INFORMATION SYSTEM REENGINEERING EFFECTS THROUGH THE ESTABLISHMENT OF THE SPECIAL DEPARTMENT FOR BUSINESS INTELLIGENCE IN BUSINESS ENTITIES

Branimir DUKIĆ, Ph.D.
Faculty of Economics in Osijek, Republic of Croatia

bdukic@efos.hr

Sanja ĆORIĆ, M.Sc
Jadransko osiguranje JSC, Republic of Croatia

sanja.coric@jadransko.hr

Danijel BARA, MBA
Jadransko osiguranje JSC, Republic of Croatia

danijel.bara@jadransko.hr

Abstract

Faced with a daily market competition, modern businesses require agility in business, willingness to changes within the environment and quality in business decision making in order to respond to all requests placed in front of them, with the aim of improving the quantitative and qualitative parameters of operations. Modern business intelligence systems provide the answer how to, in the shortest possible time, ensure a sufficient amount of reliable, high-quality and timely data which provide information strong enough to make a good business decision. One of the issues that affect the performance of business intelligence systems is its organizational aspect. Therefore, it is important to know how businesses who apply business intelligence tools to a large extent have organized a separate department for business intelligence. These subjects are different from others according to their bvusiness, and in practice are more successful

in the application of business intelligence tools. Practical research carried out on Croatian territory has led to such conclusions.

Keywords: *Business intelligence tools, business entity, information system re-engineering, management, support, business decision-making*

JEL Classification: D8, D83, G13

INTRODUCTION

In today's global and highly competitive marketplace, business and the survival of businesses depends greatly on the effects of decisions taken by their managers. The greatest responsibility thus belongs to management at the strategic level, having in mind that strategic decisions determined the long-term activities to be implemented in order to achieve the basic goals of the business entity. The process of strategic decision-making is therefore a fundamental management process in business entities, because strategic decisions determine the stability of the operations of a business entity in the long term. Unpredictable and increasingly complex business environment changes, caused by the turbulent developments in the globalized society, which are particularly the result of intense technological development, especially information and communication technologies, make the strategic decision-making more difficult and demanding, thus strategic decisions giving increasing importance for business entities survival.

However, these terms and conditions, not only to raise the importance of strategic decision-making, but make it significantly more complex activity, than it was in the past.

Modern businesses are overloaded with a large number of data, which detailed and accurate recording is often difficult, and can generally be detected with the problem of quality data management. The existence of the problem of quality data management can reflect on the efficiency and effectiveness of operations in the narrow and broad sense. When it comes to its effectiveness and efficiency in the narrow sense, then the efficiency and effectiveness of operations are seen as the current business results.

Observation of efficiency and effectiveness in the broader sense implies not only the outcome of current operations, but also the potential impact of strategic decisions on the future outcomes of business. In this sense it is possible to

consider for example business entity interaction with the environment, which in the short term does not have to have an impact on business results, but on long term it is very likely that the specific activities of a business entity will reflect in the results of operations. Such examples can be seen in the context of the value chain, where for example the level of establishing relationships with consumers-clients or establishing and developing relationships with suppliers have a significant long-term impact on the level of efficiency and effectiveness of the business entity.

The problem of quality of data management has a direct impact on the quality of business decisions because by definition, information control is data derivative. Therefore, if it is wanted to quickly and efficiently make decisions, especially at the strategic level, it is necessary to build an efficient system of managing data in an enterprise.

The problem of quality of data management has a direct impact on the quality of business decisions by its definition, information control is data derivative. Therefore, if it is wanted to make decisions quickly and efficiently, especially at the strategic level, it is necessary to build an efficient system of managing data in an enterprise because strategic decisions are the most important in terms of the existence of a business entity.

Data management is still in the domain of the concept of business intelligence. The implementation of business intelligence systems in the economic subject, whose task is to generate quality information necessary for making effective business decisions, is one of the imperatives of modern business. Although today the wider business theory clearly points out the need and importance of the implementation of the concept of business intelligence, its practical application in modern businesses is vaguely defined.

Very often, business intelligence is viewed as part of the management of a business entity and is placed in managerial infrastructure of the organizational frameworks in company. On the other hand, business intelligence often is viewed as part of the business information system, in which case its organizational position is within the management information systems.

However, as business intelligence ties between management information which takes place within the framework of management information systems, and management of a business entity, there is a need for separation of business intelligence in a separate organizational unit which in turn establishes the infor-

mation management business system. The research results that are presented in this paper provide answers to questions related to the effects of the information system reengineering business entity through the establishment of a separate department of business intelligence in the enterprise.

RESEARCH METODOLOGY

Modern business information systems are result of permanent attempts of the theory and practice of formalization and normalization of information flows in businesses. Although the emergence and theoretical shaping of modern information systems are associated with the application of information and communication technologies in business, their existence is present since the human society started in organized business ventures monitored systematically organized records of business events and business structure. Similar is the situation with the concept of business intelligence. Although it is formally a relatively recent concept that described the modern theory, this concept and its doctrine basically took over from the military doctrine, in fact, it exists as long as exists management efforts to ensure competitiveness in the market through information superiority. Therefore, since the market exists, there is the need to ensure competitiveness through activities that make monitoring data on consumer behavior with one, competition with others, and the environment with a third party. Based on these data the control information is formed, and competitiveness is achieved by passing the respective rational business decisions.

However, information superiority is achieved not only with the collection of data for the purpose of rational decision-making, but also with the distribution of data to all who are interested in details, but in a manner and with content that matches a business entity. In a dynamic and turbulent business conditions that exist today in a globalized market, the importance of business information systems with one and business intelligence, on the other hand is growing. From that point of view the importance of business decision-making is also growing, especially those at the strategic level. Therefore, in real operating conditions, there is a need for well-organized subsystems in the enterprise which are able to efficiently do their job in terms of information management and ensure information superiority. In today's circumstance it makes sense to allocate organizational subsystem business intelligence as a separate organizational unit which function is creating point of information superiority of modern business sys-

tems. That kind of an approach is justified for the reason that modern systems of business intelligence accompanied by appropriate software systems that can colloquially be called business intelligence tools.

However, this logical assumptions, concerning the organization of subsystems business intelligence, need to be proved through practical research. From the perspective of the effective application of business intelligence tools, it would be ideal if every business entity that applies the tools of business intelligence had a separate department for business intelligence. It is logically justified existence of the department for business intelligence in business entities is at the same time one of the prerequisites for the successful use of business intelligence tools.

In this context, the following hypotheses were set: H1: Businesses that implement business intelligence tools to a large extent have organized a separate department for business intelligence within the business entity; H2: Businesses that have organized a separate department for business intelligence in an enterprise vary by business characteristics compared to those that do not have organized a separate department for business intelligence in a business entity; H3: Businesses that have organized a separate department for business intelligence in a business entity are more successful in the application of business intelligence tools.

Generally it can be stated that the aim of research is to confirm or reject the proposed hypotheses. In this sense, the aim of the research carried out surveys on an adequate sample of respondents to be able to prove or disprove the hypotheses identified. In order to realize the goal of the research and solve the identified problem appropriate scientific methods were used. First of all, the method of deduction, descriptive modeling methods, methods of analysis and synthesis, methods of abstraction and generalization method, the method of causal reasoning, methods of surveying, as well as the appropriate method of statistical data processing. In addition to these, other scientific methods were used.

Given the specific research conducted pragmatic, it was necessary to structure the sample of respondents in appropriate way and select those subjects who are in their businesses use and are familiar with the capabilities of business intelligence.

Considering the potential difficulties in finding and recruiting the relevant subjects, method of on-line data collection questionnaire was chosen. In preparation of on-line questionnaire and the data collection on-line software SurveyGizmo was used. The research was conducted in the second quarter of 2014. The questionnaire was entirely filled by 113 respondents. Table 1 shows the list of their demographic – business characteristics.

BUSINESS DECISION MAKING AND THE USE OF BUSINESS INTELLIGENCE TOOLS

Growing competition, increasingly complex legislative framework, introduction of international standards, standardization, together with the consolidation of businesses and other globalization trends impose the need for increased research in the area of business intelligence, with goal to its greater and more effective application in the field of business decision-making. Business intelligence is part of a system of information businesses and firmly connects the existence of business information systems.

Thus business intelligence is to be seen as a link between management information systems whose task management and data management used the data or information for the purpose of making business decisions. Generally speaking, the essential role of business intelligence is to produce relevant information from the mass of data that will enable the management of rational business decisions. However, it should be remembered that business intelligence systems not only create management information, they are also a kind of information integrators to necessary knowledge for decision making. "Usable business information must provide a valid and reliable picture of reality, be available at the right time, be complete and consistent, and most importantly, be relevant to the field of business decision-making."

The information in the right place at the right time is one of the most important resources that can bring the difference between survival or collapse of the business entity. It is important to emphasize that business intelligence has a qualitatively higher value of information, because it is the end product created by systematic collecting, verifying and analyzing data or information in order to gain knowledge of certain problems, or it is "everything you need to know to act effectively". Before the start of the information age, in the second half of the 20th century, business entities have had to gather data from non – automated sources, and

did not possess adequate computing resources for data analysis. Therefore, the business decisions were based mainly on intuition. With computerization of more and more systems, the amount of data that has become available drastically increased.

In these conditions, analysis of the collected data and preparation of reports are sometimes fixed. But already at that time, long-term strategic decisions could be made on the basis of these reports, while the short-term tactical decisions were still based on intuition.

Today, as before, timely and valid information is one of the most important prerequisites for performing certain business activities. Business intelligence systems must include external and internal data. Internal data are collected in accordance with established rules and stored in data warehouses. External data, which mainly refer to the data on the whole market, data from the activities, competition, etc., first are passing through the control mechanisms so it could be taken with internal data in later analysis. In 2003, the typical organization analyzed only ten percent of the collected data, mainly internal, while in 2005 that number increased to twenty percent of internal data.

Today's organizations besides internal use also external data sources, which rapidly increased with the concept of Big Data, so some sources affirm that today 45% of data that are business people using, comes from external sources.

With the introduction of business intelligence and management of business information, business entity has the ability to use the remaining data collected from various sources, transforming them using business intelligence systems to quality information.

Looking at this problem through the issue of data about customers and suppliers, and in particular their dispersion, in marketing, sales, service, finance and procurement, it is clear organizational need for the introduction of an effective system that will properly connect the data collection process, planning, analysis and obtain high-quality new information key to successful management of companies, and particularly complex business systems.

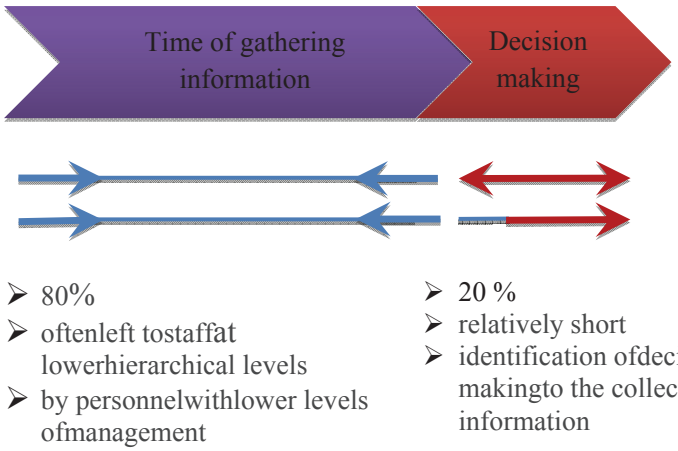
It is evident, therefore, that the acceptance of the concept of business intelligence is the ability that a major number of business systems should accept and adopt as soon as possible if they want to survive in the market.

Nowadays problem in business entities which use large amounts of data to obtain the information needed to make good business decisions is certainly the accuracy of their data.

A lot of business entities have doubt about the accuracy of their data in a way, so average amount of inaccurate information increased by 22%, from 12% to 17% of inaccurate data, in just a few months during 2014. Companies in the United States believe they have even greater percentage of incorrect data and assume that this is close to 25% of inaccurate data. The level of inaccurate data is startling when one considers the company's dependence on information systems in business intelligence.

The main cause of incorrect data still is human error, which is a problem at all levels and channels. Overall, 78% of companies have problems with the quality of data collected from various sources. Globally, contact centers produce the worst quality of the data, followed by inaccuracies following websites. As shown in Figure 1 the time required to make decisions according to B. Liatud can be divided into two phases: the phase of gathering information and phase of making decisions.

Figure 1. Time required for a decision making



Source: Liautaud, B., Hammond, M.: e-Poslovna inteligencija, Prudens Consilium, Varaždin, 2006., pp. 95.

Željko Panian and Goran Klepac suggested four basic categories[1] of data quality that directly affect business decision making in a business entity:

[1] Elaborated by: Panian, Ž., Klepac, G. (2003.), Poslovna inteligencija, Masmedia, Zagreb, pp. 31-34.

Standardization

Different interpretations of the same concepts can lead to non-recognition of the same data, and of inconsistency within the database itself. In order to avoid this, it is recommended the abstraction of data in standard uniform formats and their consistent application to the implementation of standardization of business documents.

Congruence

Minor variations in registering data may occur a problem copying of records in the database, because the standard computer programs do not recognize them as identical. The concept of business intelligence is based on the application of modern software tools to detect similarities between similar data abstraction with relevant from irrelevant details.

Necessary verification

In order to ensure data accuracy in repositories of company, with the aim of making good business decisions is conducted by the verification procedure, which establishes a correspondence with known data source that represents the standard.

Expandability

Sophisticated information technology allows new data adding, and changing the value of the existing ones, in order to make them as useful as possible and to maximize their applicability. Technology Web service enables users direct incorporation of external data in its own data store. According to Bernard Liautaud[2], the value of certain information grows proportionally with the square of the number of users who have access to that information multiplied by the number of business areas in which these users are doing.

ORGANIZATION OF BUSINESS INTELLIGENCE IN BUSINESS INTELLIGENCE DEPARTMENT

Business Intelligence is a business principle which became infallible in the business of any modern business entity. If managers which make strategic busi-

[2] Elaborated by: Liautaud, B., Hammond, M. (2006.): e-Poslovna inteligencija, Kako informacije pretvoriti u znanje a znanje u profit, Prudens Consilium, Varaždin, pp. 30.

ness decisions have quality and reliable information, it is logical to conclude that their decision in this case is better and more efficient.

In order to introduce business intelligence projects in company successfully there is a need to meet certain assumptions. Assumptions of the successful business intelligence project in any case are: clearly defined and achievable goals, the willingness of a business entity to accept the changes and awareness of top management personnel, reliable staff which are ready to tackle the information coming from the data warehouse and based on them to create reports and the consequent knowledge needed to make business decisions. Business intelligence initiatives are often characterized as projects. Businesses, however, are unable to reach a comprehensive uniform reporting through more isolated projects. In addition, many businesses often fail to successfully retain the defined criteria after the implementation of business intelligence, because such projects were not incorporated in their business structure. The process of introducing business intelligence in business requires an extremely broad interaction between business and IT departments. In addition to these interactions, as well as due to the fact that intertwined components undergo constant change[3], it is clear that the organizational side of business intelligence is another basis of success of business intelligence.[4] By incorporating business intelligence into their organizational structures, businesses can ensure long-term success of these initiatives. The current trend shows that more and more companies establish a dedicated unit for business intelligence, so-called: Business Intelligence Competency Centre - BICC.[5]

The main objectives of establishing competencies center include the creation of an appropriate organizational form of business intelligence department within the existing corporate structure, as well as the integration of the respective roles and responsibilities within the jurisdiction of the city, and in the most part related to the link between IT and the business side.[6]

[3] Elaborated by: Moss, L.T., Atre, S. (2003.), Business intelligence roadmap: the complete project lifecycle for decision support applications, Addison Wesley, ISBN: 0-201-78420-3, Boston, USA, pp. 129

[4] Elaborated by: Wixom, B.H., Watson, H.J. (2001.), An empirical investigation of the factors affecting data warehousing success, MIS Quarterly, 25, 1, 2001, pp. 17-41

[5] Elaborated by: Miller, G.J., Bräutigam, D., Gerlach, S.V. (2006.), Business intelligence competency centers: a team approach to maximizing competitive advantage, Wiley, Hoboken, USA, pp. 2

[6] Elaborated by: Baars H., Zimmer M., Kemper H.G. (2009.), The Business Intelligence Competence Centre as an Interface between IT and User Departments in Maintenance and Release

Since the BICC is responsible for all business intelligence initiatives across the business entity, there are often differences between choosing the best solutions in accordance with corporate standards. Managing business intelligence sets the framework for the selection of applications portfolio of business intelligence, as well as for the design of organizational structures, processes and architecture.[7]

In order to implement existing standards and guidelines in an enterprise, BICC necessarily needs suitable sponsors who can provide necessary financial resources as well as the body with authority in business entity. Excluding this effect, the chances BICC will be able only to observe isolated activities of business intelligence without taking measures and control of the situation. Although there are no rules as to how it should look like, business intelligence department basically to its structure should consist of three parts:

a) Executive team (business sponsors) - provide the resources and the authority of the business entity, prioritize projects, approved guidelines

b) Business team (business-oriented team) - use analytics, coordinate departments with key customers, defining best practices, define and document metrics, collect requirements, monitor reports

c) Technical team (data developers) - developing and maintaining a data warehouse, build semantic level of business intelligence tools, create complex reports and dashboards, develop management model coordinate databases and servers with IT department

In order to determine whether an organization of business intelligence systems has an impact on its effectiveness in the work, proper research was conducted by surveying results of which are presented in the next section.

Development, Proceedings of the 17th European Conference on Information Systems (ECIS 2009), Verona pp. 2061-2072

[7] Elaborated by: Guiterrez, N. (2006.), Business Intelligence (BI) Governance. Going beyond project selection and prioritization to materialize the enterprise strategy, Building Tomorrow's Enterprise, Infosys Whitepaper, http://www.infosys.com/industries/consumer-packaged-goods/white-papers/ Documents/bi-governance.pdf Approach (25-01-2015)

FINDINGS REGARDING THE IMPACT OF THE ORGANIZATION ON THE EFFICIENCY OF WORK OF BUSINESS INTELLIGENCE SUBSYSTEM

Table 1 lists the demographic characteristics-business respondents who participated in the study.

Table 1. Demographic – business characteristics of the respondents

	n	%		n	%
Sex			Ownership of a business entity		
Male	95	84.1	State	13	11.5
Female	18	15.9	Private	94	83.2
Level of Education			Ownership structure		
Secondary education	6	5.3	Domestic business entity	61	54.0
Higher education	8	7.1	Multinational company	46	40.7
Bachelor degree	66	58.4	*Size of business entity*		
			Micro and small	35	31.0
Master's and PhD	33	29.2	Middle	23	20.4
			Large	55	48.7

A sample consists of predominantly male population (84.1%). Educational structure of respondents shows mostly college-educated, (secondary education 5.3%), those with higher share of bachelor degree (58.4%), and those who have completed a master's degree and PhD (29.2%). The educational structure of the respondents suggested high level of education of respondents who know and use the tools of business intelligence in their business entity.

Looking at the form of ownership, in the sample are mostly represented private businesses (83.2%). With regard to the ownership structure more even with a higher number of domestic companies (domestic business entities 54% vs. multinational companies 40%).

The classification of business entities by size is used the criterion of the number of employees in an enterprise. Micro businesses believe they are up to 10 employees, small businesses are those which counted 10 to 49 employees, medium 50-249 employees and large businesses with more than 250 employees.

Operationalization of variables

With aim to test proposed hypothesis asked variable of research were analyzed and operationalized. As a dependent variable of this study, the decision of a business entity (not) to establish a separate department for enterprise business intelligence was set. It was stated in the questionnaire posed the question: Is there in your business entity department for business intelligence? Answers to the question about the possession of the department have been reported in Table 2.

Table 2. Business Intelligence Department

The existence of the Department for BI	Respondents	%	Good %
Yes	58	51.3	54.2
Ne	49	43.4	45.8
Missing values	9	5.3	
Total	113	100.0	

In this study, the independent variables are characteristic of a business entity such as the size of a business entity, forms of ownership of a business entity and ownership structure whose categories and values reported in Table 1 and the successful application of business intelligence tools. Variable successful application of business intelligence tools adapted to Herschel (2011) and measured five graduated scale.

Although the business performance is often measured by financial indicators, in the context of this paper it is measured by frequency of business intelligence use as the basis of decision-making by management.

Successful businesses are considered to be those entities that do so to a greater extent. Table 3 is written operationalization of business performance variables.

Table 3. Operationalization of variables business performance

Using business intelligence tools	Variable business success
Rarely, or not used at all Periodically In one part of the business process	Limited use of business intelligence tools as a basis in decision-making - unsuccessful businesses
In most of the business processes Continuously	The use of business intelligence tools as a basis in decision-making - successful businesses

With successful use of business intelligence tools are marked those business entities that in most parts of their business processes, continuously use business intelligence tools as a basis for decision-making.

Table 3. Operationalization of variables business performance

Successful application of business intelligence tools	n	%
Yes	70	61.9
No	43	38.1
Total	113	100

Successful application of business intelligence tools was noticed in almost 62% business entities from a sample.

Statistical methods

For the purpose of testing surveys different statistical methods are used. In testing of the hypotheses was used chi-square test in order to test dependencies between business entities which have Department for Business Intelligence, their size and form and structure of ownership.

Results

Detailed results are given in the tables below.

Table 4. Results of the application of business intelligence tools

Does your business entity use business intelligence tools?		BI Department		Total
Yes		No		
Yes	n	58	49	107

More than half of the surveyed business entities (54.2%) have department that deals with business intelligence. Data on the existence of the department of business intelligence in the selected business entities was compared with their size, structure and form of ownership. Mentioned dependences between variables were tested with chi-square test.

Table 5. Chi-square test shows the relationship between the existence of BI departments and size of the business entity

Size of the business entity	BI Department		Total	Chi-square test
	Yes	No		
Micro and small	10 (28.6%)	25 (71.4%)	35 (100%)	$\chi^2 = 15.287$, df = 2 $p < 0.001$
Midle	11 (55.0%)	9 (45.0%)	20 (100%)	
Large	37 (71.2%)	15 (28.8%)	52 (100%)	
Total	58 (54.2%)	49 (45.8%)	107 (100%)	

When the size of a business entity and the presence of the department of business intelligence are observed is in the same level of significance of 5% ($\chi 2$ = 15.287, df = 2, p = 0.000) it is possible to say that large business entities in its organizational structure have separate department for business intelligence (62.5%, compared to 31.2% of large businesses that do not have). On the other hand there is a high proportion of small businesses that do not have a department for business intelligence (52.1%, compared to the structure response those who have the department 17.9%). It is possible to talk about dependence of the size of a business entity and its existence of the separate department for business intelligence.

Table 6. Chi-square test shows the relationship between the existence of BI departments in an enterprise and ownership structure of the business entity

Ownership structure of the business entity	BI Department		Total	Chi – square test
	Yes	No		
Domestic	25 (42.4%)	34 (57.6%)	59 (100%)	$\chi^2 = 7.513$, df = 1 $p < 0.01$
Multinational	30 (69.8%)	13 (30.2%)	43 (100%)	
Total	55 (53.9%)	47 (46.1%)	102 (100%)	

It is evident that there is a link between ownership structure and the existence of the Department of business intelligence within the business entity. The businesses in the predominantly domestic ownership, majority (57.6%) do not have a special department, while multinational corporations in a large number (69.8%) have special departments, which can be interpreted through their extensive experience in the treatment and positioning systems BI inside company. This is certainly a trend that should follow domestic corporations.

Table 7. Chi-square test shows the relationship between the existence of BI department in a business entity and form of ownership of a business entity

Form of the ownership	BI department		Total	Chi – square test
	Yes	No		
State	5 (41.7%)	7 (58.3%)	12 (100%)	$X^2 = 0.822$, df = 1 p = 0.539
Private	50 (55.6%)	40 (44.4%)	90 (100%)	
Total	55 (53.9%)	47 (46.1%)	102 (100%)	

Regarding the variable of ownership (private - state), not significant differences were observed in the existence of a separate business intelligence department.

Table 8. Chi-square test shows the relationship between the existence of BI departments in an enterprise and successful application of business intelligence tools

Successful of the use	BI department		Total	Chi – square test
	Yes	No		
Yes	44 (67.7%)	21 (32.3%)	65 (100%)	$X^2 = 12.134$, df = 1 p < 0.001
No	14 (33.3%)	28 (66.7%)	42 (100%)	
Total	58 (54.2%)	49 (45.8%)	107 (100%)	

Ultimately, it is necessary to test the existence of relationships between the existence of the business intelligence department in businesses and the successful application of business intelligence tools. In other words, attempts to test the assumption whether businesses that have a separate department for business intelligence are more successful in the application (exploitation) of business intelligence tools than those business entities that failed to establish a separate department to monitor the application of business intelligence tools. Since both variables are measured at the nominal level of measurement mentioned assumption is tested by chi-square test of independence.

Businesses that successfully and continuously use business intelligence tools largely have organized department of business intelligence (67.7%). Results of the chi-square test ($\chi 2 = 12.134$, df = 1, $p < 0.001$) indicates the acceptance of the assumption that businesses who have organized a separate department for business intelligence are more successful in the application of business intelligence tools (H3).

CONCLUSIONS

Because of the presence of globalization modern business takes place under conditions that are extremely unstable, turbulent and highly competitive. In such conditions average margins are falling, so it is increasingly difficult for businesses to make a profit, and the results of bad business decisions can easily jeopardize the viability of businesses. In the past, businesses with high margins and with a relatively small number of business transactions ensured its survival, and any errors are in business offset by the reserves that have formed successful business deals. In such business conditions, rational component of a decision-making was not crucial for business entities. Today's situation is entirely different. Small margins, risk jobs and the need for large volumes of business in order to create a quantity of profit are putting rational decision-making in first place.

Rational decision making is based on timely information that are produced from the vast amount of data that result from the recording of business processes, or business events that change the business structure. But the amount of data is the ore, which is yet to be processed in the management information that is a key component of rational decision-making. Subsystem of business intelligence is one of the essential subsystems that generate management information as a product that is involved in rational decision-making. To ensure competitiveness, businesses, in their daily business, increasingly have to rely on business intelligence systems, and to ensure greater availability of current information, resulting with available processing information. The users of information, particularly strategic management of business systems require analysis of data in real time and availability at any time. Modern business intelligence systems are facing new challenges related to the collection, submission and analysis of data, and selecting quality of the data resulting from error of the human factor, and with the purpose of creating the relevant information at the right time. The business environment, in front of businesses, sets requirements which greater efficiency and effectiveness, with the same resources available in the same timeframe.

The human factor, as one of the key resources cannot be bypassed in the context of business decision-making, as well as the fact that in front of him is placed large amount of information to be processed. Therefore it can be concluded that the business decision is largely evaluated by one of the alternatives from analysis of the information collected, which could mean that the quality of business

decisions is conditioned by the quality of the data, analyzes and information. This again underlines the importance of business intelligence and its appropriate treatment within a business entity. Given the importance of having systems of business intelligence for business decision making, it is important to look at the practical functioning of the business systems.

Therefore, the research was conducted to determine whether the organization of business intelligence systems impact on the effectiveness of decision-making, and the efficiency and effectiveness of business enterprise. Research results indicate that businesses, which have organized a special department of business intelligence, are more successful in the application of business intelligence tools. They certainly allow greater and timely availability of quality information, and the ability to thereby increase their competitiveness, and thus improving the quantitative and qualitative parameters of operations.

Besides the organizational aspect which was researched and presented in this study, further research should be directed towards a model reengineering of modern business information systems for the efficient allocation of business intelligence in a separate organizational unit. Research efforts should be directed toward selecting the appropriate machine and software subsystems that ensure the efficiency of business intelligence systems, as well as ways of collecting quality data as the basis for creation of management information.

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