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Innovation In Market Management By Utilizing Business Intelligence: Introducing Proposed Framework

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Abstract

Nowadays, business organization needs to analyze market so that be able to stay stable in facing market variant changes and eventually to be able to handle market management. For this purpose, organization should update their business processes by utilizing modern technologies which this is called business intelligence (BI). In this paper while introducing market management processes, significant necessity of innovation and creativity in these processes for competing in current global trading is discussed. Furthermore, BI definitions from different authors' point of view and BI principles and characteristics is addressed. Then the proposed framework is introduced with consideration to variant dimensions and functions of BI to furnish organization characteristics toward acquiring BI approach and derived benefits from it in business trend. Business area development, progressive and goal-based presence in international environment, and organization efficiency increase are some of few key functions that is argued in continue. Purpose of this paper is introducing practical framework to help organizations in direction of their goals toward BI, which it caused they acquire correct and well-timed understanding from market condition.

Keywords: market management, Business Intelligence (BI), Innovation

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1. Introduction

In recent years according to the importance of the information in organization management and also advanced information technology there are application systems of business that enable companies and institutions to decide (make decision) with more knowledge and to establish high efficiency for the organization.

In the United States there are so many companies in their organization chart as job as head of its analysis, business strategy manager, director or assistant director of information services in the market assessment or reason for the importance to analysis of competitive situation [1].

In today's highly competitive and increasingly uncertain world, the quality and timeliness of an organization's "business intelligence" (BI) can mean not only the difference between profit and loss, but also even the difference between survival and bankruptcy[2].

For example an organization to compare using systems of business intelligence, information and environment indicators and forecast future of trends in their activity. Today, business intelligence is one of the important concepts of management and organizations and become a leading institution in the field of global markets and take advantage in all their activities and processes.

Business Intelligence isn't a non-professional activity (but) also requires special skills and thus the leading companies in this field, establish separate sections in the organization called "Business Intelligence Unit". Businesses and organizations have always tried to know what their rivals do. The concept opened its way in the academic circles during 1980s.

Some authors have argued Michael Porter (1980) the famous scholar of strategic management with introduce of competitive five forces and generic strategies, has created the concept of Business Intelligence [3]. Porter pioneered to create association of competitive intelligence specialists in 1986 and has (made) published the first issue of competitive intelligence in 1990.

There is also a wide range of technology which for collecting information and knowledge in a level of organization and also help the process intelligence business, through analysis of this information by creating an inquiry.

In the next section of article, it has been introduced the process of management and soon afterward components and features of business intelligence has been discussed. Then the functional dimensions of the BI has been investigated further more proposed framework for more accurate insights of organizations from BI and applying its principles in their business process has been persuaded.

2. Functional elements in the process of market management

Smart companies in the business arena to monitor market developments and in line with market changes and the use of incentive rules, usually strategic marketing systems are designed and developed. Marketing systems which process is complete harmony with the best companies are market opportunities that lead to better administer and manage the market is the market that the overall process management market, which includes four main steps are:

2-1. Market Analysis: environment is complex and constantly changing opportunities and new threats to bring together. Company and its strategic systems environment must always be under the surveillance environment requires a lot of information, including the consumer is and how to buy them. Include information systems and market research review and evaluation of consumer markets is the institutional markets.

2-2. selected target markets: There are different companies and represent a strong variation in the production of similar goods between consumer tastes and no company is able to provide all consumers not satisfied. For any company that can make the best use of their potential abilities and to choose the best

position in the market to be better and require review four-step measure and forecast demand, market share, target market and position in the market access.

2-3. The combination of marketing elements: one of the basic concepts in modern marketing mix is the same concept. Manageable set of variables that participate in the market and target them for their combined response is required. Because of this combination actually affect the market, the tools are organized. This combination includes product design, product distribution, pricing and advertising are advancing key new markets are trading.

2-4. observing the market and competitors activities: This stage includes analysis of competitors and competitive market policies and planning, implementation and marketing organization and control programs. An important aspect of corporate are Reviews on your competitors have to constantly put and prices of products and distribution and advertising practices and promote competition following closely and get to know in what circumstances.

General manager must adjust to at the helm of the organization pyramid marketing programs and then motivate everyone at all levels, and To ensure implementation of plans and goals, monitoring and auditing of marketing is also not forgotten.

The marketing process in different layers, should be special attention to customers as partners to the organization because the organization has customers, and emotions are what the companies are service activities is the most sensitive.

3. Business Intelligence(BI)

Different authors define their concept of Business Intelligence .They believe that intelligence in business includes characteristics such as ability of collecting processing and accumulate of the information that all levels of people of the organization could access to them according to their own requirements and help (them) to shape it in future and protect them against competitive treats.

Terms of Business Intelligence, market research and intelligence organization are often used instead of each other. In order to define briefly and clear of the business intelligence we can say that business intelligence is collecting information about competitors and the environment to create and sustain competitive advantage.

In fact, intelligence in business is a systematic process to be ensured of the updated exact and related information of the competitors. An intelligent system is refer to a set of programs and origins that is used by managers in order to access to the daily information marketing environment.

BI is a set of concepts, methods, and processes[4] to improve business decisions, which use information from multiple sources and apply experience and assumptions to develop an accurate understanding of business dynamics. It integrates the analysis of data with decision support system to provide information to people throughout the organization in order to improve strategic and tactical decisions. With appropriate BI a company will be able to develop intelligent decision support systems to gain the competitive advantage of the industry[5].

Buytendijk (2001) has reported that, based on a study from 2001 to 2006, enterprises that apply BI had achieved two to three times return of investment more than those who do not[6]. In fact, BI enables head managers of the organizations of any to adapt their decisions upon of their knowledge of market information, investment tactics in business and etc. Thus tracing understanding and responding to competitors is being proposed as a special aspect and it is necessary for companies to execute an effective program called BI. figure 1 BI-forming domains are shown.

Business Intelligence is considered as a strategic management tool and one of the fastest growing areas of the world of business. Also competitive intelligence is one of the important techniques in creating competitive advantages and causes to targeted surveillance of strategic decisions at the competitive environment for competing and activating in the organization.

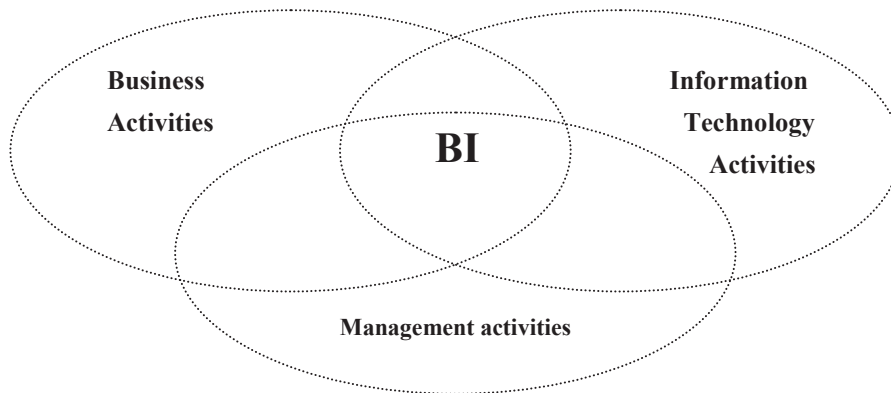


Figure 1. Forming areas in business intelligence

Many well-known companies include GE, Motorola, Microsoft ,HP, IBM, Intel ,Terry M, Xerox, Coke an Chrysler, all use competitive intelligent system. Some countries such as France, Japan, Sweden and the United States have considerable progresses in terms of using BI systems. In these countries BI has its own position as an important factor in gaining competitive advantage. Even Lund University in Sweden is the first university that establish Business Intelligence course at PhD. Different factors in achieving BI, the important and effective factors are as below:

- Ability to combine business activities and analytical information technology
- Focus on job skills in business intelligence center and prevent it from dispersion
- Creating appropriate infrastructure for Business Intelligence among of the strategic objectives and competitive organization
- Investigating the exact costs of Business Intelligence project and preformed investment
- Accommodation of BI promotion center with organization plan

Also a group of researchers has been described BI into three categories technological intelligence, market intelligence and strategic intelligence have divided each of them and has been described as below:

1. **Technological intelligence** : In this type of intelligence cost benefit of current situation and future necessity and preferences of customers new markets categories of the creative market opportunities and making the most important movements and changes in the field of marketing and distribution.
2. **Strategic intelligence**: This kind of intelligence is assessing the charges in competitive strategies in the specified timeframe that has been made of changes in the structure of competitors and new alternative product and industry.
3. **Market intelligence**: the kind of intelligence means the drawing a map of the state of current and future needs and preferences of customers, new markets, categories opportunities of market creative and most important movements and changes in the field of marketing and distribution.

Intelligence in business can be more than three groups such that the strategic and social intelligence can also develop strategic intelligence and social issues include details such as laws, taxes finance and economic political issues and affairs relates to human origins. Generally BI, collect broader information rather than market research pay to analysis and investigation of the immediate situation and supervise the recent competitive activities.

3.1. BI components

BI tools are widely accepted as a new middleware between transactional applications and decision support applications, thereby decoupling systems tailored to an efficient handling of business transactions from systems tailored to an efficient support of business decisions. The capabilities of BI include decision support, OLAP, statistical analysis, forecasting, and data mining. The following are the major components that constitute BI.

- **Data sources:** Data sources can be operational databases, historical data, external data (for example, from market research companies or from the internet), or information from the already existing data warehouse environment. The data sources can be relational databases or any other data structure that supports the line of business applications. They also can reside on many different platforms and can contain structured information, such as tables or spreadsheets, or unstructured information, such as plaintext files or pictures and other multimedia information.
- **Data warehouse:** The data warehouse is the significant component of BI. It is subject oriented, integrated. The data warehouse supports the physical propagation of data by handling the numerous enterprise records for integration, cleansing, aggregation and query tasks. It can also contain the operational data that can be defined as an updateable set of integrated data used for enterprise wide tactical decision making of a particular subject area. It contains live data, not snapshots, and retains minimal history.
- **Data mart:** A data mart as described by Inmon (1999) is a collection of subject areas organized for decision support based on the needs of a given department. Finance has their data mart, marketing has theirs, and sales have theirs and so on. And the data mart for marketing only faintly resembles anyone else's data mart. Perhaps, most importantly[7] the individual departments own the hardware, software, data and programs that constitute the data mart.
- **Query and reporting tools:** OLAP provides multidimensional, summarized views of business data and is used for reporting, analysis, modeling and planning for optimizing the business. OLAP techniques and tools can be used to work with data warehouses or data marts designed for sophisticated enterprise intelligence systems. These systems process queries required to discover trends and analyze critical factors. Reporting software generates aggregated views of data to keep the management informed about the state of their business.

Other BI tools are used to store and analyze data, such as data mining and data warehouses; decision support systems and forecasting; document warehouses and document management; knowledge management; mapping, information visualization, and dash boarding; management information systems, geographic information systems; trend analysis; software as a service.

3.2. Functions, objectives of BI and introducing framework

The purpose of investing in BI is to transform from an environment that is reactive to data to one that is proactive. A major goal of BI is to automate and integrate as many steps and functions as possible. Another goal is to provide data for analytics that are as tool-independent as possible[8].

The main key to a successful BI system is consolidating data from the many different enterprise operational systems into an enterprise data warehouse. Very few organizations have a full-fledged enterprise data warehouse. This is due to the vast scope of effort towards consolidating the entire enterprise data.

Berson et al. (2002) emphasize that in view of emerging highly dynamic business environment, only the most competitive enterprises will achieve sustained market success. The organizations will distinguish

themselves by the capability to leverage information about their market place, customers, and operations to capitalize on the business opportunities[9].

Moss and Atre (2003) describe BI as seamless integration of operational front-office applications with operational back-office applications[10]. Gangadharan and Swamy (2004) define BI as an enterprise architecture for an integrated collection of operational as well as decision support applications and databases, which provides the business community easy access to their business data and allows them to make accurate business decisions[11].

A successful BI ties business and information technology together to help enterprises manage and integrate ongoing investments in BI, allocate BI resources, prioritize projects, and minimize the risk associated with BI implementations. The move towards BI reflects organizations’ desire to manage their investment in and use of BI. Effective BI partnerships for business and information integration are:

- ✚ business is responsible for capturing BI value;
- ✚ IT is responsible for delivering BI applications in an effective manner;
- ✚ BI projects should be funded based on a projected Return-on-Investment (ROI);
- ✚ .BI expertise should be developed using a pool of knowledgeable business personnel;
- ✚ business expertise should be developed using a pool of knowledgeable IT personnel; and
- ✚ an organizational emphasis should be placed for BI in order for it to be successfully implemented.

Business intelligence systems, the possibility of extracting trends from existing data types in data repositories that provide for strategic decision making processes and planning for future managers should be a remarkable help.

Also, BI systems, the possibility of producing complex reports for use in strategic decision layer can cause the organization. In order to know the functions of business intelligence systems, the most important of these is included below. Graphics as well as cases in question are shown in Figure 2.

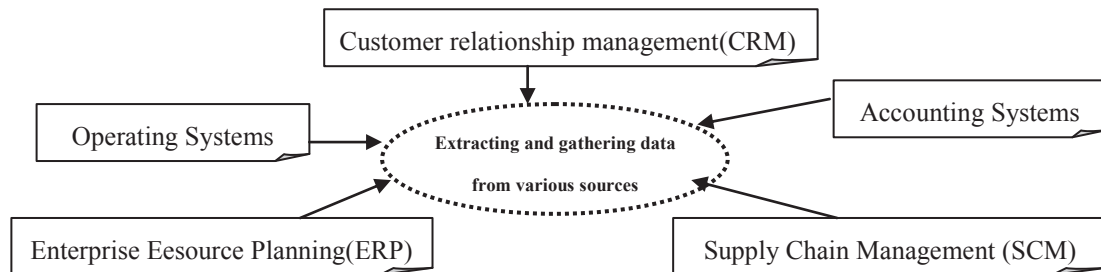


Figure 2. Different sources for data collection

On the other hand, intelligent systems in business follow to missions several. Help for your users to self-service with respect to repetitive tasks associated with BI(such as reports management and simplified analytical work) is one of these cases.

Also identify areas that are vulnerable and evaluate the effect of strategic actions on rival firms, is considered the main missions of the other intelligence programs in organizations. Generally, purpose of competitive intelligence programs, process to reduce environmental uncertainty is to improve management decisions [12]. Also the cycle of Implement business intelligence systems in Figure 3 are displayed.

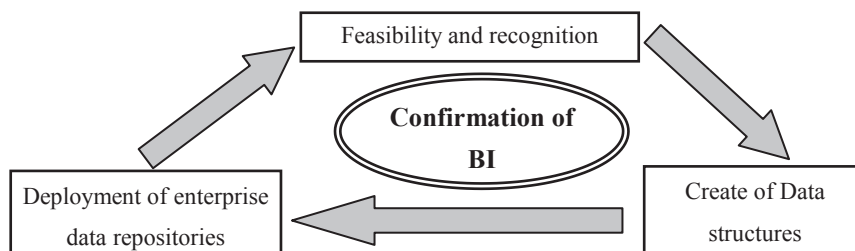


Figure 3. Cycle of implementing business intelligence

BI implementations demand a significant amount of business-process knowledge that offsite resources may lack. This challenge can be met by allowing onsite resources to focus on high-value roles and projects that address business knowledge while allowing offsite resources to focus on development and maintenance activities. Another challenge lies in the potential sensitivity of data involved in BI projects[12]. Organizations must make sure that appropriate security and privacy controls are in place when data are being shared offsite.

In addition, application systems of business intelligent increase between units. In other words among the unit employees of the Business Intelligence Unit, one person is also determined as the interferer with the other information applicants of the organization which coordinate the activities and equip the organization to respond faster to changes.

Considering the issues presented, in order to benefit the interests of organizations and benefits systems BI, the proposed framework is presented in figure 4. In this framework is used effectively the three skills of business, organization and IT to implement business intelligence. , in turn Each of these skills, significant impact is in the process of implementing BI.

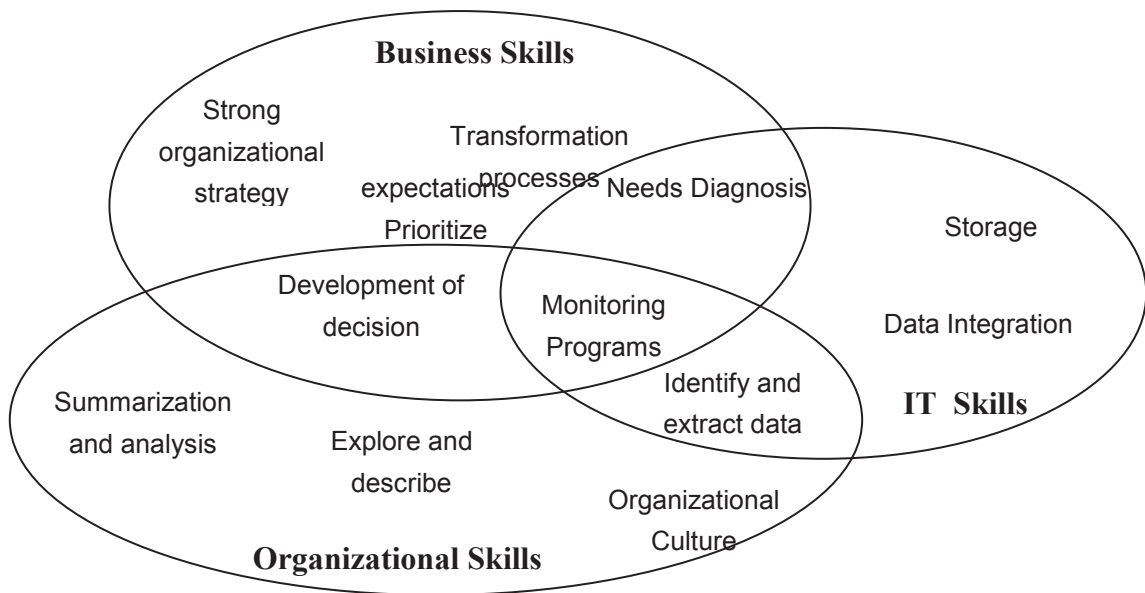


Figure 2. Proposed framework to implement BI

Business Skills: organizations must be able quickly to analyze market changes and to adapt their processes, consistent with existing condition, must. Also according to the demands of multiple customers, using different tools to decide, prioritize needs and expectations and Have to the strong strategy organization.

Skills IT: Organization should to provide all the necessary infrastructure to updates by identify, collect and receive of data and save and maintain them and be able to integration of the existing data. Also be to use IT, monitor on the BI programs and to assist this process effectively.

Organizational Skills: Organizations should your staff to implement this new system and warn appropriate organizational culture, trying to implement must step by step because In this section, if not carefully considered, staff and personnel to the resistance against the new changes. On the other hand, the organization and organizational strength to explore and describe data and finally analysis and summarization carefully.

In fact, the purpose of presented this framework, introducing aspects involved in implementing BI that the fundamental areas of this system, generally composed of three parts. Therefore, organizations can

provide tips given in this context, situations and circumstances to suit your organization, and also attempted to use step by step implementation of this system that will bring a lot benefit in the future.

4. Conclusion

Result of studies show measured value or the amount of business intelligence and its impact on the organization is not carefully possible. But at the same time there are also simple and practical ways that the financial performance and market to business intelligence organization.

It is noteworthy that one of the most important estimated factors is investment return (ROI) during determining the value of business intelligence .Calculating the ROI enables the organization managers to set priorities for exacting for IT projects inside the organizations.

In this way the performance of the companies that use competitive intelligence in order to sell markets share, benefit of each share and other things compare with other companies that don't use this method. The method that was mentioned above is useful for the importance of the measuring activities and its role in organization success. Generally the benefits resulted from the full and fundamental execution of intelligent system of business are summarized as below :

- ☒ Increasing the reliability from strategic decision
- ☒ Modify the multi communications in the organization
- ☒ Increasing the market knowledge

Production costs along with business intelligence, will bring very useful benefits including increased revenue, gain a new competitive opportunities, to gain more time for marketing, increased customer satisfaction through CRM, Automation hand processes, increase speed and agility of the organization, reducing cost And decisions for the organization.

Note that at the end of this article it is necessary that accessing to the accurate and timely information are important wealth for any company. When intelligent system in business were designed appropriate and correctly and accommodate to the organizations processes in one hand and from another hand its information has the ability for making decision thus the organization will able to improve of performance of it and it follow by making fast decisions and will bring satisfaction.

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