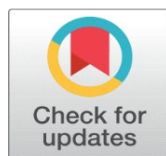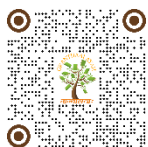# USING PLATFORMS AND TOOLS TO CREATE BUSINESS INTELLIGENCE

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## ABSTRACT

In today's modern times, the labor market is overloaded with the amount of information and data arriving at the organization. In order to save, formulate and edit data, business intelligence is needed within the organization. When we talk about business intelligence, we can freely say that there are different types of applications that facilitate business. By facilitating business, itself, business intelligence greatly serves the development and growth of the organization in a business sense. In order to create high-quality business intelligence, i.e. for it to function as such and help us generate and use various information, it is necessary to keep the components for creating business intelligence. Business intelligence is divided into five stages. The stages of business intelligence are, data analysis, data sourcing, decision support, risk assessment and situational awareness. In order to implement business intelligence in the organization's system, it is necessary to download and work with certain business intelligence tools.

**Keywords:** Business Intelligence, Data Analysis, Organization, Business

## 1. INTRODUCTION

In order for the organization to achieve a certain success in business, and therefore to grow in a business sense, intelligence is needed. With the advent of more modern times, life is faster, business processes are faster, market demand changes, client demands and a lot of that, so it is necessary to work on making the company, or organization, as intelligent as possible. With intelligence, the organization opens up new perspectives, new paths and new businesses. Certainly, in this regard, by intelligence, we mean business intelligence. Considering the amount of data available, but also necessary for the work of the organization, it is necessary to recognize the importance of business intelligence and definitely include it in our work in order to make it easier to work with a lot of data. Business

intelligence will help us find data, sort, make decisions, filter and propose business as well as predict business development.

In this article, I will try to briefly explain the concept of business intelligence and divide the work of business intelligence into phases in order to better understand the eventual need to use it. Furthermore, I will explain some of the tools of business intelligence in order to better understand how business intelligence works and the arrangement of information into useful data by the mentioned tools.

## 2. DEFINITION OF BUSINESS INTELLIGENCE

In order to understand the way of doing business and the emergence of business intelligence, we must first ask the question of what the term business intelligence actually represents. Considering the breadth of the term, as well as the area of coverage, we must immediately note that we do not have or cannot talk about a universal definition that clarifies business intelligence.

Business intelligence can be understood as different types of applications that greatly facilitate business, contribute to the transparency of organizational performance, forecasting, analysis of creation, and in this way adds a great opportunity to consider key business factors, i.e. planning the business future and development of the company.

Likewise, business intelligence also contains applications that facilitate and improve work in the form of data storage, all for the purpose of making important business decisions. When we have quality applications, it is very easy to monitor the market, and with the market also competitors, customers, business partners, but also all the partners we need in order for the final product to see the light of day and be placed on the market Marković (2010).

In order to bring business intelligence even closer and clarify it, it should be noted that we approach business intelligence from two points of view:

- from the macro aspect and
- from a micro aspect.

Panian & Klepac (2003), 21) explain business intelligence from a macro aspect:

"Considered from a macro aspect, business intelligence is a complex, aggregated category that is created by the systematic but pre-targeted collection of data on macroeconomic trends in a certain geopolitical environment, their organized and structured recording, i.e. storage, searching, and logical and computer processing for the purpose of revealing macroeconomic trends or tendencies and forecasting and forecasting of processes and events in macroeconomic systems and their future states."

When we look at business intelligence from a micro aspect, there are several representative definitions according to recognized expert authors:

Javorović & Bilandžić (2007), 205:

"Business intelligence (business-intelligence activity) is an intelligence activity in the business world that is planned, organized and carried out by business entities, whereby this activity implies the process of legal collection of public and publicly available data by ethical means, their analysis and conversion into ready-made business-intelligence analyzes ("knowledge") in order to provide support to the leadership of the business entity with the aim of making and realizing the best possible business decisions aimed at preserving the existing position of the business entity in the business environment, avoiding any threats and ultimately the overall qualitative progress of the business entity."

Liautaud (2001, according to Panian & Klepac (2003), 22):

"Intelligence raises information in the organization to a higher level. Data and information are things. Intelligence is organic matter; derived from information, it contributes to the creation of such a state of organization that can be called collective intelligence. Intelligence results from a full understanding of information, previously taken actions and existing possibilities, or options. Once sown, intelligence will spread itself throughout the organization. A critical mass of individuals who have good insight and share similar attitudes and business processes becomes a very powerful force in such conditions."

The above definitions are not the only ones, because as we said, business intelligence is a broad term that has various interpretations, but also does not have a specific definition. When we look at the above definitions, we can draw a line, that is, bring common elements of business intelligence, according to Panian & Klepac (2003), 24:

The goal of creating business intelligence is to support and improve business decision-making procedures in companies. Business intelligence is the result of a well-managed and thought-out process of deriving new or hidden knowledge from data that is routinely generated, captured, memorized and used in business. Business intelligence can be derived from operational data by applying appropriate logic-computer methods. The creation of business intelligence requires the establishment of a coherent approach to data management and the development of a unique system according to their role and importance in the company.

Business intelligence, that is, the term, summarizing everything, unites all important concepts, technologies and methods with which the decision-making process in the organization is improved, which are certainly data storage, data search and the analysis of existing data itself Garača & Jadrić (2011).
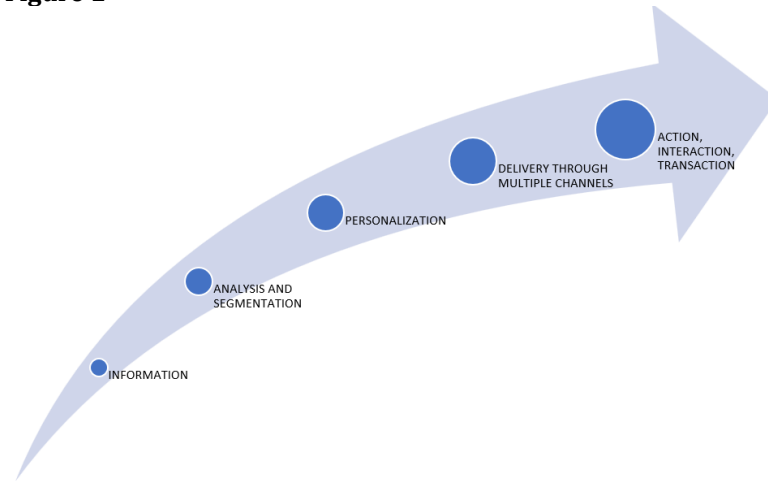
## 3. CREATION OF BUSINESS INTELLIGENCE

When defining business intelligence, we mentioned the concept of creating business intelligence. When creating business intelligence, it may seem that it is created due to the creation of a large amount of information, data, analysis, but this is not the case at all.

Creating business intelligence is by no means an increase in the number of information, but rather sorting, conceptualizing and generating better, higher quality information, which will ultimately have a high impact on us when making further business decisions. This is precisely what gives importance and strength to business intelligence to develop as quickly and better as possible, because in a way it brings order to the sorting of information, which is a generically important factor in the production chain, i.e. in the business of the company.

Business intelligence, when created and deployed properly, actually provides users with exactly the information they need, at the time they need it. As a conclusion, we state that the quantity of information is not important, but the quality Tomaš (2014).

In order to create high-quality business intelligence, that is, for it to function as such and help us generate and use various information, it is necessary to stick to the components for creating business intelligence.

**Figure 1**



Figure 1 Creating Business Intelligence

## 4. PHASES OF BUSINESS INTELLIGENCE

In order for our business to be successful, knowledge of suppliers, customers, competitors, as well as knowledge of the needs of both customers and potential customers is mandatory. This is exactly why market analyzes are done and in this way the market and market trends are monitored. When we have all the necessary knowledge, a model is defined for the manipulation or use of information that results in decision-making and thus the success of the organization's operations Stipić (2017).

In order to satisfy all factors and not to lose the sequence of work, it is necessary to divide business intelligence into 5 phases, namely:

- Data source,
- data analysis,
- awareness of the situation,
- risk assessment and
- decision support.

### 4.1. FIRST PHASE, DATA SOURCE

As business intelligence implies a database, we need a source and access to certain data that are key to the operation and development of the company. Data can be from various sources, such as e-mails, images, text documents and the like. In conclusion, data sources are all devices and programs that help us to base data (scanners, cameras, websites, ready-made files) Banec (2022).

### 4.2. SECOND PHASE, DATA ANALYSIS

Based on collected data from various sources, business intelligence deals with systematizing useful knowledge from existing data. Business intelligence, with its work, greatly adds to the work of the company, i.e. the business itself, because it evaluates business trends, enables assumptions about future business, scans the market, predicts missing information, and the like. Analyzing data is also called knowledge discovery or data mining Banec (2022).

### 4.3. THIRD PHASE, AWARENESS OF THE SITUATION

When making decisions, there are various risks that follow us if the decision is wrong at a certain moment. This is precisely where business intelligence can greatly help us, because in this phase it works on decisions, i.e. it weighs moments and future risks, prices or benefits if one action is taken in relation to another solution, i.e. an action and a decision. Therefore, in this phase, conclusions are drawn and the best options of the organization are summarized Banec (2022).

### 4.4. FOURTH PHASE, RISK ASSESSMENT

Business intelligence uses information wisely, all with the aim of providing warnings to the organization in the form of poor employee performance, market changes and data retrieval so that preventive measures can be taken to protect the organization from unwanted problems in the early stages. In this phase, business intelligence greatly affects the improvement of sales as well as customer satisfaction Banec (2022).

### 4.5. FIFTH PHASE, DECISION SUPPORT

By filtering or distributing all existing data, business intelligence puts important information into the context of business and the environment of the organization and business itself. As the user of business intelligence only needs key information, the user receives summaries and relevant data on the state of market power, government policy, customer demand and the like by filtering. In this phase, business intelligence is set up to consciously infer and understand the context in which business-related decisions are made Banec (2022).

## 5. BUSINESS INTELLIGENCE TOOLS

With the help of business intelligence tools, trends are monitored, optimal allocation of company resources is made, forecasts are made and the future of the company is predicted. The tools contain part of the strategic information system Garača & Jadrić (2011).

### 5.1. IBM COGNOS BUSINESS INTELLIGENCE

A package that provides a wide range of functionalities that help to understand the data of an individual organization. Every employee of the organization is able to use IBM Cognos BI for the purpose of reviewing or creating business reports, data analysis and monitoring of events and metrics, in order to make the most effective business decisions. The most important thing is to understand how each component of the IBM Cognos BI user interface can greatly help in the development and operation of the organization (IBM).

The software was founded in 1969, under the leadership of Alan Rushforht and Peter Glenister, and is used for analytics and reporting and is based on the Internet. The software offers alerts and notifications in real time, helps users with quick responses to business inquiries, but also enables monitoring and analysis of the organization's business metrics. The main feature of this software is the various possibilities of business intelligence in the form of queries and reports, analysis and mapping of results, all using only one architecture Guru99. (2022).

## 5.2. ORACLE BUSINESS INTELLIGENCE ENTERPRISE EDITION

This platform enables the discovery of insights and the making of quick, well-founded business decisions. The platform offers agile visual analytics and self-service discovery along with best-in-class business analytics. Oracle BI enables content and metadata search, sophisticated in-memory computing, native access to Big Data sources, strategy management, alert enforcement, powerful operational reporting, highly interactive dashboards, and simplified systems management. The platform guarantees a reduction in the total cost of ownership and an increase in return on investment for the entire organization (Oracle).

This is a powerful tool for analyzing and presenting data. It enables the collection of data from the organization, all for the purpose of presenting data in easy-to-understand formats (tables and graphs). These possibilities enable the organization to make quality decisions, take other actions and implement quality business processes in the organization's operations (Oracle Help Center).

## 5.3. MICROSOFT SQL SERVER BI PLATFORM

The environment of organizations is changing very quickly; therefore, organizations must have access to all information related to operational performance. In this way, organizations can be sustainable. The SQL Server tool supports decision makers at various levels in the organization. Proper management is important because without it, it is completely impossible to get the value that business intelligence tools offer. By simply adopting a business intelligence management framework, companies manage their own information. SQL Server can significantly influence an organization's business decisions by using software and services to turn data into measurable actions (Hevo).

SQL Server BI is a set of tools for converting raw data into important information that they use to make further business decisions. SQL Server comes complete with tools that facilitate business intelligence and the transformation of raw data into useful information. SQL Server tools include analytics, performance metrics, knowledge management, and enterprise reporting (Techopedia).

## 5.4. SAP BUSINESS OBJECTS BI PLATFORM

A centralized suite for data reporting, virtualization, analysis and sharing. It is intended for business users, and consists of applications that discover data, translate analysis and gain insight and create reports that visualize insights. The main task of a series of applications is to convert data into useful information that will ultimately be available anywhere, anytime (SAP).

This server is intended to simplify reporting and analysis for business users, all for the purpose of creating reports and executing processes. SAP enables the analysis and search of data from various sources (TechTarget).

Since 2007, SAP has integrated the entire portfolio of Business Objects products, and within that portfolio are products developed by Business Objects, in addition to products that it acquired and inserted into the product suite (e.g. Crystal Reports). The SAP Business Objects platform is the core of the analysis and reporting suite. This platform is used as the primary approach to store, publish, share and create reports, but also to perform analyzes within different products (element61).

## 6. CONCULSION

By modernizing both the times and the business scene, we must not be somehow old-fashioned and refuse new business technologies. It is certainly necessary, especially when the organization is developing, to try to introduce novelties, but also to modernize the system itself and the management of the organization. In this paper, we have seen how business intelligence is needed in the vast majority of organizations to facilitate data manipulation. As time goes on, in a business sense, day by day, there is more and more information that we must necessarily absorb. Business intelligence helps us in this, because it will download information, sort it, and then, when we need it, use it in making important decisions. Sometimes, one decision can set the organization back a lot, but if we have foreseen it, the decision doesn't even have to come, but we can change it at the start, of course with consultation. Organizations need to be led towards a newer future in terms of technology, precisely because of hacker attacks, data downloads and the like. By modernizing the organization, we certainly also work preventively on the protection of business secrets, business data and data key to successful business, which is the most important thing in the entire story of the organization's work.

## CONFLICT OF INTERESTS

None.

## ACKNOWLEDGMENTS

None.

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