

## RESEARCH OF INTERDEPENDENCY BETWEEN SUCCESS OF BUSINESS AND BUSINESS INTELLIGENCE SYSTEM

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### SUMMARY

*The advantages of Business Intelligence (BI) Systems, as well as possible problems organization may encounter in the process of implementation of such systems are investigated in this paper. Also, the level of implementation of BI systems in the organizations in Bosnia and Herzegovina (B&H) comparing to organizations in macro and micro environment is presented. Performed analysis has shown that organizations which monitoring global market competitors, have recognized importance of BI systems. While there one cannot find practically any organization without implemented some sort of business intelligence system, in B&H the situation is still completely different. Also, the awareness on necessity of implementation of modern business concepts has grown in B&H. Because of the low level of knowledge about advantages and benefits which integration systems can bring, managers hardly decide to start these project. However, because of advantages of BI systems offer, it can be expected that organizations in B&H will decide to implement them, in order to survive and be competitive at global market.*

**Key words:** Business Intelligence Systems, Business information, Business decision making

### 1. INTRODUCTION

The gap between amount of available data and capability of organisation to analyse them is larger every day. Namely, those potentially valuable resources are everywhere around us: in our organisation as well as in micro and macro environment. As a consequence the gap in knowledge occurs, and ultimately all that reflects in narrowed ability of qualitative decisions making.

Collecting of large amount of data spread out in early 1960s with emergence of large and, for that time, very powerful computers. Soon, experts and managers realised that plenty of 'raw' data does not present some great value, but they need to be transformed into useful information which would help them for business decisions making. Namely, although the

organisations are overloaded with data the lack of useful information occurs. That forces businessmen to make important business decisions on basis of minimal and non- balanced information, that means, subjectively and by intuition.

Such 'semi-information' are basically available only to 'top management' which also only prepares strategy of organisation and that is completely wrong approach.

With nowadays pressure on organisations to act promptly, those circumstances need to be changed. New understanding of information arose from new theories of decisions making, paved the way to changes.

## **2. PROBLEM DESCRIPTION**

The key question of contemporary business is: What is the most important presumption for surviving of company in nowadays turbulent markets? The answer is relatively simple – information, or more precisely, information which allows undertaking the appropriate action. In the 21<sup>st</sup> Century, the Century of information and knowledge, the price of information is equal to price of survival at market.

In order that an organisation could determine its current position at the market at all, and to realise its capabilities in perspective as basis for making qualitative business strategy, it must be able to collect available and relevant data, process them in order to obtain qualitative information from them and comprehend its comparative advantages and disadvantages on basis of their analysis. The aim of BI system is to reduce risk and uncertainty as possible occurrence of harmful event in conditions of the dynamic market.

Prerequisite for implementation of BI system model presents adjustment to changes and implementation of new strategic directions. Adjusting to market values system is decisive for organisations from transition countries which needed to abandon the exceeded paradigm of planned economy and to accept market economy rules and laws of supply and demand as well as new development directions generating. Beside the term 'business intelligence' although terms such as 'business reporting', 'business research' [1], and 'business information management' [2] are also being used. In regards to successful business decisions making, BI presents process of collecting available internal and significant external data as well as their transformation into useful information which help business users with decisions making [3].

In accordance with the second available definition [4] the BI is from one side the way of business thinking which allows making business decisions at all levels on basis of relevant and updated business information and not on basis of premonition and subjective impression.

Quantity of data, although having a considerable role, is not of the most important significance. Considering the quantity of generated information the business intelligence concept resides on the following fundamental motions [5]:

- purpose of BI concept is not creation of larger amount of information, but generating better, more qualitative information necessary for business decisions making,
- BI provides to users only those information which they need, but in due time and expressed in the way that is the most appropriate for them,
- with proper application the BI concept will reduce amount of information which employees of an organisation are exposed to, and it will at the same time increase quality of those information.

BI is aimed to provide to decisions makers those data and information which will be a foundation for decisions making, so the organisation's management has the key role in planning process of those activities. In order that BI may fulfil its role the management needs clearly define objectives, that means, there must be a clear picture about requirements, priorities, indicators that are to be followed, as well as about deadlines and resources.

### 3. METHODOLOGY AND SAMPLE OF RESEARCH

Considered problematic, in this paper, has been analysed by using questionnaire which comprised 42 organisations and presented a foundation for collecting relevant experimental data [6]. The questionnaire was created in such way that each of researched qualitative terms was quantified by using appropriate scale. On basis of such formed questionnaire the following statistic methods were applied: correlation analysis and appropriate statistic tests. Out of total number of organisations in sample 70% of them were organisations from territory of Bosnia and Herzegovina, 30% from nearer and wider environment.

### 4. SOME RESULTS OF THE CONDUCTED RESEARCH

According to the results obtained in this investigation, managers of 47,6% of observed organisations are under pressure to make decisions in short time. Reasons for that may be explained by the fact that 64,3% of organisations stated that they need higher percentage of information that would be a foundation for making duly and qualitative decisions.

Many organisations very hard decide for starting and investing in infrastructural projects. The main reason for that is such projects present risk which is reflected in very difficult comprehension of profit or benefit which result in considerable financial and human investments.

Analysing results obtained by method of questionnaire related to benefits brought by implementation of business intelligence system the following data have been obtained: 20 (47,3 %) out of 42 organisations subjected to the research, stated that they fully agree that their market share was increased by business intelligence system implementation. In 17 organisations the responsible managers partly agreed with statement that market share was increased (40,4 %).

Identically to market share increase the increase of financial effects by business intelligence system implementation was achieved in almost the same percentage as market share.

Also, the aim of competitive advantages creating by business intelligence system implementation was fully accomplished in 59,5 % organisations, while in 35,7 % of them it was partly accomplished. It should be emphasized that none representative of the polled organisations does not think that business intelligence system implementation did not influence on competitive advantages increase.

Satisfaction of employees was fully accomplished in 61,9 % organisations, and business intelligence system ensures better cooperation with buyers in even 64 % organisations.

Business intelligence system implemented in segment of production brings the largest benefits with information flow in production serving process itself, such as working plans, orders, errands, etc. Information flow is better in 38,1% of organisations in comparison with conventional way of business in production. The effects of business intelligence system on production factors are presented in Figure 1.

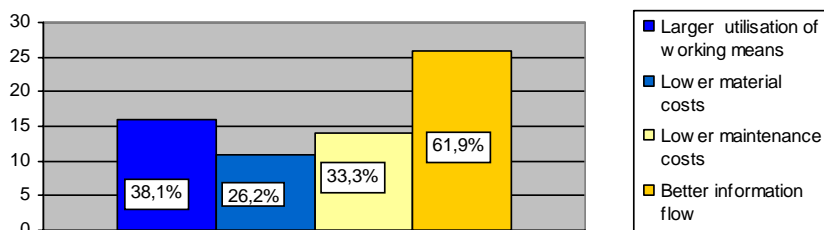


Figure 1. BI effects on production factors

The largest effect of improvement obtained by business intelligence system implementation is reflected in increase of buyers' satisfaction. Increased satisfaction of buyers is reflected in satisfaction on increase of products and services quality in 64,3 % organisations. Influence of buyers' satisfaction increase is, of course, reflected also in smaller number of received claims in 54,8 % of the researched organisations.

Therefore, the number of new buyers is increased in 45,2 % organisations by business intelligence system implementation, and that is presented in Figure 2.

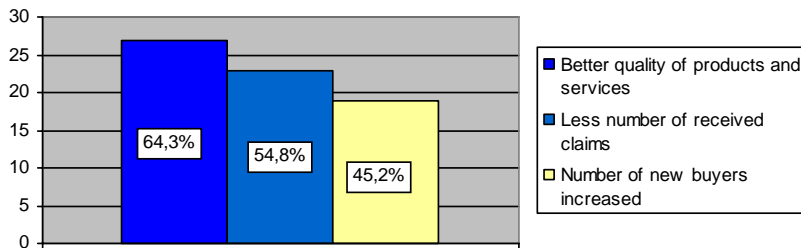


Figure 2. BI effects on buyers' satisfaction

Analysis of impacts of business intelligence system on organisational structure is presented in Figure 3. Namely, business intelligence system implementation improves communication among employees as well as preparation of strategic plan of the organisation.

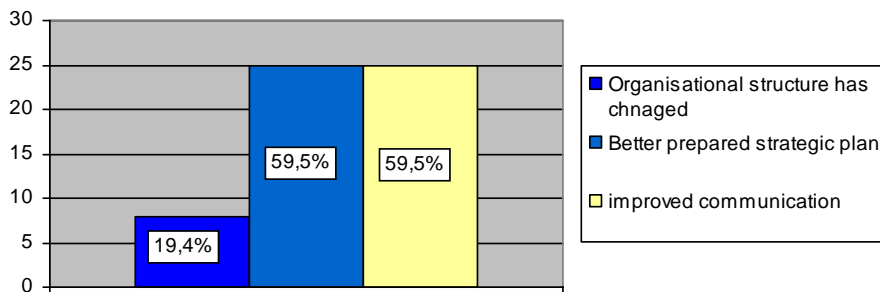


Figure 3. BI effects on organisational factors

However, it can be noticed that organisational structure was changed only in 19.4% cases. Hence, positive effects of BI system are being reflected in smaller or bigger scope regardless to organisational structure and its change. That means, it can be said that in most of organisations the change of organisational structure is not necessary in order that BI system application achieve its effects. Prior to making strategic decision on BI system implementation it is, in addition to benefits brought by implementation, necessary to analyse possible problems as well which will occur during the introduction of system. In this investigation the weak information support (19%) and indifference of employees (14,3%) are reported problems also.

## 5. CONCLUSIONS

After the conducted research one can conclude that duly and exact information becomes a dominant resource of business and condition for survival of an organisation in modern business. In order to define qualitative business strategy on basis of its current position at the market as well as on basis of its opportunities in perspective, organizations must be able to collect available, the newest and relevant data. BI is strategic determination of organisation, so the decision on implementation of this system needs to be understood as the key strategic decision. The problems in B&H are:

- the largest problem which delays starting or the BI implementation process itself are insufficient knowledge about the system (50%)
- in most of the cases (45%) management of organisation is overloaded with regular work and is not able to spend time necessary for analysis and starting the project of BI system

Awareness about using the modern ways of business is growing in organisations in B&H, but due to low level of knowledge about advantages and benefits brought by integration systems, and particularly business intelligence system, managers hardly decide on starting these projects.

## 6. REFERENCES

- [1] Orescanin, D. BI – hit ili mit?, Banka poseban prilog, Zagreb, 2003
- [2] Business intelligence 1999 – Prva hrvatska konferencija o pribavljanju, organiziranju i upotrebi poslovnih informacija, Zavod za poslovna istraživanja, Zagreb, 1999
- [3] Panian, Z., Klepac, G. Poslovna inteligencija, Masmedia, Zagreb, 2003
- [4] <http://www.dmreview.com/>, "Payback on Business Intelligence", 01/2003
- [5] Strateški i nacionalni Business Intelligence 2003, Infoforum, Zagreb, 2003
- [6] Mujkovic, Dz. Istraživanje efekata primjene sistema poslovne inteligencije na uspješnost poslovanja organizacije, Magistarski rad, Mašinski fakultet Sarajevo, Sarajevo, 2009.

