Utilisation Of Business Intelligence For Data Mining To Influence Decision-Making In Business Organisations

Majdijalalalsaaideh [a], Arif Sari [b]

[a,b] Isra University (IU)
[a]Alsaaidehmajdi@gmail.com, [b]arifsari@gau.edu.tr

Abstract

Technology and demand are two major driving forces in the competitive industrial world. These lead to the benefits at the best position, but to at the edge blurring important industrial boundaries. It ultimately results in the substantial organization of the business. The advancement of IT (information technology) has created the possibilities for business institutions to hold huge amounts of data from numerous sources within business procedures. In order to remain competitive at this rapidly changing pace significant tools, techniques are required having the capabilities to provide a holistic attitude of strategic business. Major aim of this study is to explore the importance of business intelligence in the decision-making procedures of the business. Key objective includes the elaboration of the best utilization of BI through data mining procedures. The disciplinary discussion in this study has developed acquiring secondary dataset which is developed the best analysis with a qualitative approach. The discussion in this article has emerged beneficial through the critical evaluation of data mining in business intelligence. This modern contemporary business world is emerging with new innovations every day where each business has to deal with the severe competitiveness with the peer markets. Best integration of the decision-making requires a concise view to collect all the necessary knowledge. This article focuses on the interdisciplinary manner in the strategic behavior indicating future technological implementations. The knowledge has induced the hope to help scholars, marketers, and peer researchers to getting the best idea about the BI.

Keywords: Business intelligence, data mining, data mining

1. Introduction

The global industrial turn, the effect of globalization in the business market, and current nature of the expectations are emerging challenging as per the way the businesses are running in this contemporary world. Slight light can be noticed in the emerging market. Amongst multiple tools and techniques technology and demand are considered two major driving forces of any businesses. Manage approaches are creating new ways in the business following these key drivers. This 21st century is confronting with drastic changes such as breaking the access in terms of data processing, and informative approaches. The competitive business is becoming highly unstable where industries have to tackle the capricious nature. This article significantly explores the role of data mining which influences the decision-making procedures of the business. The importance of business intelligence in the decision-making procedures is also illustrated depicting the proper utilization of it. The potential knowledge is developed here depending on the secondary data sources. The article has made a suitable analysis of these gathered data with a qualitative approach. Present condition of the rapidly changing atmosphere of the business along with the competition has given the best understanding relying on the relevant analysis in this study. The advancement of the technology is accumulated with the data mining procedures to accelerate the decision-making of businesses.

2.   Importance of business intelligence in decision-making

Business intelligence is most important for the business organisation management and in decision making it is also essential to practice for all leaders of the company. Business intelligence gives crucial data to companies, improving their ability to make quick decisions and generating a competitive advantage [1]. Business intelligence ensures stronger ROI as businesses can significantly increase revenue, reduce costs, improve profit margin, drive cost avoidance, and so on. In business operations, quick decision-making is most important and it can help the business to improve their enterprise. Business intelligence software helps to extract proper information of a particular topic and transforms it into clear insights to enable strategic and actionable decision-making so people can readily achieve their aims and objectives [2]. It helps to make better sales, marketing, change management, inventory, and financial decisions for the business development and enhancement.

On the other hand, business intelligence comprises the technologies and strategies of the business to data analysis of business data. Business intelligence technologies also analyse and evaluate the historical, present, and also the predictive information of the enterprise [3]. Through analysing the information of the organisation, the business management people can make decisions properly and it helps the business to grow and enhance their profit and market share. The purpose of business intelligence to data mining and influence the business decisions as per the result of analysis and business profitability. Business intelligence can predict the business value improvement process and expect a net turnover for the business. Needless to say, business intelligence is most important for business improvement and increasing the profit margin. Business intelligence is actually a query and reporting tool of a business organisation and it helps to examine and evaluate information of the business of all departments. It provides advanced security to the business and helps in fast implementation in the organisation.

3.   Utilisation of business intelligence for data mining to influence decision-making in business organisations

Business intelligence is one kind of tool and it is used for data mining. Data mining is also called data analysis and it helps to improve the knowledge of business operations and new trends of the marketplace. In business, the business management should have knowledge of market trends and its capability to improve the business turnover. There are different kinds of business intelligence tools that are needed to mine data. Those are, Ad hoc analysis, Mobile BI, Open source BI, Operational intelligence, Real-time BI, and so on [4]. Needless to say, all the BI tools help to improve the business decisions and operations. Proper utilisation of business intelligence helps to analyse data of the business organisation. Dashboards are common BI tools and it helps to analyse business market, sales, innovation, invention, and other information. Dashboards are applied through software and pull information into graphs and charts based on the demand of the user to review [5].

On the other hand, mobile BI dashboards help the team of sales of the organisation and also regional sales teams to make quick decisions [6]. Business intelligence helps to analyse numerous data of the business organisation and create a future prediction of the business profit margin and net turnover. In this case, the management team can make decisions on the business operations. BI influences the marketing management to make decisions about their marketing strategies and technology utilisation. Business intelligence tools help to focus on the business operations and also help to analyse information of market trends, market share, balance sheet, business turnover, and productivity, and so on.
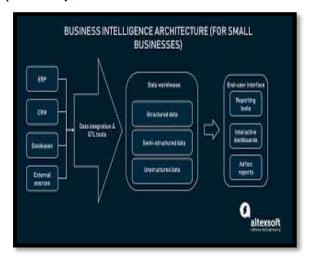

Figure 1: Business Intelligence

(Source: 4)

Utilisation of business intelligence tools can influence business leaders to make quick decisions for business enhancement. The business can improve and change their business plans through analysing the information of the business and also the industry. Business intelligence tools help to analyse all the information of the marketplace and also analyse the business capabilities [7]. Through determining the ROI of the business marketing strategies, deriving information from a sea of data, understanding the revenue process and potentialities, personalising the sales techniques, anticipating objections of the business, and avoiding conflicts and bottlenecks in a fragile marketplace, the business can make effective decisions for the business development. It gives accurate reports, planning or analysis, and better decisions for the business enhancement. Through using business intelligence, the business can get real-time insights into sales, finance, product development, marketing, and other processes of the enterprise.

4. Methods and techniques

There are two kinds of methods of data collection and two kinds of data that can be collected for the data quality improvement of the research work. Two kinds of data are primary data and secondary data. Primary data can be collected through some methodologies through asking about the topic from phenomena of a phenomenon [8]. On the other hand, secondary data can be collected from other research works and published articles. In one word, it can say that secondary data is collected through analysing ready-made data of others. In the research process there are four kinds of research methods: primary data collection method and secondary data collection method [9].
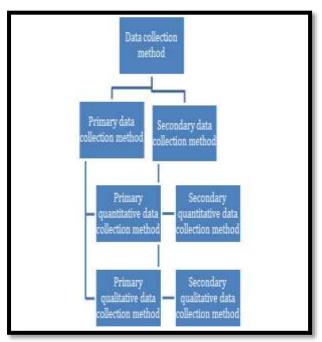

Figure 2: Data collection method

(Source: Self-developed)

In this research work, secondary qualitative and secondary quantitative data collection methods are selected to collect information of the business intelligence. Secondary qualitative data is collected from business articles, journals, published books, business websites, business discussion, and YouTube Videos, and so on. Through using social media, the information is collected from this research. On the other hand, the quantitative data is gathered from the annual reports of the market and businesses. This research work is designed through descriptive research design and this research uses the positivism paradigm to collect quantitative information. This research uses an inductive research approach to create the research paper. Inductive research approach is when the information is collected, there is no evidence that the information is true or not [10]. Using journals, books, videos, images, and also Twitter, Facebook, business articles, and so on, the research work increases its quality and also helps people to gain knowledge of business intelligence.

5.   Result and discussion

Secondary quantitative and qualitative data analysis methods are used to analyse information of business intelligence, data mining, and decision-making for business enhancement. In this research work, the thematic analysis is used to analyse the information of the business intelligence to influence decision-making. Through making themes, the research work analyses the information of business intelligence. In the data analysis process, the description of business intelligence tools, and the role of business intelligence in the business organisation, impact of it are analysed properly. There are two main themes which are used in the research paper and those are, impact of business intelligence in the decision-making process of business. In this research work, the description of business intelligence is given and also the decision-making skills are also described. This study uses descriptive analysis and it helps to describe all the small things of business intelligence tools and data mining. Descriptive analysis is the data analysis process where the information of the topic can be reviewed and evaluated thoroughly [11]. Through thematic analysis, the qualitative data can be analysed and it helps to describe all the things of business intelligence.

Figure 3: Dashboard sales report

(Source: 11)

As per the result of this data analysis, the businesses of the global countries should use business intelligence tools to improve the brand value in the marketplace. In the business sales management process and to make marketing decisions, BI has a major contribution [12]. A multinational corporation always focuses on their business operations and analyses information about the marketplace and business to enhance the strength and opportunities of the business.

Themes	Description
Impact of business intelligence to influence decision-making process	Business intelligence helps to research data of the business and marketplace. It helps to determine the trend of the market and it helps to investigate the important information of the marketplace and evaluate the program. Through reviewing the problems of the

13046

	marketplace and analysing the strengths of the marketplace, the business makes new and creative ideas to improve the business operations and management. The organisation also can innovate products and management through mining data of the organisation
Business intelligence has the capability to enhance the business in the marketplace	The business organisation includes a business intelligence tool in the business to determine the issues of the business and through analysing the information; the business improves the business situation and makes quick and proper decisions for the business. BI can predict the proper idea and future of the business and it helps to enhance the business in the marketplace and increase customers in the business.

Table 1: Themes of the research work

(Source: Self-developed)

As per the result of this research work, the business can increase their net turnover through analysing the data of the marketplace. The business always focuses on the market trends and customers' demand [13]. Business intelligence helps to analyse the possibilities to achieve the goal and profit of the business. It helps to make decisions about business change and innovation. The enterprise focuses on the economic management of the business to manage the expenses and increase business profit. In this case, BI helps the business to analyse the business economic information and predict probable profit of the business.

Business intelligence helps the business in data mining and data mining has some benefits in the business. In the following table, the benefits are addressed properly.
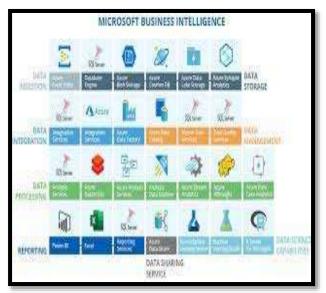
Business Intelligence process	Advantages

Data Mining	● It gives detailed report of the business operation and marketplace trends ● It helps to predict for the future benefits and sustainability ● Data mining can reduce the cost of the business and helps to make proper decisions about business enhancement.

Table 2: Business Intelligence benefits

(Source: Self-developed)

Business intelligence tools help the business to collect information from the marketplace and gather information about the business organisation. In addition, it focuses on the whole information and reviews the full information of the organisation. After reviewing and reading the data, those tools focus on the issues of the business and also help the management to make decisions properly. BI has a major impact on the organisation operation and development [14]. The business can enhance their business if strengths, weaknesses, opportunities, and threats can be analysed properly. BI helps to analyse the information and mining the data of the marketplace and business position. This analysis result help the business leaders to make decision quickly and enhance the business profitability and sustainability. Data mining helps the business to gather reliable information and it gives cost-effective and efficient solution compared to other applications of data [15].

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Organisations

Figure 4: Business Intelligence Tools

(Source: 12)

Business Intelligence, through data mining, make profitable production of the enterprise and adjust the operations of the organisation. Data mining discovers the relationship of one data with another and properly evaluated the information for the business management. Business Intelligence Tools provides understandable result and it also helps the business to increase the loyalty of customers towards the company [16]. Data mining helps the business to improve outreach of the business. Data mining has a major role in advertising and marketing policies of the business and it helps to make decisions for the marketing process. It helps the enterprise to reduce the repetitive mistakes and increase sustainability of the business. BI also helps the business to gain knowledge of environment of the marketplace and current situation of nature [17]. Through mining these kinds of data, the business can provide the help to the community and develop CSR strategy of the business.

Figure 5: Data Mining Techniques

(Source: 14)

Business intelligence tools helps to make proper chart or graphs of the business operation and display all the information shortly to understand the issues and also improve the skills of the business management. It helps to manage the decisions of finance of the business and also make decisions of target market and customer segmentation. BI tools also can detect fraud of the business and manage customer relations through analysing data of the business and decisions of the management team [18]. Needless to say, BI tools are too effective and essential for business enhancement and making creative and proper decisions for business growth.

Figure 6: Data mining Benefits

(Source: 15)

6.　　　Conclusion

Data mining is steadily establishing its way in the industrial world combining all the notions of business procedures. Technology as well as their data mining has created the best practices offering the management best insights which offer guidance to the strategic decision-making of the businesses. Through the extensive form the business intelligence works multidimensional creating advantages in the business. Hereby, it is the major part of strategic business management. Observing the different factors of the business intelligence, it can be said that the interest in BI applied in the organizations eventually gathers more knowledge about the business where the data mining procedures keep significant implications. All the participating sources of information in this study depict the importance of data operating in decision-making. Business intelligence has the illustrative approach with significant procedures, and technologies which cannot be avoided for the strategic management, decision making of business. The quality of access is majorly dependent on the type of data that is provided. It incorporates the best potential integration, at the same time the possibility of the risks also exists there. The data mining process can indulge the fast decision making eliminating the unnecessary time and cost of the business procedures and it can also create risks in the business creating the potential risks, and challenges cohesively. With the critical discussion, this article is capable of providing sufficient understanding about the role of BI in the decision-making procedures in organizations

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