

A model of business intelligence and online marketing for commercial

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ABSTRACT

Technology is expanding at a speed previously unsurpassed; therefore an emphasis is made on integration, optimization and increasing efficiency on different fields. Business intelligence is a new concept which became popular alongside online marketing, as both use external and internal data in order to make better decisions, process improvement and optimizations. The aim of this paper is to propose a solution for business intelligence in the commercial field based on a model of internal sales platform. Gathering data for all the structures integrated in this platform improves the optimization of products and services offered by the companies and also streamline the process of sales. This business solution underpins another solution enabling market research on consumer preferences in order to lead to the development of new products / services according to the real needs of the market at the present time.

Keywords: *business intelligence, online marketing, commercial, system*

1 INTRODUCTION

Business Intelligence - can be described as a system that combines data collection, storage management tactics and analytical tools to provide comprehensive and competitive process of planning and decision-making in an organization. The entire organizational context requires rigorous planning, standardization of procedures and optimization of existing resources. Business Intelligence (BI) platform enables companies to improve the most important metric: sales, profits, costs, quality of products and services, customer satisfaction, etc.

Promoting improved organizational performance, Business Intelligence plays a crucial role in the production and processing of knowledge management. Improvements are seen in organizational activities, decisions, products, services, processes and relationships, which will lead to improved organizational performance.

This paper proposes a model of Business Intelligence Solution for Commercial field, which will help the processing of knowledge management, research and development by extracting information already processed by the other information systems implemented by the organization.

Integrating Business Intelligence with the ERP (Enterprise Resource Planning) system, the platform proposed allows the company to organize and pursue investments in research and development projects and underlies the entire process of decision management in the company / institution where it will be implemented. Another benefit of the platform consists in providing to the managers the most effective way to analyze different scenarios and achieve the most suitable services / products according to customer preferences. This can be reached through investments in market research, in programs to support the ideals of corporate social responsibility and research for developing new products / services according to the real needs of the consumers.

2 STATE OF THE ART

One of the conclusions of our research is that business intelligence systems are widely spread in different areas with a multitude of purposes, but none of those systems were projected specifically for the Commercial field.

According to (Elbashir et. al., 2008) business intelligence systems (BI) have the capacity to examine business data with a specific end goal to hold and enhance the basic leadership administration over an expansive scope of business actions. They use the substantial information framework speculations (e.g. ERP frameworks) designed by companies, and can possibly understand the generous value secured up a company's information assets. While generous business interest is focused on BI frameworks, there is an entire non-appearance of a particular and thorough technique to gauge the acknowledged business esteem, assuming any.

Paper (Gangadharan et. al., 2004) describes the design of this kind of systems. Data in association may become challenging on the grounds that the data frameworks gather and process incomprehensible measure of information in different structures. To stream in the running stream of quickly changing, progressively focused worldwide market situation and progressively unpredictable buyer and market conduct and quickly shortening item life cycles, business ventures today are important to dissect exact and auspicious data about monetary operations, clients, and items utilizing commonplace business terms, with a specific end goal to increase diagnostic knowledge into business issues and openings. Ventures are building business insight frameworks that bolster business examination and basic leadership to help them better comprehend their operations and content in the commercial center.

Data frameworks planners opened doors while facing difficulties in building up an all-inclusive information examining approach for the new investigation sagacious era. Furthermore, business knowledge is to a great extent used in the business group and in this manner can use the open doors from the bounteous information and space in the particular examination of numerous basic ranges. The point of this paper is to survey the pertinence of these patterns in the present business setting through proof based documentation of present and rising applications and also their more extensive business suggestions. In this paper, it is utilized BigML to look at how the two social data channels (i.e., companions based supposition pioneers based social data) impact purchaser buy choices on social business locales. An exact review in which was coordinated a system and a hypothetical model for huge information examination was developed. They direct an observational review to exhibit that huge information examination can be effectively joined with a hypothetical model to create more powerful and successful customer buy choices. The outcomes offer vital and fascinating bits of knowledge into IS research and practice. (Tian et. al., 2016)

In the big data era, a tremendous number of item reviews has been presented on online web-based social networking. As needs be, mining customers' slants about items can create important business insight for improving the business administration's basic leadership and decision making. The primary commitment of their exploration is the plan of an innovative procedure that concentrates

buyers' conclusions over themes of item surveys (i.e., item angles) to improve deals foreseeing execution. Specifically, purchasers' day by day notions inserted in the online surveys over inert points are removed through the joint opinion theme display. At last, the slant appropriations together with other quantitative components are connected to foresee deals volume of the accompanying time frame. In an investigation directed in one the biggest web based business organizations in China, their exact tests demonstrate that assessments over subjects together with other quantitative elements can all the more precisely foresee deals volume when contrasted and utilizing quantitative components alone. (Yuan et. al., 2017)

3 THE IMPORTANCE OF BUSINESS KNOWLEDGE IN THE PRESENT BUSINESS SETTING

3.1. Defining Knowledge, Information, Data

The difficulty of defining knowledge arises from its relationship to other concepts, namely data and information, terms often regarded as lower denominations of knowledge, but can we understand the exact differences? We can illustrate the three components as follows:

- data - unstructured collection of facts and figures
- information - next level - structured data
- knowledge - "information about information".

Knowledge is often regarded as information particularly within more technologically oriented organizations, implementing information systems, where the IT plays an important role in knowledge sharing. The very truth is that we are all using knowledge all the time.

The Business Dictionary (businessdictionary.com) refers to Knowledge management (KM) as "Strategies and processes designed to identify, capture, structure, value, leverage, and share an organization's intellectual assets to enhance its performance and competitiveness.

It is based on two critical activities:

- capture and documentation of individual explicit and tacit knowledge, and
- its dissemination within the organization.

Every business has nowadays access to a wide range of knowledge sources - it can be their understanding of customers' needs and the business environment or equally the experience and skills of their staff. The strategies a company uses to harness this knowledge can be vital to its ability to develop successfully, equally for a start-up, an online business, a multinational or a public institution.

3.2. Organizational Memory. Knowledge Repositories and Techniques

Traditional memory is referred to, according to (dictionary.com), as "the act or fact of retaining and recalling impressions, facts, etc." In business, the organizational memory transcends individual limits, referring to the collective ability to store and retrieve knowledge and information, spanning all the repositories where a company may store knowledge. We refer at organizational memory as formal or explicit records - codified knowledge in documents, databases, etc, as well as tacit and embedded knowledge - the know-how and intuitive knowledge, rooted in context, experience, practice and values, people, processes and organizational culture.

Organizational memory can influence the process of decision making, by evolving from shared understandings of accumulated information regarding past decisions and learning from individuals, even after they have left the company, through collective interpretations regarding the outcome of

decision making. The integrated Business Intelligence systems will split across different retention repositories, adding information to the organizational memory each time a decision is made and the outcomes are evaluated.

As an individual, a company must be able learn from past experiences, in order to use valuable knowledge, as well as avoiding repeating past mistakes. The process of retrieving knowledge may access the organizational memory by IT-based tools management systems, as data warehousing & OLAP (online analytical processing), intranet & extranet, Decision Support Systems, Document Management Systems, artificial intelligence tools, simulation tools, as well as non-technical knowledge management resources, through norms and procedures of the working environment, as cross-functional project teams, training, brainstorming and mentoring. Therefore, individuals, alongside with organizational culture, systems transformations, interaction patterns, online organizational activities, may be considered as non-technical knowledge repositories.

The corporate organizational development is closely linked with the acquisition, storage and recalling of organizational knowledge including document management, search tools and data warehousing, encouraging equally IT-based valuable knowledge and ad-hoc knowledge exchange by non-technical processes based on people, culture, and cooperation.

4 SYSTEM DESIGN AND FRAMEWORKS

In the present business competitive environment, Knowledge Management tools are invaluable in helping executives cut through the noise, easily share information and achieving high-quality decisions, alongside with stimulating cultural innovation by encouraging the free flow of ideas.

Based on the actual situation within the companies, in order to give an important competitive advantage, the Business Intelligence System proposed in this paper – represents a framework that gathers information from other systems implemented in the company. It uses administration strategies and specific tools for analyzing the data, offering the managers outputs to improve the process of decision-making, resulting in better services / products, with the goal of reaching customer satisfaction.

The overview of the system is illustrated in the figure no. 1 and represents the organizational departments and different environments that provide the business knowledge needed by the system in order to generate results that will be analyzed to underlie the process of decision-making and also the development of procedures inspired by past experiences.

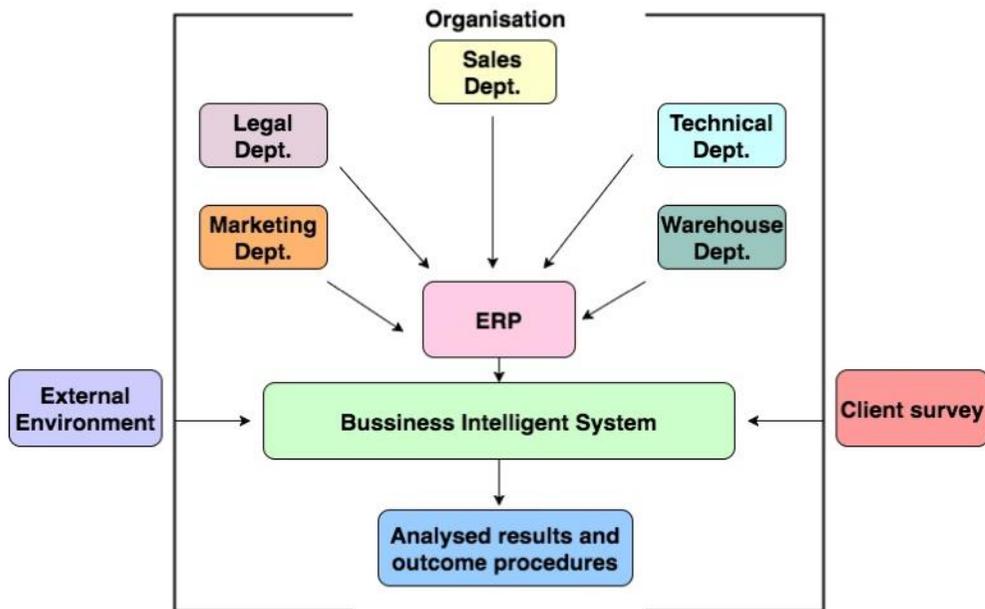


Figure 1: Overview of BI System

As presented above, the system is composed from the following organizational structures involved in the sales process by the level of responsibility, so that each department (sales, marketing, legal, technical and warehouse) will respond to requests by specific deadline, providing to the management an overview for making quick decisions, based on predetermined rules.

- Sales Department - will supply all relevant data about the customer, such as purchase history, preferences and purchasing patterns, allowing the employees who interact with the customer to meet its individual needs.
- Marketing Department - will provide all relevant data about prospective customers, the results of marketing campaigns and the price lists, in order to improve planning and management of sales, alongside with improving the products/services to meet clients satisfaction.
- Technical Department - will supply all relevant data about new services or products and will ensure compliance of the services with the service level agreement.
- Legal Department - will enter all relevant data and forms relating to the contracts, assisting the department of Sales in the process of client acquisition.
- Warehouse Department - will provide all data about the stock, in order to support the department of Sales with real time information about it.

The external environment can influence the results generated by the system, by considering the economic situation of the country and the world economic setting, market trends, seasonal trends (promotions), and cyclical trends.

The surveys and feedback supplied from the customers bring a tremendous contribution represented by their insights of the services and products offered by the company. Taking in consideration their reviews, the company can improve and meet their needs and also attract new clients based on the level of satisfaction of the existing ones.

In the platform described by this paper, all the information gathered by the system is then processed and combined with the past experiences and decisions to develop predefined procedures that will be an essential tool used by sales agents in the meetings with potential or existing clients. The process

of taking decisions will be simplified and the personalized offers will be presented in real time in order to be able to sign the contracts in a single meeting without an approval or more from the superiors. In this manner, the deals will not be affected by offer delays, giving a prompt answer to client's specific needs and requests and clients will not be tempted to request inquiries from the competitors.

5 THE IMPORTANT BUSINESS INSIGHT REPRESENTED BY ONLINE ITEM SURVEYS

Product reviews and evaluations are mainstream means to channel purchasing choices of customers. These instruments are also important for online retailers, who use rating systems with the purpose of establishing trust and notoriety in the online market. Several online shops offer qualitative rating systems, content reviews or a mix of both.

A product review is the opinion of a client written in a textual form, which indicates the qualities (e.g. pluses and minuses) of an item. A rating represents the customer's perception on a certain product as opposed to a measuring system. A common rating plan in online shops is the star-rating, where the number of stars is proportional with better evaluations. Product reviews and ratings are customer generated (i.e. the client of an online shop) and shared on the site of the retailer. Furthermore, the evaluations are accumulated to product feedback profiles and shared on the product's profile (Ch.Dellarocas, 2003). Common examples of shopping sites containing customer generated reviews and evaluations are Amazon and eBay.

Customers base their purchasing behavior on comparing positive and negative product reviews and ratings. Comprehensive reviews with a considerable measure of data can be useful, yet they are not generally effective for the client. This is particularly valid for goal oriented clients. Likewise, it can be difficult to look at extremely detailed product reviews. Clients usually require brief data about the items.

The time expected to finish an online product survey is 66% shorter on average than that of a conventional research technique. Since data is being assembled in an automatic manner, one does not have to wait for paper surveys to return- reaction takes place in real time. Web based marketing professionals state that the greater part of reactions are received in three days' time.

The conclusions of the online overview are prepared to be used in a potential analysis immediately. By observing the results in a continuous manner, one can act rapidly, export information for further investigation, insert charts for detailing, and share the outcomes with the stakeholders.

The main advantage of online studies for professionals is that they increment profitability by sparing time. Information is quickly accessible and can without much effort be redirected into specific statistical programs or spreadsheets when more examination is required.

To sum up, online studies are a good alternative for individuals and companies who might want to lead their own particular research – they are more time effective, they are less expensive, the outcomes require less time, and one can exchange and use the information in different applications to answer critical inquiries.

6 CONCLUSIONS

Based on the study conducted by this paper, it results that a major reason why Business Intelligence Systems are picking up so much ground is because of their capacity to give significant insight about the business, but none of these systems were specifically projected for Commercial.

In nowadays business competitive environment, Knowledge Management tools are valuable in helping executives to build strategies corresponding to business trends.

The Business Intelligence System proposed in this paper is a model of a framework that gathers information stored by other systems implemented widely in the companies today, thus implementing it, would be accessible enough.

Another advantage offered by the model described is that, by using administration strategies and specific tools for analyzing the data, it generates outputs invaluable to improve the process of decision-making for the management.

By accessing the platform described, the management can see the current information on all parts of the company's activity - information about costs and expenditures, production and clients - therefore they will have an instantly overview of the business. They can read reports that combine this data in predefined ways, for example, the current rate of profitability reports for individual items or product offerings. This data helps the management settle items based on real choices of the consumers, such as which items are better to focus on and which ones need to be suspended, resulting in better services / products, with the goal of reaching customer satisfaction.

This type of system can be an important resource for an organization, given the fact that it offers access to reports that are up to date and it helps to find business patterns. In addition, it is underlying items that were improved or the new popular ones, the preferences of the current clients and the new markets that are advantageous for the company.

This paper highlights the importance of real time information as a significant reinforcement to arrangements with business partners or customers.

The implementation of the Business Intelligence System proposed in this study can lead the organization to growth, to strengthen its weak points, to distinguish market patterns and economic trends for adapting rapidly to change, in order to gain competitive advantage and react to customer needs in real time with customized offers.

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