08/06/2014

³⁰ <http://www.algeriatelecom.dz/siteweb.php> 20/06/2014

The implementation of business intelligence in Algerian institutions.

studied for use in improving the production and make it better and more competitive.

Secondly : Recommendations for Business Intelligence in Algeria institutions :

- Trying to educate Algerian companies to secure themselves, work to establish the Business Intelligence and enter the information as a key element in the decision-making and future planning.
- On the government to work more than ever to find a preventive system for the protection of the Algerian economy.
- Certainty that the full application of the concept of business intelligence primarily aims to reduce uncertainty in order to avoid Random decisions in all sectors.
- Intensify the action and organizing forums, seminars and study days with international and national about business intelligence on the subject of vigilance and strategic cooperation with ministries and government agencies and organizations of formal and informal.
- Focus a Budget allocation about innovation and research, with studies providing offices operate in the field of business intelligence that can respond to the demands of the market, whether local or foreign.
- Algeria must enter new ways to motivate enterprises to acquire high-tech as well as the openness of the ocean science.
- The focus should be on the human element of intelligence with owning markets, stressing the importance of political decision-making, which can be given a greater role for the University.