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— ENTREPRENEURSHIP AND INNOVATION —

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Merdžana OBRALIĆ
Emina MEKIĆ

CONFERENCE PARTNERS:
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FOREWORD

International Conference on Economic and Social Studies (ICESoS) is a scientific platform that brings social science researchers together to discuss subjects related to regional economic development particularly in the context of Balkan region. Priority in this year's conference was given to research papers that dealt with entrepreneurship and innovation.

Conference was organized to bring researchers together from different countries in the world. This has been achieved since many researchers who participated came from different countries and brought very interesting studies realized using different approaches.

As a continuation of the topics of the previous two ICESoS conferences, ICESoS'16 focused on the issues related to entrepreneurship and innovation. This is important aspect of regional economic development as well as significant issue for business success.

We would like to thank all participants, partners in organization and organizing members at the ICESoS'16 for contributing their theme, effort and skills to make this amazing event once again possible.

Merdžana Obračić, PhD



PAPERS

DEVELOPMENT OF A BANK SECURITY SYSTEM USING PROGRAMMABLE LOGIC CONTROLLER (PLC)

Anis Skopak

International Burch University
Bosnia and Herzegovina
anis.skopak@gmail.com

Semir Sakanovic

International Burch University
Bosnia and Herzegovina
symorgh13@gmail.com

Abstract: The aim of this project is to solve the bank security problems (robbery, illegal weapons, and the safety of employees) caused by lack of the security in the banks. This project is divided into two parts which are hardware and software. A kind of bank security system by using Programmable Logic Controller (PLC) was designed, and the automatic control of the bank security system was performed by software. The hardware part is the model of one bank containing two front doors, one door of the vault room, and some sensors. The limit switches, doors and sensors are connected to **Zelio PLC Schneider SR3B261BD**. The PLC controls every signal which is coming from the inputs (Limit switch) to software and display to the outputs (Doors). Using software, Function Block Diagrams (FBD) are programmed to control the traffic light.

Keywords: Programmable Logic Controller, Function Block Diagrams, PLC, FBD

Introduction

This is an era when control and disposition increase, and signal integrity problems are getting more and more severe, and time when design teams are available to solve these problems and design new products in short time. This is an era when Programmable logic control (PLC) is exchanging many other components and devices. There is huge fan of reasons why, here are some of them: they are more practical, simpler, very fast, cooperative, payable, etc. Many successful companies are those that using PLCs overcoming their integrity and implementation problems. In high-speed production, accuracy and correctness are very crucial and one of the most important parameters. By understanding the fundamental principles of guideline and controlling PLCs at the engineering level, every engineer involved in this field process can see the impact of PLCs on the system performance. The main advantage and factor is that PLCs can work on 220V as well as 24V, and we can say that PLCs have huge scope of work. A programmable logic controller (PLC) is an industrial computer used to control and automate complex systems. Programmable logic controllers are a relatively recent development in a process control technology. It is designed for use in an industrial environment, which uses a programmable memory for the integral storage of user-oriented instructions for implementing specific functions such as logic, sequencing, timing, counting, and arithmetic to control through digital or analog inputs and outputs, various types of machines or processes. Programmable logic controllers are used throughout industry to control and monitor a wide range of machines and other movable components and systems. PLC is used to monitor input signals from a variety of input points (input sensors) which report events and conditions occurring in

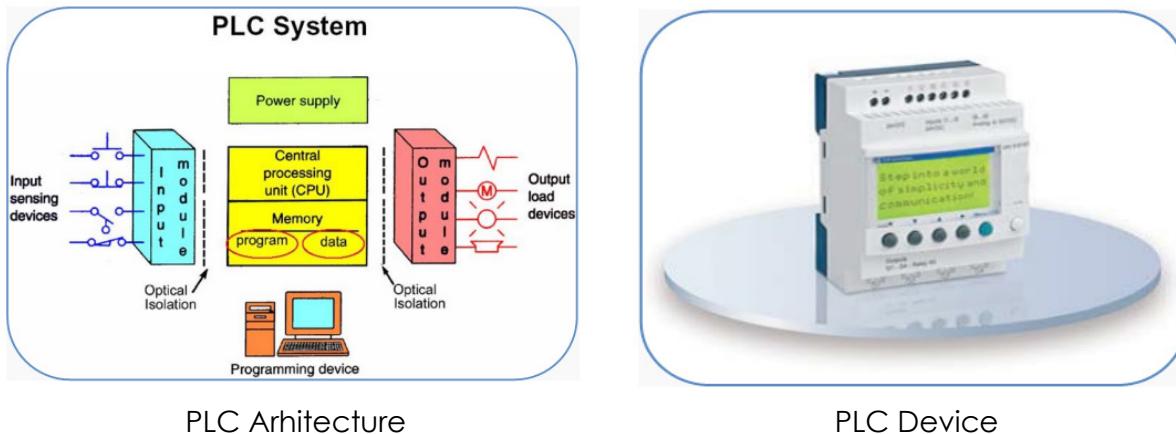
a controlled process. Programmable logic controllers are typically found in factory type settings. A typical programmable logic controller employs a backplane to serve as the communications bus for interconnecting the PLC processor with the array of individual input/output devices with which the processor interacts in terms of receiving input data for use in executing the control program and transmitting control data for use in controlling the targeted objects. A PLC includes a rack into which a plurality of input/output cards may be placed. A rack includes several slots into which these input/output cards are installed. Each input/output card has a plurality of I/O points. The I/O modules are typically pluggable into respective slots located on a backplane board in the PLC. An I/O bus couples the cards in the slots back to the processor of the programmable logic controller. The slots are coupled together by a main bus which couples any I/O modules plugged into the slots to a central processing unit (CPU). The CPU itself can be located on a card which is pluggable into a dedicated slot on the backplane of the PLC. The particular processor employed in a PLC together with the particular choice of input and output cards installed in the PLC rack are often referred to as the hardware configuration of the programmable logic controller.

The primary aim of this project is to analyze the scope of PLCs, how to solve problems and create efficient algorithms which help solve some particular problem. In this case, that is bank security system and how to solve security problems in the bank.

Programmable logic controller

A programmable logic controller (PLC) is an industrial computer used to control and automate complex systems. Programmable logic controllers are a relatively recent development in a process control technology. It is designed for use in an industrial environment, which uses a programmable memory for the integral storage of user-oriented instructions for implementing specific functions such as logic, sequencing, timing, counting, and arithmetic to control through digital or analog inputs and outputs, various types of machines or processes.

Programmable logic controllers are used throughout industry to control and monitor a wide range of machines and other movable components and systems. PLC is used to monitor input signals from a variety of input points (input sensors) which report events and conditions occurring in a controlled process. Programmable logic controllers are typically found in factory type settings. A typical programmable logic controller employs a backplane to serve as the communications bus for interconnecting the PLC processor with the array of individual input/output devices with which the processor interacts in terms of receiving input data for use in executing the control program and transmitting control data for use in controlling the targeted objects. A PLC includes a rack into which a plurality of input/output cards may be placed. A rack includes several slots into which these input/output cards are installed. Each input/output card has a plurality of I/O points. The I/O modules are typically pluggable into respective slots located on a backplane board in the PLC. An I/O bus couples the cards in the slots back to the processor of the programmable logic controller. The slots are coupled together by a main bus which couples any I/O modules plugged into the slots to a central processing unit (CPU). The CPU itself can be located on a card which is pluggable into a dedicated slot on the backplane of the PLC. The particular processor employed in a PLC together with the particular choice of input and output cards installed in the PLC rack are often referred to as the hardware configuration of the programmable logic controller.



PLC Arhitecture

PLC Device

The hardware configuration also includes the particular addresses which the I/O cards. Each option module typically has a plurality of input/output points. The option modules are coupled through an interface bus, for example via a backplane, to a main controller having a microprocessor executing a user program. Option modules may also include a microprocessor and a memory containing separate user programs and data directed to a particular operation of the PLC system. During the execution of a stored control program, the PLC's read inputs from the controlled process and, per the logic of the control program, provide outputs to the controlled process. The outputs typically provide analog or binary voltages or "contacts" implemented by solid state switching devices. PLC's are normally constructed in modular fashion to allow them to be easily reconfigured to meet the demands of the particular process being controlled. The processor and I/O circuitry are normally constructed as separate modules that may be inserted in a chassis and connected together through a common backplane using permanent or releasable electrical connectors.

System Hardware

The hardware part of this project is Programmable logic controller (PLC) and a bank security model. SCHNEIDER ZELIO SR3B261BD is the type of PLC used in this project as the processor to control the bank security system. This type of PLC is chosen because of its characteristics which shown optimal for this particular application. The bank security model is constructed to display how this bank security system is running. This bank security model has gates (doors), switches, sensors, speakers, indicator lights, displays. It has three main parts split into two categories. First is modeling, second is wiring system and third is programing the PLC. Modeling and wiring system belong to the first category and programing to the second. The right connection between PLC and bank security model is very important because it can avoid problem or conflict when the program is transferred to the PLC.

The bank security model consists of the following components:

- Six switches
- Four sensors
- Three gates (doors)
- Three speakers
- Three indicator lights
- Two displays

The six switches that this model has are divided into two "Open gate (door) switches", three "Close gate (door) switches" and one "Security Room Switch". The purpose of the two "Open gate (door) switches" is to open gates (doors) in the bank. The purpose of the three "Close gate (door) switches" is to close gates (doors) in the bank, and the one "Security Room Switch" is to turn off the alarm in the bank. In this model we have these four sensors which are presence sensors. We have one presence sensor that opens the main door of the bank, second one is detecting weapon while entering the bank, third one is in vault room and the fourth one is the laser presence sensor which is activated when the bank is not working. Next, we have three doors, two of them are front doors of the bank and one of them is for the vault room. Also, we have three speakers used for alarm system.

One of them is in vault room, second one is located where the weapon presence sensor is, and the third one is when the laser sensor is in "On" state when the bank is not working. The three indicator lights are positioned like the three speakers and they are also activated at the same time as speakers. End at last we have two displays that are placed in front of vault room and in the vault room. These displays are for entering the password while entering or leaving the vault room. Once hardware is designed cabinet box is used to connect PLC with the bank security model. A basic wiring diagram is as shown in Figure 7. The PLC supplied with DC power 24V and then I/O card supplied with DC 24V. The common for input card is 24VDC. Using a smart relay means that ordinary switches (with open or closed positions) can be used in place of two position switches. The switches are identified as **S1** and **S2** in the wiring diagram above. **S1** and **S2** are connected to inputs **I1** and **I2** on the smart relay. The operating principle is as follows: Each time the status of inputs **I1** and **I2** changes, the status of output **Q1** also changes which controls the lamp **L1**, in our case it can be one of the gates. The figure above is just for the illustration purpose only.

Schneider Zelio SR3B261BD 16/10

Smart relays are designed to simplify the electrical wiring of intelligent solutions. A smart relay is very simple to implement. Its flexibility and its high performance allow users to save significant amounts of time and money. A Zelio SR3B261BD is typically a digital device using relay on the output. Generally voltage limits are between 19.2 – 30V, and 4mA discrete current input. It has 16 inputs and 10 outputs connected to the 24V DC power supply with the power 0.2W and max current 8A or 5A with conversion error $\pm 5\%$ at 25 °C, and $\pm 6.2\%$ at 55 °C. It has local display on the main side. Number or color scheme lines ≤ 200 with FBD programming and 120 with ladder programming. Response time is 10ms (from state 0 to state 1) for relay output, and 5ms (from state 1 to state 0) for relay output. Ambient air temperature for operation is between -20 °C and +40 °C. Instead of relay we can use also transistors which are more productive and more frequently used in the practice. Relay can handle more current than transistor output but the transistor output is faster than relay because of that there is no mechanical time constant like the relay mechanical contact, also the durability of the transistor output is higher from the number of ON/OFF point of view. One thing to consider is that, most PLCs with transistor outputs, are cheaper than PLC with relay outputs, and of course it has a longer life also it is faster, so it offers more options than a simple relay output. We should always use transistor output cards and put an interface relays to protect them against any damage. In other words, use a transistor output to trigger a relay, and connect the load to the relay. Relay Outputs typically can handle a larger load and either AC or DC signals. Most PLCs are typically 2 amp relays. A typical transistor output is 5 amps. Unless you're running lights or other low current devices, you will require an interposing device, be it solid state relay or mechanical

relay. The greatest advantages of a transistor output are speed and life cycle. They can turn on in 1 ms or less and with no armature or moving parts, will last much longer than a relay. Keep in mind that whether relay or transistor, life cycle will depend on the amount of current required to turn on the output device. The higher the current, the shorter the life cycle and vice versa. It is amazing how many PLC manufacturers offer products with less than adequate output ratings, given the many uses for PLCs. Even with a 2 amp relay output, many applications still require interposing relays. You would think that they would take this into account when designing their products.

System software

The main task is concerning software development to make modules according to the Hardware diagram and model. Zelio Soft 2 is program used to make these modules that are written in Function Block Diagram (FBD).

Function Block Diagram PLC

Function Block Diagrams (FBD) is a graphical language that allows the user to program elements in "blocks". The blocks can then be wired together like electrical circuits. FBD is one of the languages supported by IEC 1131.

A function block diagram is a diagram which describes a function between input variables and output variables. A function is described as a set of elementary blocks. Inputs and outputs of the blocks are wired together with connection lines, or links. Single lines may be used to connect two logical points of the diagram:

- An input variable and an input of a block.
- An output of a block and an input of another block.
- An output of a block and an output variable.

Zelio Soft 2 is a comprehensive multilingual application designed to help us program the Zelio Logic smart relays. There are eight module categories, each displaying a picture and a full description of the characteristics such as power supply, discreet input/output, clock, language, screen keyboard, and reference, which makes them very easy to identify. This program offers a simple way to configure the modules that are written in Ladder Diagram, Function Block Diagram, or both. When programming, we can set a wide range of parameters dealing with counters, winter/summer functions, timers, auxiliary relays, fast counters. We can also set the date format, time zone, and so on. In case of an error alarm, we can define the type of message that will be displayed, when to send a message and who will receive it via telephone or e-mail. We can also enter one or more users that can send control commands. Both the user interface and the simulation languages can be switched into English, Spanish, German, Italian, or French. This program can be downloaded and used free of charge. It is also possible to get this programming solution on a CD from distributors. Zelio Soft 2 can run under all versions of Windows. One of the benefits of this type of PLC is Quick programming. From an intuitive interface, create and modify programs in record time using an extensive number of "drag and drop" pre-programmed functions. Types of languages: Ladder and Function Block Diagram (FBD).

Software of bank security system using Function Block Diagram (FBD)

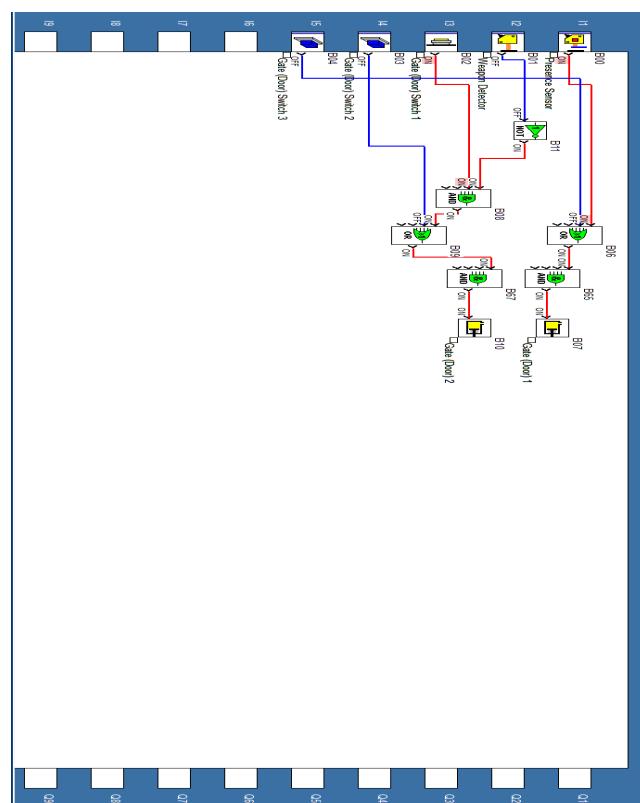
For better understanding software, FBD is divided into several stages. The first part is used to control two front gates (doors) and weapon presence sensor (detector), second to control vault room, and third to control the alarm system when the bank is not working (non-working hours). More in depth about these stages will be expostulate later on this chapter.

FBD application

There are several block which are controlling this bank security system. First one is for detecting weapon in the bank, second one is for controlling the vault room, and the third one is for controlling the bank when the bank is not working, means the laser presence sensor will be activated on non-working hours. The full system will be described on following papers.

Case I

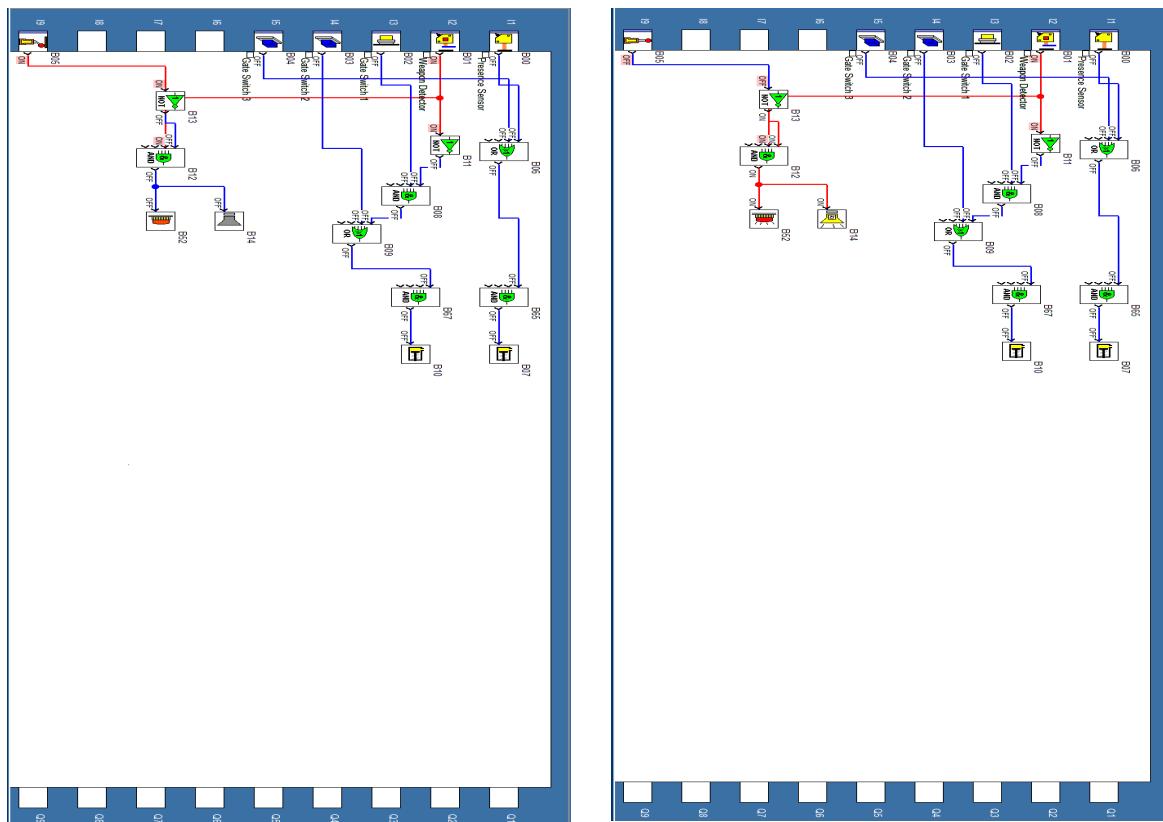
First case is when the bank is working (working hours) and where there is no weapon detection. So, while entering the bank the “presence sensor” which is located in front of the gate (door) of the bank will be activated and the gate (door) will be opened. After entering the bank the weapon “presence sensor (detector)” will detect if there is any weapon located on the person that entered the bank. If all clean, the person will be able to enter to the main hall of the bank after employee press the “Switch” to open the second gate (door).



Case I

Case II

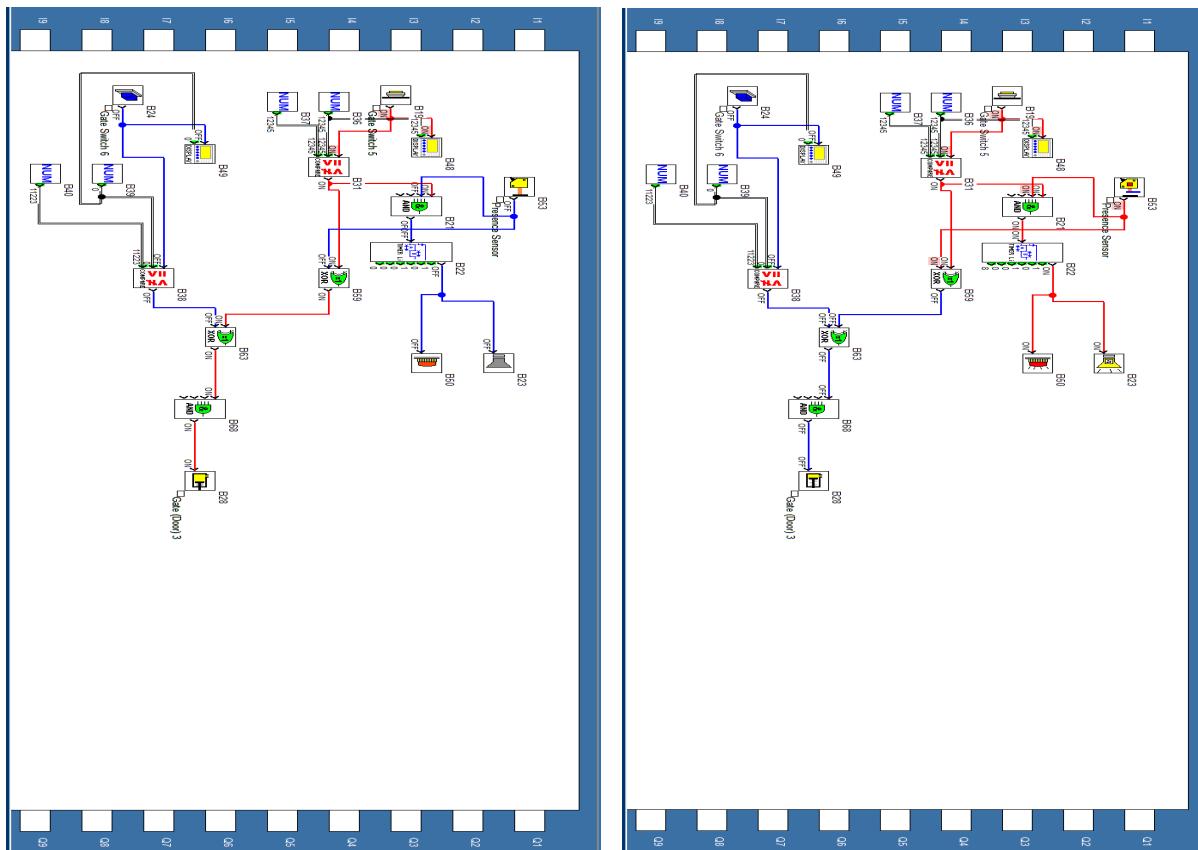
Second case is when the bank is working (working hours) but where the weapon detection is detected. So, while entering the bank the "presence sensor" which is located in front of the gate (door) of the bank will be activated and the gate (door) will be opened. After entering the bank the "weapon presence sensor (detector)" will detect if there is any weapon located on the person that entered the bank. In this case the person that entered the bank had weapon and the "alarm" and "indicator light" are in "On" state. All gates are closed, and even if the employee is forced to open the gate by pressing the "Switch", he will not be able to open because when the alarm is in "On" state, only the "Switch" in the security room can turn "Off" the "alarm" and then the gate (door) can be opened, otherwise when the "alarm" is in "On" state, nothing can be opened till alarm goes to "Off" state. So, the person who has the weapon can only surrender to the police or to the security employee in the bank. After the person decide to surrender, the security guy can turn "On" the "Switch" in the security room and the "alarm" will be in "Off" state. But still employee that is in charge to open gate (door) cannot open the gate (door) until security employee comes and open the gate (door) from the other side. So, to conclude this, only the security employee can switch "Off" the "alarm" and can open the gate (door) after the alarm went to "Off" state from the "On" state.



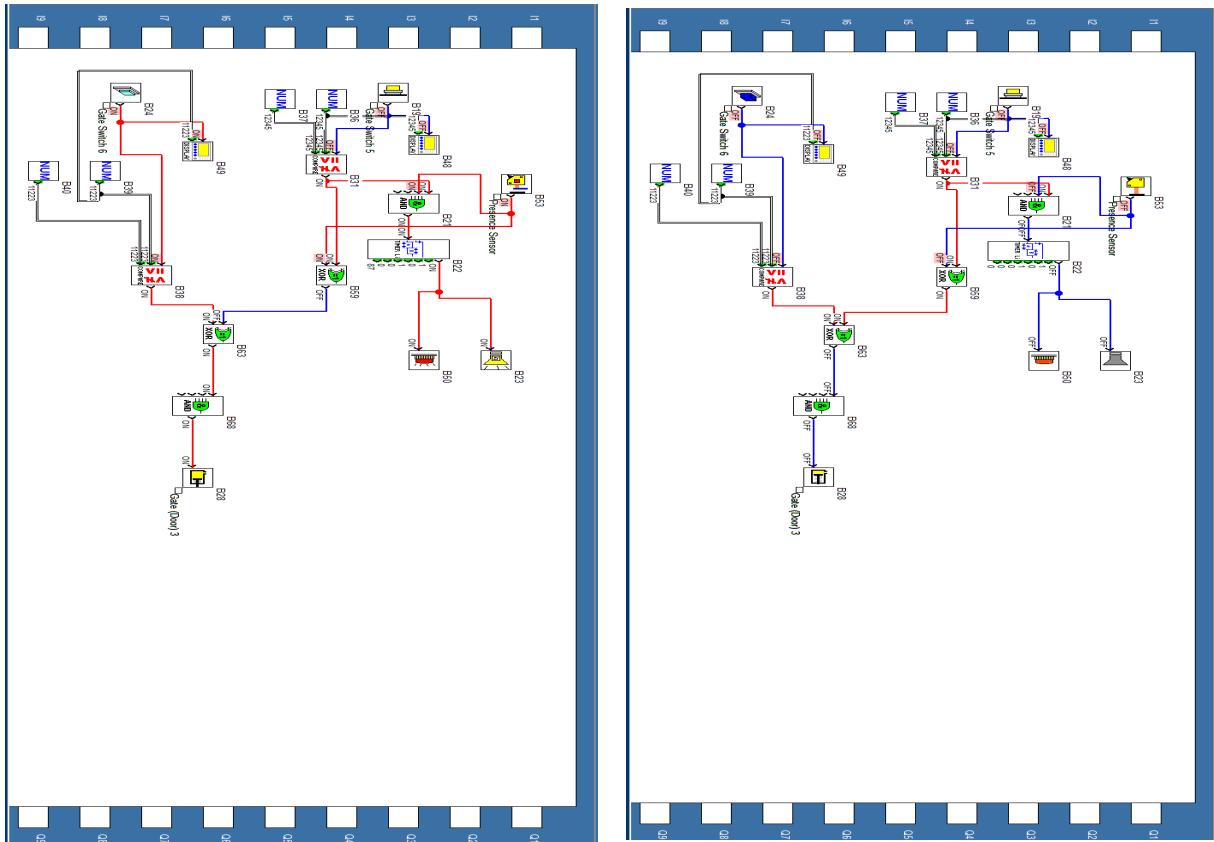
Case II

Case III

Third case is when the bank is working (working hours), but now the bank employee wants to enter to vault room. So, if the bank employee wants to enter to vault room, he/she will need to press the "Switch" for opening the gate (door) of the vault room. After pressing the "Switch" which opens the gate (door) of the vault room, the "display" which is located in front of the vault room will ask the employee to enter the password to be able to enter to vault room. If the employee has entered the right password, the gate (door) of the vault room will open and the employee can enter. After employee has entered into vault room, the "presence sensor" which is located in the vault room will close the gate (door) of the vault room, and the "small alarm" and "indicator light" will be in "On" state to indicate that somebody is in vault room. When employee wants to leave the vault room, he/she will need to press the "Switch" which is located inside the vault room to open the gate (door) of the vault room. When "Switch" is in the "On" state, again employee will need to enter the password, but this time different one, because for the more security, and if employee has entered the right password, the gate (door) of the vault room will open. After employee has left the vault room, the "presence sensor" will detect that there is nobody in vault room and sensor will close gate (door) of the vault room. And the "small alarm" and "indicator light" will go to "Off" state.



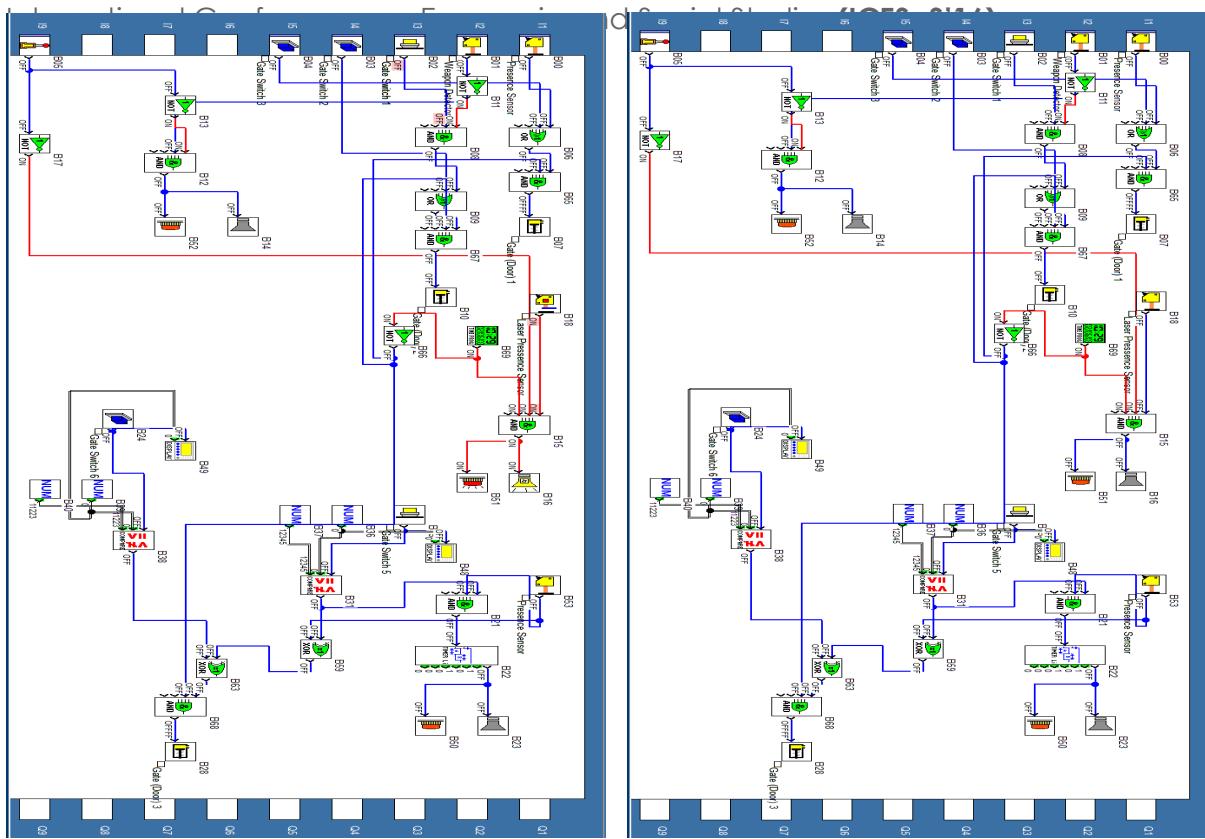
Case III



Case III

Case IV

Case four is when the bank is not working (non-working hours). All gates are closed and only the "laser presence sensor" is in "On" state. If nothing happens in the bank, the "laser presence sensor" will go to "Off" state when working hours of the bank start. But, if somebody wants to rob the bank, the "laser" will detect the criminal and the "alarm" and "indicator light" will be activated and they will be in "On" state. None of the gates (doors) can be opened till "alarm" is in "On" state. Again, only person in security room can shut down the "alarm" and only after that gates (doors) can be opened.



Case IV

Conclusion

This chapter summarized the concept of this thesis. Chapter 2 shows some basic properties of Zelio PLC like function, construction, operation, application etc. Chapter 3 explains very useful method of PLC application in the field. Also in this chapter was construction of the model, wiring system, advantages and disadvantages of the relay and transistor output are mentioned. In Chapter 4, developed application is presented using FBD. An Intelligent Bank Security System that used the PLC to control a security in the bank has been successfully developed. The PLC program (FBD) for implement the two modes of bank security system operation; Working hours Mode and Non-Working hours Mode, have been designed completely and can be operated effectively. All testing has been done successfully, without any error. The aim of this project is to minimize the robbery in banks and it is accomplished successfully. The primary aim of this project is to demonstrate the usefulness of the programmable logic controller (PLC) or programmable controller and how it can be implemented in the field. The usefulness of the built program is that it can be used in various applications and can be extended to have additional features. It is almost impossible to give all possible future work concerning extended built code, but because it has various advantages it can be used to extend the bank security system, airport security system, jewelry stores, other important buildings, etc.

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THE RELATIONSHIP AMONG PERSONAL BACKGROUND, PERSONALITY TRAITS, ENVIRONMENTAL FACTORS AND ENTREPRENEURIAL INTENTION OF WOMEN IN NORTHERN MONTENEGRO

Minela Hadžić

International Burch University
Bosnia and Herzegovina
minela220@hotmail.com

Sait M. Dinç

International Burch University
Bosnia and Herzegovina
m.sait.dinc@ibu.edu.ba

Abstract: Entrepreneurs are imperative for the long-term economic growth of every country. Researchers are trying to explain how important entrepreneurial intention is by taking different factors in considerations. This paper will discuss three most important groups of factors affecting entrepreneurial intention of unemployed women in the north of Montenegro. Based on literature review, those factors are personal background, personality traits and environmental groups of factors. In this study, focus will be on four factors from each group which are perceived as most important according to researchers. The study will provide new framework in this field. The main research focus will be on women since majority of unemployed people in the north of the country is women whose small proportion is entrepreneur.

Keywords: Entrepreneurs, Entrepreneurial intention, Unemployed Women, Montenegro

Introduction

In recent years, the establishment of new businesses has attracted attention of many researchers. Developing countries and their policy makers have seen this issue as a core driver for improving economy and employment and in order to overcome current economic turbulence, they have focused on two terms: entrepreneurship and entrepreneurial intention.

Entrepreneurship is a process of planned behavior and express ability of one person who is called entrepreneur to build new value to significant economical achievement (Ajzen, 1991) 1985, 1987. Since the establishment of new business is a reason of general interest, researchers have started to discuss the concept of entrepreneurial intention firstly. Entrepreneurial intention is defined as precise human reaction and intellectual response to particular behavior (Farouk, Ikram, & Sami, 2014). In order to be able to understand this concept, it is important to clarify its antecedents.

Plenty of studies have investigated individual impact of the factors affecting entrepreneurial intention. These factors are categorized into personal background, personality traits and environmental factors (Al-Harrasi, Al-Zadjali, & Al-Salti, 2014). Although the studies examine these factors influencing the entrepreneurial intention in developed countries, there is a scarcity of literature about developing and transitional countries.

Montenegro is one of these countries in Balkan region. Higher unemployment rate and the global economical crisis have slowed down Montenegrin economy. On the other side, it created opportunity for small businesses (Montenegrin Employers Federation & IPSOS Strategic Marketing, 2013). The question arises whether that involvement is equally distributed in this small country. Since the Montenegrin labor market is divided and there is mismatch between supply and demand, there is also regional disparities and gender inequality (Golubović, 2012).

Regarding the gender inequality in Montenegro, position of the women has become an interesting issue to discuss about. Reports from 2013 states that only 9,6% of women are entrepreneurs and women's incomes are only 86% of male income. This statistic ranked Montenegro far behind other countries in the region, as well as European Union (Montenegrin Employers Federation & IPSOS Strategic Marketing, 2013) opens door for discussion. Because women and the elderly have a considerably lower income, unemployment rate in especially north part of the country is larger than the national average (Montenegrin Employers Federation & IPSOS Strategic Marketing, 2013). Overall, the most important issue of the women is what factors are influencing their potential intent to be active, to be entrepreneurs in Montenegro. So, the purpose of this study is to investigate the relationship among personal background factors, personality traits factors and environmental factors of women in Montenegro.

Literature review

Entrepreneurship and entrepreneurial intention

Recently, entrepreneurship has been a widespread topic in academic environment. In order to better understand entrepreneurship and entrepreneurial activities, the antecedent of this concept should be known. One of the first and foremost antecedent is entrepreneurial intention. Individual belief to start new business with a clear and enthusiastic idea in a certain period of time is entrepreneurial intention (Thompson, 2009). In this definition, a highlighted point of believing of an individual that he can be entrepreneur is a starting point for creation of new businesses (Bird, 1988)entrepreneurs' states of mind that direct attention, experience, and action toward a business concept, set the form and direction of organizations at their inception. Subsequent organizational outcomes such as survival, development (including written plans. It is created by different motivations and values (Fayolle, Liñán, & Moriano, 2014).

Factors affecting entrepreneurial intention

A large number of studies about influencing factors of entrepreneurial intention have emerged in the last decades. Researchers usually focus on psychological aspects of entrepreneurial intention. Regarding these aspects, the most discussed theory is The Theory of Planned Behavior (TPB). According to this theory, the things that shape behavioral intention are attitudes, subjective norms and perceived behavioral control (Ajzen, 1991).

Personal background factors are age (Wagner, 2004), gender (Naidu & Chand, 2015), education (McMahon & Huijser, 2015), and business experience (Miralles, Giones, & Riverola, 2015) as indicators of entrepreneurial intention (Al-Harrasi et al., 2014). Main part in the literature concentrates on the question about what constitutes good and productive environment for entrepreneurship. Environment, as an external factor, comes in many forms and motivated by obtained literature, here it will come in a group of four elements: family support (Mark Pruett, Rachel Shinnar, Bryan Toney, Francisco

Llopis, & Jerry Fox, 2009), government support (Sadeghi, Mohammadi, Nosrati, & Malekian, 2013), perceived entry barrier (Montenegrin Employers Federation & IPSOS Strategic Marketing, 2013), and political situation (Wagner & Sternberg, 2004). Certain research studies point out close relationship between personality traits factors and entrepreneurial intention, where each of them separately and differently influence one's intention toward starting its own business (Wang, Chang, Yao, & Liang, 2015). Some important personality traits factors are innovativeness and need for achievement (Samydevan, Piarylal, Othman, & Osman, 2015), risk taking (Yurtkoru, Acar, & Teraman, 2014), and self-confidence (Peter B. Stimpson Robinson, 1991).

The demographic analysis show that there are differences between men and women in many aspects, as well as on venture creation, attitudes, behavior toward entrepreneurship and employment choice (Kolvereid, 1996). In the last decades, number of women choosing entrepreneurship among other occupations is raising, but small number of them are in industries not so much feminine, and it is result of gender stereotyping (Sweida & Reichard, 2013). Even though women entered start-ups, entrepreneurship remains male stereotyped (Lewis, 2006). Some assumes that small number of women ownerships are coming from their early age and are driven by low entrepreneurial intention (Kennedy & Drennan, 2002).

Assessment of environment for women entrepreneurship in Montenegro

Nowadays, the unstable economical situation in Montenegro stems from changes in the its labor market which started from its independence in 2006. The turbulence created significant changes in the labor market, at one point making large shift to better position, but still some deficiencies remained (Golubović, 2012). Namely, Montenegro is country in transition which needs to develop economical and social system that will provide economic well-being. One of the ways to increase economical stability is to support small and medium enterprises which should reduce poverty and unemployment in the country (Bobera, Lekovic, & Berber, 2014). The statistics said that there are more women than men in same age group, but in certified working population of Montenegro there are more men, while women are marked as "inactive" population (Montenegrin Employers Federation & IPSOS Strategic Marketing, 2013).

Methodology

The quantitative method was used in this study. Self-administered survey is used as a tool to obtain data. Hybrid of mail and street intercept survey method of data collection is used. By using this method, participation in the study was voluntary, and anonymity is guaranteed.

Measures

First part of the survey includes demographic questions which are at the same time personal background questions for the framework. Second parts of questions are environmental and those questions are created to be appropriate for the northern region of Montenegro. Third part was prepared to measure personality traits and entrepreneurial intention related questions. Following Ajzen's, (1991) TBT theory, questions about entrepreneurial intention included questions about attitudes, subjective norms and perceived behavioral control. Seven questions were adapted from the scales developed by Paço, Ferreira, Raposo, Rodrigues, & Dinis, (2011), Sagiri & Appolloni, (2009), Liñán & Chen, (2006) and Leong, 2008). Personality traits questions were based on the study of Bezzina (2010).

The respondents rated the questions by using 5- points Likert scale. Survey was originally in English, and then translated into Montenegrin language. 202 useful surveys out of 450 were collected.

Sample characteristics

The collected data were analyzed using SPSS (v. 18) software package. The analysis is consistent of several parts forming one clear picture of examined topic. Initially, demographic questions were evaluated to describe sample characteristics. As we can see from Table 1, 44, 1% of our sample aged from 18 to 25. When it comes to education level the biggest part of the sample finished only high school (52%). Associated with the age of the sample, indicates that the biggest portion of the sample is consistent of young women, graduates from high school. Then, 45, 5% are married, while 37, 7 of the sample have children.

Initial Analysis

In order to define validity of the scales used in this study, exploratory factor analysis (EFA) is performed. This analysis is often used by researchers to define essential factors from its set of data (Hooper, 2012). Precisely in this study the principal component analysis was used as the factor extraction method, and the varimax method was used for the component rotations. After analysis, factor loadings and coefficient alpha is observed in order to extract variable that are not convenient for this study. Factor loadings for entrepreneurial intention are bigger than 0,8, while for personality traits are bigger than 0,6. To prove the reliability of the scales, Chronbach's alpha was observed. Cronbach's alpha of entrepreneurial intention and personality traits is 0,95 and 0,97 respectively.

Table 1 Sample Characteristics

| Variable | Demographics | Number | Valid Percent |
|-------------------|-----------------------|--------|---------------|
| Age | 18-25 | 89 | 44,1 |
| | 26-35 | 55 | 27,2 |
| | or over 36 | 58 | 28,7 |
| | Total | 202 | 100 |
| Education Level | Primary school | 8 | 4 |
| | High school | 105 | 52 |
| | Undergraduate studies | 60 | 29,7 |
| | Graduate studies | 29 | 14,4 |
| | Total | 202 | 100 |
| Marital status | Single | 110 | 54,5 |
| | Married | 92 | 45,5 |
| | Total | 202 | 100 |
| Children | Yes | 75 | 37,7 |
| | No | 124 | 62,3 |
| | Total | 202 | 100 |
| Employment status | Employed | 29 | 14,4 |
| | Unemployed | 173 | 85,6 |
| | Total | 202 | 100 |

| | | | |
|--|-------|-----|------|
| More unemployed women in the family | Yes | 152 | 75,2 |
| | No | 47 | 23,3 |
| | Total | 202 | 100 |

Results

Correlations tests are performed to find the relationship among the variables in the study. Table 2 indicates the correlation results. The most significant correlations are between entrepreneurial intention (EI) and factors as ED (education), BE (business experience), FS (family support), GS (government support), and BN (barriers in the north) as well as between EI and personality traits factors (PT). Correlation does not exist only between AG (age) and PS (political situation). In the previous literature, there was relationship between those two factors and EI, but in this study absence of significant correlation can be explained by the nature of the sample considered. For example, having in mind that women in Montenegro are not politically active, it makes sense. Even though from the 2011 year there is "quota system" imposed by amendment for The Law on Election of Councilors and Parliament Members, for the list of the candidates to be submitted for elections requiring at least 30% to be women, it is still below the world average of 19,6% (Montenegrin Employers Federation & IPSOS Strategic Marketing, 2013).

Table 2 Mean, standard deviations and correlations

| Variables | .Min | .Max | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----------|------|------|------|-------|--------|---------|----------|----------|----------|---------|-------|---------|---|
| AG .1 | 1 | 3 | 1,85 | 0,841 | 1 | | | | | | | | |
| ED .2 | 1 | 4 | 2,54 | 0,786 | -0,091 | 1 | | | | | | | |
| BE .3 | 1 | 2 | 1,62 | 0,487 | 0,002 | -0,131 | 1 | | | | | | |
| FS .4 | 1 | 5 | 3,39 | 1,533 | 0,027 | **0,264 | *-0,146 | 1 | | | | | |
| GS .5 | 1 | 2 | 1,71 | 0,456 | 0,103 | **0,280 | 0,124 | **-0,185 | 1 | | | | |
| BN .6 | 1 | 5 | 3,89 | 1,164 | *0,175 | 0,041 | -0,024 | *0,139 | **0,265 | 1 | | | |
| PS .7 | 1 | 3 | 2,03 | 0,585 | 0,041 | -0,020 | **0,256 | -0,037 | 0,094 | -0,067 | 1 | | |
| EI .8 | 1 | 5 | 3,24 | 1,274 | -0,028 | *0,150 | **-0,183 | **0,431 | **-0,185 | **0,267 | -0,04 | 1 | |
| PT .9 | 1 | 5 | 3,39 | 1,299 | 0,062 | 0,044 | -0,082 | **0,393 | -0,111 | **0,313 | 0,043 | **0,829 | 1 |

:SD: standard deviations

:p<0,05; **p<0,01*

Conclusion

The study completed mosaic for entrepreneurial intention regarding unemployed women in the northern region of Montenegro, making foundation for improving policies and implications for further studies. Strong effect of environmental factors on entrepreneurial intention of unemployed women suggests that changes can occur since the environment is dynamic and constantly changing.

The implications of the study make more suggestions to the policy makers due to the importance of the environment in this study and the rule they have in changing it. For making valuable policy, women need to be included in the creation of new policies, they need to cooperate and conjoin in designing economic programs. Encouraging women in choosing entrepreneurship among other occupations must be their major

focus. Current government should at least remove perceived barriers and make northern region more attractive for start-ups. They should follow example from other countries and apply entrepreneurship education in the formal education through enriched curriculum and trainings and show positive examples from that field.

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ADOPTION OF STANDARD FOR INFORMATION SECURITY ISO/IEC 27001 IN BOSNIA AND HERZEGOVINA

Anis Skopak

International Burch University
Bosnia and Herzegovina
anis.skopak@gmail.com

Semir Sakanovic

International Burch University
Bosnia and Herzegovina
symorgh13@gmail.com

Abstract: When it comes to security, no company in the world can be too cautious. Many companies own and use different systems for protection of data and information from intentional or non-intentional loss, unauthorized access, or abuse. However, the legal aspects of information security systems are well known in order for system to be internationally accepted and adopted. Because of this, the standard ISO/IEC 27001, which ensures positioning in relation to competition through marketing usage of this certificate, fulfills all requirements of the client for information security; reducing the risks associated with information relevant for the organization, reducing operating costs for the prevention of complaints and other incidents, and optimization of the process because the tasks in the organization are clearly defined and understood. ISO/IEC 27001 process of certification is carried out by a certification body that is accredited by schemes that are under the supervision of the IAF (International Accreditation Forum), as only these certificates are a guarantee of global standard acceptance. This study has examined the surveys of twenty (20) large companies, whose scope guarantees the suitability to this standard, and explored the way of implementation, and more importantly that the certification companies in Bosnia and Herzegovina offer this feature. In the end we compared the results of this study with the results from the region and the world.

Keywords: ISO/IEC 27001, International organization for standardization, Information security management system, ISO, ISMS

Introduction

History of this certificate dates from 1995 when United Kingdom Government's Department of Trade and Industry (DTI) wrote BS7799 standard in several parts. First part of this standard contained Information Security Management which was adopted by International Organization for Standardization as ISO/IEC 17799, "Information Technology – Code of Practice for Information Security Management" in 2000. The International Organization for Standardization (ISO) is an international standard setting body composed of representatives from various national standards organizations. Founded in 1947, the organization promotes worldwide proprietary, industrial and commercial standards. It is headquartered in Geneva, Switzerland, and as of 2013 works in 164 countries (Secupent). In 2007, ISO/IEC 17799 is renamed for the last time into ISO/IEC 27002. The second part of the BS7799 standard, which was presented in 1999 as "Information Security Management Systems – Specification with Guidance for Use", was focused on implementation of Information Security Management System (ISMS).

In 2005, together with the third part of BS7799 standard it became ISO/IEC 27001:2005 standard. His successor was the advanced version of ISO / IEC 27001: 2013. In the area of security of information resources currently applied increasing number of standards adopted so far, and some standards are still in the process of drafting and adoption procedure should go to their implementation could begin. ISO / IEC 27000: 2009 - Information technology - Security techniques, represents a standard that provides an overview and introduction to the family ISO27 standards, as well as the dictionary of specific terms used in ISO27 vocabulary. ISO / IEC 27001: 2005 - Information Security Management Systems Requirements, (Ex standard BS 7799-2). Is the basic standard for the establishment, implementation, control, promotion and certification of information security (ISMS - Information Security Management System). ISO / IEC 27002: 2005 - Code of Practice for Information Security Management, (former ISO / IEC 17799). Standardizes the Guidelines for the implementation of recommended protection measures (control) and provides an overview of best practices to protect information resources. ISO / IEC 27003: 2010 - ISMS Implementation Guide, represents the standard that provides guidelines for successful implementation of ISMS in accordance with ISO / IEC 27001. ISO / IEC 27004: 2009 - Information Security Management Measurement, represents the standard that gives guidelines to carry out measurements in order to assessment of effectiveness of the ISMS. ISO / IEC 27005: 2008 - Information security risk management, represents standard which provides guidelines for risk management, information security and implementation of the system of information security based on risk management. ISO / IEC 27006: 2007 - Guide to the certification / registration process, represents the standard that specifies requirements for the accreditation of certification bodies - ISMS according to ISO / IEC 27001 requirements, outlines the specific requirements for certification and together with ISO / IEC 17021 is a basic standard accreditation. ISO / IEC 27011: 2008 - Information technology - Security techniques, represents the standard that provides guidelines for telecommunications organizations implement recommended protection measures ISMS (also known as ITU X.1051 as standard). ISO / IEC 27033 - IT network security, represents the standard security IT networks, was introduced as a replacement for multitask standard based on ISO / IEC 18028: 2006 specification (this standard was adopted in part). ISO 27799: 2008 - Health informatics, represents the standard that provides guidance for ISMS implementation in the health sector.

ISO/IEC 27001

Lately, more and more attention is paid to the dangers that are closely related to the protection of data in companies. The issue of data protection applies to all types of businesses, regardless of their status, size or area of operations and activities. The best and absolutely need a system to solve the problem of information security, including loss or theft, the information security management system "Information Security Management System - ISMS ", which includes the availability, integrity and determination of the degree of confidentiality of information. The method, which allows solving the problems information security, has been developed and is described in ISO-IEC / BSI internationally recognized standards ISO 17799 / ISO 27001 certification of management systems built on the basis of these standards company confirms its commitment to the protection of data according to applicable laws in the industry and legal requirements, enabling a significant instrument competitiveness in the market. the construction of ISMS is particularly important for companies that use internal and / or external computer systems with stored sensitive information, for companies whose business processes are dependent on information systems, and to all other companies that simply want to adapt to the requirements of information security. This is especially true for organizations such as banks, IT companies, financial institutions and insurance

companies, hospitals, schools, universities, car manufacturers, call centers, tax offices, consulting firms and many other companies.

ISO 27001 is an international standard published by the International Organization for Standardization (ISO) and describes how to manage information security companies. The latest version of this standard was published in 2013, and the current full name is ISO / IEC 27001: 2013. The first revision of the standard was published in 2005 and was developed based on the British standard BS 7799-2. ISO 27001 can be implemented in any organization, profit or non-profit, private or public, large or small. They wrote him the world's best experts in the field of information security and prescribe the methodology for the application of information security management in an organization. Also, enables companies to obtain certification, which means that the independent certification body provides certification that the organization has implemented information security in accordance with ISO 27001. ISO 27001 has become the most popular standard of information security in the world, and many companies are certified to him.

International Standard ISO / IEC 27001: 2005 prescribes certain set of requirements for the establishment of systems for information security management (Eng. ISMS - Information Security Management System). Proper fulfillment of these requirements, i.e. their implementation, the organization created a holistic environment in which risks to information timely observed, in order to eliminate or reduce the same. With the establishment of the management system, the organization is able to continuously monitor and review all aspects of information security, and to make the necessary and effective improvements. As a result, we have continuous improvement of the security situation. Standard ISO 27001 i.e. The system for managing information security that derives from it, is applicable to banking and financial institutions, IT industry, economic sector, all public or private organizations.

ISO 27001 is focused on protecting the confidentiality, integrity and availability of data in the company. This is achieved by recognizing that potential problems can happen to the data (i.e., risk assessment), and the definition of what should be taken to prevent such problems (i.e. The treatment or processing risk). Thus, the basic philosophy of ISO 27001 is based on risk management: identifying and systematic analysis of risks. Safety measures to be implemented are usually in the form of policies, procedures and technical applications (i.e.. Software and equipment). However, in most cases, companies already have all the necessary hardware and software, or use them in an insecure manner - thus most applications ISO 27001 relates to the establishment of organizational regulations (i.e. Write documents) that are necessary to prevent security breaches. Given that such applications require multiple management policies, procedures, people, resources, etc., ISO describes how to fit all these elements in the information security management system (ISMS). Therefore, the information security management is not only about IT security (i.e. Firewall, protection against computer viruses and so on.) But also on process management, legal protection, human resources management, physical protection and the like. ISO 27001 is aligned with other management systems, and supports the implementation of integrated with other management system standards.

ISO 27001 is harmonized with the management system standards such as ISO 9001 and ISO 14001, ISO 27001 focuses on a continuous improvement process information security management system, contains requirements relating to documentation and records, including risk assessment and management processes using PDCA (Plan, Do, Check, Act) model. Norma comprehensive approach to security information. Different assets / assets owned organizations require protection. Some of them

are digital information, the information in paper form, physical resources such as computers and networks, the knowledge that the organization has. The account must be taken wide degree areas of competence development of staff to the physical / technical security. ISO 27001 will help you protect your information according to the following principles: Confidentiality ensures that information is accessible only to people with authorized access, integrity monitor and ensure the accuracy and integrity of information and methods of management information, availability ensures that the authorized personnel have access to the necessary information and adequate resources. There are two types of ISO 27001 certification: (a) for the organization and (b) for individuals. Organizations may be certified in order to demonstrate compliance with all mandatory clauses standards; Individuals can take the course and pass an exam to get a certificate. To be certified as an organization, you must implement the standard as outlined in the previous sections and then pass a certification audit by the certification body. The certification audit was carried out through the following steps: Phase 1 (Document Review) - auditors will review all documentation, Phase 2 (main audit) - auditors to perform the audit on the spot to verify whether all activities of the company in compliance with ISO 27001 and documentation system information security management Supervisory visits - after certification, during the validity period of three years, auditors will verify whether the company maintains information security management system.

To implement ISO 27001 in the company, you have to follow these 16 steps:

| |
|---|
| 1. Provide support of top management |
| 2. Use project management methodology |
| 3. Define the scope of information security management system |
| 4. Write roof privacy policy |
| 5. Define risk assessment |
| 6. Conduct risk assessment and treatment |
| 7. Write seventh Statement of applicability |
| 8. Write the Risk Treatment Plan |
| 9. Define ways of measuring the effectiveness of security measures and information security management system |
| 10. Implement all applicable safety measures and procedures |
| 11. Implement training programs and awareness |
| 12. Carry out all daily activities prescribed documentation of your information security management system |
| 13. Track and measure your information security management system |
| 14. Establishment of internal audit |
| 15. Conduct Management Review |
| 16. Implement corrective measures |

Sixteen rules for the implementation of ISO 27001

ISO/IEC 27001 standard in Bosna and Herzegovina

The world now has about 200 countries (193 UN member states). Average one country has about 8,000 certificates. There is a legitimate question where is Bosnia and Herzegovina, and its economy and other entities. According to the latest data available to the Foreign Trade Chamber of Bosnia and Herzegovina currently has about 1,400 certificates. Of these, ISO 9001 represented over 90%, while certificates of ISO 14001 and OHSAS 18001, as well as key in the environmental management and health and safety at work, minor represented. The competent national authorities should pay more attention to and care for the faster adoption of EU directives and harmonization of our legislation. You should also provide continuous and procedural simple financial support to companies for the preparation and implementation of individual certificates.

In the future, as we get closer to EU membership, all the greater will be the need for certification, to manufacturing and service firms. One should be careful to time, as in some similar situations, not to be slaves to the system "give what you give, because after this." Practice shows that in a well-organized company with well-organized and consultations required several months of intensive work, but for more complex processes and more than one year to obtain a certificate. This should confirm that the BH. businesses introduced new standards that apply to selective European and world markets, and not only that owns the paper, which is not a rare case. Also, in the world there is a trend that is increasingly companies which have two or more standards in the application. Companies are introducing an integrated system consisting of a base of ISO 9001, ISO 14001 and BS OHSAS 18001 or ISO 9001, ISO 14001, HACCP or ISO 9001, ISO 14001 and FSC CoC, etc. What is encouraging is that some of our companies that had a single certificate follow this practice, and more of those who have two or more of the standard.

In this research (M.Sci. Anis Skopak and M.Sci Semir Šakanović), we did the research followed a survey that we submitted to the addresses of twenty companies in Bosnia and Herzegovina, looking for answers whether companies in Bosnia and Herzegovina have implemented ISO / IEC 27001 certified, and if they do not have to I have basic knowledge regarding the benefits or the implementation thereof. It should be noted that we check our results with the list of certified organizations in BiH by the standards of the Foreign Trade Chamber of Bosnia and Herzegovina, and that we get the information when it is made from certified companies to implement standard working on the introduction of standards.

ANKETA

Internationalni Burch Univerzitet
Faculty of Engineering and Information Technology
M.Sc. Anis Skopak & M.Sc. Semir Šakanović
anis.skopak@gmail.com; symorgh13@gmail.com

INFORMACIONA SIGURNOST PREMA STANDARDU ISO/IEC 27001 U BOSNI I HERCEGOVINI

Naziv kompanije:
DA LI POSJEDUJETE NEKI OD CERTIFIKATA IZ ISO 27000 PORODICE? AKO DA, KOJI?

UKOLIKO NE POSJEDUJETE OVAJ STANDARD DA LI PLANIRATE POSTATI SERTIFICIRANI?

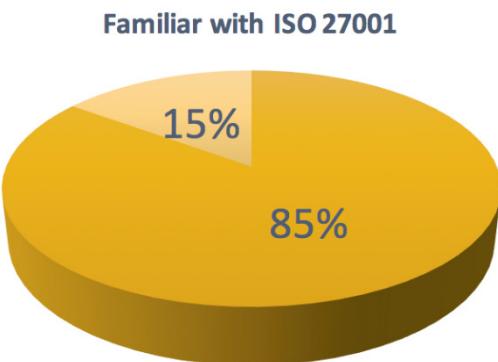
KOLIKO STE UPOZNATI SA POLITIKOM INFORMACIONE SIGURNOSTI I DA LI VAŠI POSLOVNI PARTNERI POSJEDUJU ILI ZAHTJEVaju ISTE?

KOLIKO NOVCA VAM JE BILO POTREBNO ZA IMPLEMENTACIJU JEDNOG OD OVIH STANDARDA?

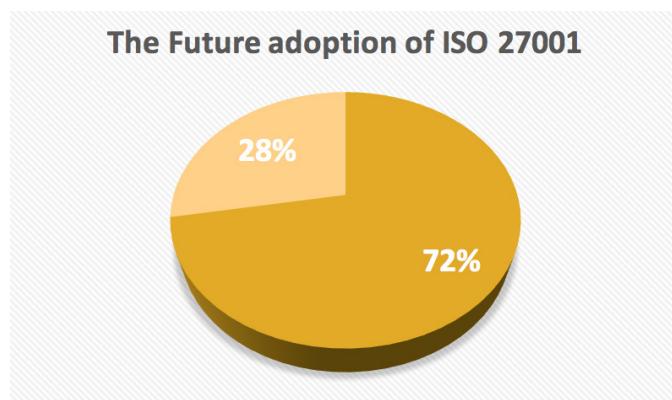
Survey

Results

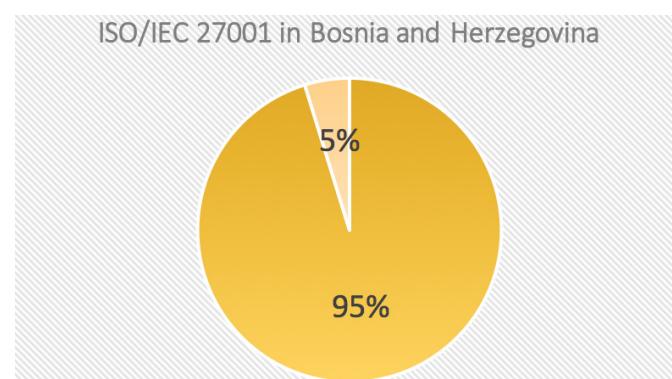
In this research, we found that 85% of our citizens are familiar with this certificate, and also to know the way of its procedures and that they already had contact with the introduction of other ISO standards in their companies.



What is particularly interesting is that our respondents mostly aware of the benefits of this standard, and its primary benefit is improvement in the status of the company. Awareness of European integration and international business objective is to all of the companies surveyed, the Administration ISO certifications are confirmation of the quality of services offered. Thus, 72% of our respondents said that they are considering in the future to adopt the implementation of this system, as well as some others.



But when we look at companies that have already implemented this system, the situation is not at all promising. Even 95% of the company does not have implemented ISO 27001, although considered to be useful. Given that we have in our survey included some of the largest companies in Bosnia and Herzegovina set us question what is the general number of companies that have ISO 27001 certification?



From the Foreign Trade Chamber of Bosnia and Herzegovina have been given information on the leading companies for certification in Bosnia and Herzegovina, which are certainly the most prominent TUV SUD Sava d.o.o, SGS d.o.o., Det Norske Veritas. So we created this list of companies among the thousands of companies in Bosnia and Herzegovina only possess ISO 27001. Among the certified companies in Bosnia and Herzegovina now are: Sarajevo International Airport, the Lottery of Bosnia and Herzegovina, Partner MCF, CS Computer Systems, Institute for Commercial Engineering, ComTrade, KING ICT and several banks and micro-credit organizations.

Number of certified companies in Bosnia and Herzegovina barely exceeds the number 10, which is quite small compared with the number of registered companies in this country. When we considered state of the Western Balkans, Croatia 36 organizations has been certified ISO / IEC 27001, Serbia 15, while Macedonia 3 in other countries there is no ISO 27001 organizations. Among other countries, the largest number of certificated organizations are in Japan (3657).

Organizations can themselves specify the scope of ISO / IEC 27001 certification in accordance with their own wishes and possibilities. The scope of the implementation of standards and statements of applicability of the standards should be harmonized, and that the documents are crucial in the process of certification. If an organization wants to certify one of its organizational units, then this certificate does not apply to other entities, and those in this case does not have to be certification and are not subject to revision. Certification is completely voluntary act of an organization, but in modern business is increasingly the subjects of our suppliers and business partners to possession of a certificate in information security. An independent assessment of information security and its periodic review bring organizations quite strict and formalized and implementation, which requires prior approval of management. Possession of a certificate of information security indicates the potential of the organization in terms of fed up information resources and to upgrade the status of secure and credible business partner.

Conclusion

It can be concluded that the information security policy is a document that allows the organization of the establishment of security over the entire information resources. Development of a comprehensive program for the protection of information resources should enable the protection of people and information, set rules of behavior of all users of information resources defines a consequence of safety rules and minimize risk, and constant monitoring of compliance with legislation. As there are already a number of standards in the field of information resources, it is necessary to systematically approach the process of their evaluation and certification. Accordingly, we can conclude that the certification process needs to start adopting ISO / IEC 27001 as the basic standard for the establishment, implementation, control, promotion and certification of information security (ISMS - Information Security Management System), from which it should subsequent to certification of specific basin, information resources at a higher level. ISO / IEC 27001, in order to establish a comprehensive system of protection of information resources, determines the system for the protection of information, the responsibility of executives, determining the procedures of internal control systems to protect information, ATMI procedures validation system for the protection of information, and procedures related to improving the system for the protection of information.

When it comes to the adoption of the above standards in Bosnia and Herzegovina, it can be concluded that the current situation is quite unfavorable in relation to the country's developed regions in the world, considering that only a few organizations have adopted ISO / IEC 27001.

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IMPACT OF HIGHER EDUCATION SERVICE QUALITY ON STUDENT SATISFACTION AND ITS INFLUENCE ON LOYALTY: FOCUS ON FIRST CYCLE OF STUDIES AT ACCREDITED HEIS IN BH

Ensar Mekić

International Burch University
Bosnia and Herzegovina
ensar.mekic@ibu.edu.ba

Emina Mekić

International Burch University
Bosnia and Herzegovina
emina.mekic@ibu.edu.ba

Abstract

The purpose of this study is to investigate relationship between higher education service quality and student loyalty through student satisfaction. Secondary goals are to examine influence of each five dimensions individually on student satisfaction, effect of perceived value on student satisfaction and impact of student satisfaction on loyalty. Eight variables are identified from the literature and survey will be developed accordingly. For all variables, there are previously developed scales which are validated by many researchers and highly reliable. For purposes of analyzing methodology, Structural Equation Modeling will be applied. Direct, positive, and significant effect is expected to occur between all relationships in the proposed model. Main limitations that might occur while implementing this study are related to insufficient response rate and time limits.

Key words: Higher Education, Service Quality, Satisfaction, Loyalty

Introduction

Public funding of higher education institutions (HEIs) becomes scarcer and more complex nowadays. Due to this situation, the financing is partly based on student credits and professional degrees. As a result, student loyalty has become an important strategic theme in every HEI (Helgesen & Nessel, 2007). On the other hand, in relatively small market of Bosnia and Herzegovina, many new private HEIs started to operate in this region (CIN, n.d.). According to official information from Center for Information and Recognition of Qualifications in Higher Education, there are fifty HEIs operating in the region of Bosnia and Herzegovina. Ten out of those are public HEIs while even forty are private HEIs. From mentioned facts, three important conclusions may be derived: competition in Higher Education of BH is very strong; the number of private HEIs is five times bigger than number of public HEIs which has implications for public HEIs; number of private HEIs is still increasing. All three conclusions are direct alarm for HEIs in BH to either work on service quality, customer satisfaction and achieve customer loyalty, or cease to exist. This implies huge need to conduct research on all mentioned dimensions influencing customer loyalty in the region of Bosnia and Herzegovina.

Significant number of HEIs in BH, even eighteen of them are accredited HEIs and signed into National Register of Accredited HEIs in BH. This means that they implemented nine criteria for accreditation as requested from Agency for Development of Higher Education and Quality Assurance (HEA), and that they conform to the minimum of quality level to operate HE activities. Considering fact that Commission of Experts already concluded that satisfactory quality level exists within these institutions, it will be interesting to examine perceptions of students towards the five dimensions of HE service quality and conclude if they match.

In previous study, it has been found that perceived service quality and customer-perceived value have a positive and significant influence on repurchase intention. However, authors stated that there are limitations of the study such is uncertain generalization of results (Dlačić, et al., 2014). Still, there is a need to conduct research with better response rate encompassing as many as possible HEIs in BH, and testing influence of different dimensions of perceived service quality on satisfaction as well as its impact on student loyalty.

This study is mainly important for both researchers and practitioners. Its importance for practitioners lies in fact that it addresses issues of HEIs service quality, student satisfaction, perceived value and student loyalty which is of high importance for strategies of all HEIs in the BH region. On the other hand, it is significant for theory due to gap in literature when it comes to investigating relationship among mentioned variables in higher education setting of BH.

The main goal of this study is to examine relationship between dimensions of HE service quality, student satisfaction (influenced by perceived value) and student loyalty. In other words, the main goal is to measure factors influencing student loyalty. Objectives of the study are as follows:

- to investigate whether Non-Academic aspects of higher education (HE) service quality have a direct, positive, and significant effect on student satisfaction;
- to examine whether academic aspects of higher education (HE) service quality have a direct, positive, and significant effect on student satisfaction;
- to find out whether the reputation as an aspect of higher education (HE) service quality has a direct, positive, and significant effect on student satisfaction;
- to investigate whether access as an aspect of higher education (HE) service quality has a direct, positive, and significant effect on student satisfaction;
- to examine whether programme Issues as an aspect of higher education (HE) service quality have a direct, positive, and significant effect on student satisfaction;
- to find out whether student perceived value has a direct, positive, and significant effect on student satisfaction;
- to investigate whether Students satisfaction has a direct, positive, and significant effect on student loyalty.

The sample for this study are students studying at first cycle of studies studying at accredited private higher education institutions in Bosnia and Herzegovina. At this moment, there are eighteen accredited higher education institutions in the country. The target in terms of number of responses is to collect at least 500 surveys. The data will be collected in several phases: online survey; phone administered survey; face to face collection of data by using hard copy forms of surveys. The survey will be developed on the basis of variables mentioned in literature review part and presented in research model. For all variables, there are previously developed scales which are validated

by many researchers and highly reliable. For purposes of analyzing methodology, Structural Equation Modeling will be used (SEM).

There are three aspects of contribution of this study: contribution to literature; contribution to practice and contribution to society. In terms of contribution to literature, it is important to say that this study is testing a new model developed on the basis of previous literature. All scales used in the study are already validated, but still there are no many studies conducted in Bosnia and Herzegovina. Therefore, this study will contribute to validation of scales by applying them in the BH context.

Practical contribution lies in the goal of all institutions to achieve loyalty and repurchase behavior of their clients. The study will help to all private HEIs of BH to learn important dimensions of higher education service quality, how to influence positively student satisfaction by developing specific dimensions of service quality, and how to achieve student loyalty and repurchase behavior. HEIs may use results of this study to improve their strategies in both short run and long run.

As HEIs are directly affecting society not only through production of labor force, but also through learning students all important values for their life, considering fact that this study may contribute to improvement of higher education service quality and achievement of student satisfaction as well as student loyalty and repurchase behavior, it may definitely have positive implications for whole society in the long run.

Literature Review

While developing literature review for purpose of this study, in total forty six sources were carefully analyzed. Three of them are books, while remaining forty one are published articles. Most of them are published in indexed academic journals, while very few are published in conference proceedings.

Many different definitions of quality are best evidence of its complexity. Sallis (2005) mentioned that word quality comes from the Latin *quails* meaning what kind of. While explaining quality, he stated that it is an ideal with which there can be no compromise. Quality things are perfect, valuable, with no expense spared and convey prestige to their owners. Authors also stated that quality is synonymous with *high quality* or *top quality*. When it comes to quality in an organization generally, it is defined by Reeves and Bednar (1994) in terms of quality as excellence, value, quality as conformity to specifications, and quality as meeting customer expectations.

Very comprehensive and significant definitions of quality in HEIs compared to definitions of quality in businesses are provided by Koslowski (2006). This author compared definitions of quality in business provided by Garvin (1988) and definitions of quality in context of HEIs provided by Seymour (1993). Accordingly, definitions mentioned by Koslowski (2006) are presented in Table 2.1 prepared specifically for this study.

TABLE 1: Quality Types and Definitions

| Type of quality | Definitions of quality in businesses (Garvin, 1988) | Definitions of quality in HEIs (Seymour, 1993) |
|-----------------------------|---|--|
| Transcendent quality | Transcendent quality is defined a result of the producer's expert training and professional standing. | The quality of education is defined a result of the expertise of Academic Staff. |
| Manufacturing-based quality | Product conforms to specifications and is fit to be used in a manner for which it was designed | HEI can achieve its objectives |
| Product-based quality | Quality is defined by presence or absence of a specific ingredient | Quality can be defined through assessing increase in students' learning as result of curriculum and faculty. |
| Value-based quality | Quality is defined as acceptable performance at an acceptable price. | Quality is defined based on rankings, marketing of HEI etc. |
| User-based quality | Quality is defined by the customer's needs, wants, desires, and preferences | Quality is defined through requirements from customers such are: labor market, government, students etc. |

Source: (Koslowski III, 2006)

Service quality was in focus of studies conducted by many researchers such are Tan & Kek (2004), Brochado (2009), Jain, et al. (2011), Yeo (2008), Brochado (2009), Firdaus (2005). There were many efforts to measure service quality using certain instrument such is SERVQUAL, to conceptualize service quality in higher education context, to develop new more reliable and efficient scale to measure service quality in higher education setting, or to provide other important empirical evidences that would contribute to this issue (Tan & Kek, 2004; Brochado, 2009; Jain, et al. 2011; Yeo, 2008; Brochado, 2009; Firdaus, 2005).

Higher Education Service Quality

According to Faizan, Zhou, Hussain, Nair, & Ragavan (2016), five dimensional scale for measuring service quality in higher education context entitled "HEdPERF" has been developed by Firdaus (2004). Validation of this scale has been conducted by Firdaus (2005), Firdaus (2006a) and Brochado (2009) who were comparing the scale with famous scales frequently used to measure service quality in different contexts by wide range of researchers. Accordingly, authors compared usage of HEdPERF with other measuring instruments such are SERVQUAL and SERVPERF within the higher education setting. Their conclusion was in favor of HEdPERF as a better instrument due to more reliable estimations, greater criterion and construct validity, better explained variance. All these arguments in favor of HEdPERF as good scale to measure service quality in higher education setting are the main reason for decision to use it in this study.

HEdPERF has been comprised of six factors: non-academic aspects, academic aspects, reputation, access, programme issues and understanding (Firdaus, 2005). Due to low cronbach alpha of factor understanding, Firdaus (2005) removed this variable as a part of scale modification process. Accordingly, in this study, only five factors will be considered: non-academic aspects, academic aspects, reputation, access, programme issues.

Non-Academic Aspects

Firdaus (2005) stated that this factor contains variables essential to enable students fulfill their study obligations, and it relates to duties and responsibilities carried out by non-academic staff. More accurately said, it refers to ability and willingness of administrative or support staff to show respect, provide equal treatment, and safeguard confidentiality of information (Firdaus, 2005).

Factor 2 Academic Aspects

Academic aspects refers to the responsibilities of academics. This factor highlights key attributes such as having positive attitude, good communication skill, allowing sufficient consultation, and being able to provide regular feedback to students (Firdaus, 2005).

Factor 3 Reputation

Reputation is loaded with items suggesting the importance of higher learning institutions in projecting a professional image (Firdaus, 2006b).

Factor 4 Access

This factor entitled access is comprised of items that relate to such issues as approachability, ease of contact, availability and convenience (Firdaus, 2006b).

Factor 5 Programmes issues

According to Firdaus (2006b), programme issues factor stresses the importance of offering wide ranging and reputable academic programmes/specializations with flexible structure and syllabus (Firdaus, 2006b).

Student - Perceived Value

Customer-perceived value is usually defined as the customer's overall assessment of the utility of a product (or service) based on perceptions of what is received and what is given (Zeithaml, 1988).

When it comes to measuring customer-perceived value, high contribution has been realized by developing PERVAL scale by Sweeney and Soutar (2001). The PERVAL scale has a variety of potential applications, and it can be used to assess customers' perceptions of the value of a consumer durable good at a brand level. The reliability and validity of the scale was assessed in a pre-purchase as well as in post-purchase situation, using exploratory and confirmatory analyses. All four value dimensions were found to help significantly in explaining attitudes and behavior (Sweeney & Soutar, 2001).

Replication, validation of the scale and reducing the length has been realized by Walsh, et al. (2014).

Student Satisfaction

Student satisfaction has been in attention of many researchers in recent years (Mark, 2013; Sadeh & Garkaz, 2015; Sultan & Wong, 2012; Faizan, et al., 2016; Alves & Raposo, 2010; Zineldin, et al., 2011).

Faizan, et al. (2016) initiated their study emphasizing fact that there is a lack of studies that have empirically tested HEdPERF and its influence on students' satisfaction, institutional image and loyalty. Their findings indicated that all five dimensions of higher education service quality influenced student satisfaction. Alves and Raposo (2010) emphasized not only that service quality in higher education is of particular, essential and important meaning, but also that it is an established fact that positive perceptions of service quality have a significant influence on student satisfaction.

There are different definitions of satisfaction. The one of Kotler and Clarke (1987) states that satisfaction is a state felt by a person who had experienced either performance or an outcome that fulfills his / her expectations. However, when it comes to definition of satisfaction in higher education context, before explaining the definition, it is important to understand who is customer of HEIs. In fact, watching from different perspectives, there are several types of customers in higher education sector: students, parents, research sponsors, state and federal governments, future employers of students, disciplinary academic communities, accreditation bodies, staff (Quinn, et al., 2009). However, many researchers agree that students' role in getting feedback about HEI's services is inevitable and they consider students as a primary customer to focus on (Hill, 1995; Leckey & Neill, 2001; Coates, 2005; Quinn, et al., 2009).

Considering students as main customer, student satisfaction refers to psychological state of happiness as a result from performance evaluation of the service attributes in the context of higher education (Sultan & Wong, 2012).

Significant scale that offers highly accurate results when it comes to measuring customer satisfaction with service has been developed even in 1998 by Voss, Godfrey and Seiders. Average construct reliability of the scale seems to be 0.83 (Voss, et al., 1998). It is important to add that the scale has been even more reliable in study conducted later on. Values of the alphas in this study were 0.89 and 0.94 (Voss, et al., 2010). This instrument is based on seven points Likert type and comprised of three statements (Voss, et al., 1998).

Another valuable scale to measure satisfaction of customers when it comes to their relationship with a person, company or organization has been developed by Adjei, Noble and Noble (2010). Authors reported composite reliability of scale by value of 0.97. The scale itself is seven points Likert type and comprised of three statements (Adjei, et al., 2010).

These two scales are general and applicable to different institutions. However, important scale dealing with student satisfaction in higher education setting has been developed by Alves & Raposo (2009). According to authors, results indicated reliability coefficient of 0.93.

Student Loyalty

Considering student as primary customer in higher education, speaking of student loyalty is the same as speaking about customer loyalty. There are various definitions of customer loyalty as provided by different researchers. Oliver (1999) defined loyalty as "...a deeply held commitment to rebuy or re-patronize a preferred product or service consistently in the future, causing repetitive same brand or same brand-set purchasing, despite situational influences and marketing efforts" (Oliver, 1999, p. 34).

Oliver (1999) also added that loyalty involves a process in which customer's cognition, affect, conation, and behavior take place. The scale of Brown and Mazzarol (2009) included measures of the student's willingness to recommend the course or institution to others, maintain contact with the faculty, select the institution again for future study or join the alumni. Same approach has been used in study of Faizan, et al. (2016).

On the basis of experiences from previous researchers, in this study, the loyalty will be examined with special focus on intention to behave which implies decision of student to continue second or third cycle of studies in the same university upon graduation, and their decision to recommend HEI to others.

Higher Education Service Quality and Students Satisfaction

The terms 'student satisfaction' and 'quality' have been central to philosophy of higher education authorities', and their importance continues along with the promise of a renewed, foreseeable prosperity for the higher education of the future (Nadiri, et al., 2009).

As mentioned already, HEdPERF has been comprised of six factors initially: non-academic aspects, academic aspects, reputation, access, programme issues and understanding (Firdaus, 2005).

Faizan, Zhou, Hussain, Nair, & Ragavan (2016) reported that all five dimensions of higher education service quality within structure of HEdPERF influenced students satisfaction which is important implication for research model to be proposed in this study.

Considering importance of relationship between service quality and student satisfaction in higher education setting, as well as considering significance of all five higher education service quality dimensions developed by Firdaus (2005) and tested by different researchers (Brochado 2009; Faizan, Zhou, Hussain, Nair, & Ragavan 2016 etc.), following hypothesis were developed:

H1: Non-Academic aspects of higher education (HE) service quality have a direct, positive, and significant effect on student satisfaction.

H2: Academic aspects of higher education (HE) service quality have a direct, positive, and significant effect on student satisfaction.

H3: Reputation as an aspect of higher education (HE) service quality has a direct, positive, and significant effect on student satisfaction.

H4: Access as an aspect of higher education (HE) service quality has a direct, positive, and significant effect on student satisfaction.

H5: Programme Issues as an aspect of higher education (HE) service quality have a direct, positive, and significant effect on student satisfaction.

Perceived value and student satisfaction

The relationship between customer satisfaction and perceived value is quite frequent on agenda of researchers. Dovaliene, et al. (2015), Lai, et al. (2012), McDougall & Levesque (2000), Patterson & Spreng (1997), Akinci, et al. (2015) Gallarza & Saura (2006) are just few out of many who were dealing with these variables in their studies.

While analyzing the literature, most of researchers suggested positive influencing relationship between perceived value and customer satisfaction meaning that the first one impacts the latter one.

Accordingly, Dovaliene, et al. (2015) reported that there is empirical evidence in their study arguing that relationship between perceived value and student satisfaction exists. The results of study conducted by McDougall & Levesque (2000) revealed that core service quality and perceived value were the most important drivers of customer satisfaction. The work of Gallarza & Saura (2006) confirm the existence of a quality–value–satisfaction–loyalty chain.

However, through literature review process, one article has been found that had a little bit different path suggesting that perceived value has mediating role between satisfaction and loyalty intentions (Akinci, et al., 2015).

Considering that most of the literature proposed, tested and proved positive, significant and influential relationship between customer satisfaction and perceived value, following hypothesis is developed for this study:

H6: Student perceived value has a direct, positive, and significant effect on student satisfaction.

Student satisfaction and loyalty

The relationship between student satisfaction and loyalty was quite well addressed in the literature which speaks in favor of its significance. Brown & Mazzarol (2009), Faizan, et al. (2016), Helgesen & Nesset (2007), Sirdeshmukh, et al. (2002) are just few out of many researchers dealing with relationships among these two variables. There authors suggested that student satisfaction has positive influence on loyalty.

Important research question of Helgesen & Nesset (2007) was whether student loyalty increases by increasing student satisfaction. On the other hand Faizan, et al. (2016) found that all five dimensions of higher education service quality influence student satisfaction which influences student loyalty. When it comes to research of Fernandes et al. (2013), one of the main hypothesis was whether student satisfaction leads to student loyalty. Findings indicated positive impact of programme satisfaction, satisfaction with non-academic services and facilities on student loyalty (Fernandes, et al., 2013). These are only few studies dealing with relationship between student satisfaction and student loyalty which speaks in favor of significance and importance of this issue in literature.

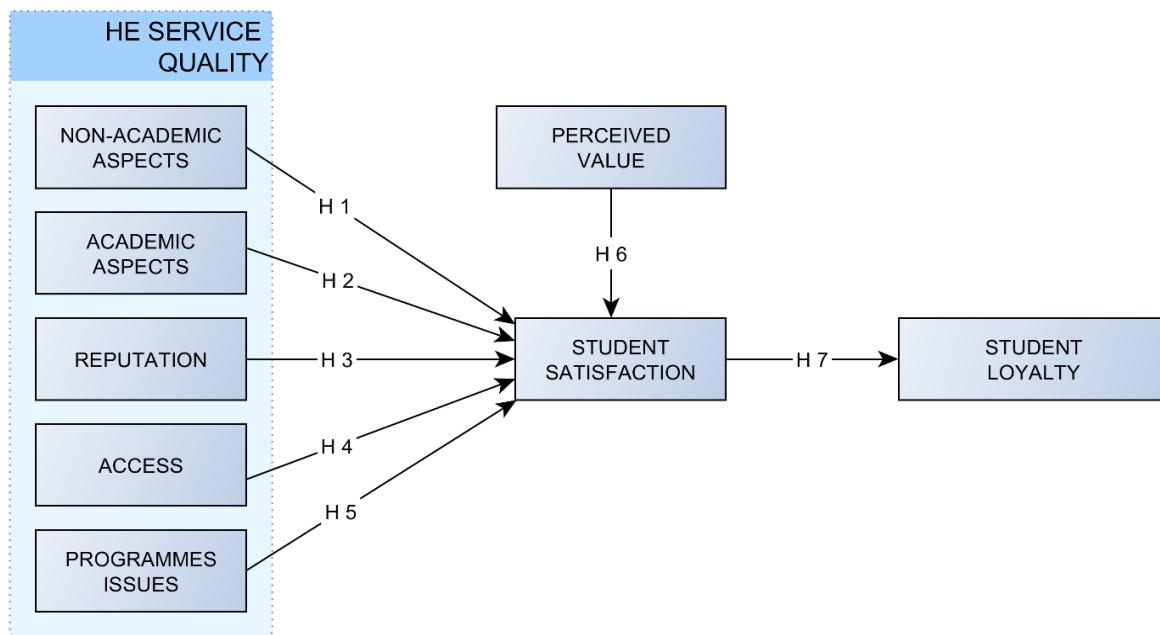
Considering all mentioned studies, following hypothesis has been developed for this study:

H 7: Student satisfaction has a direct, positive, and significant effect on student loyalty.

Proposed Research Model

After extensive literature review that enabled understanding and explanation of all variables as well as relationships among them, a research model to be used in this study has been developed and presented in figure one below.

FIGURE 1: Proposed Research Model



Source: Prepared for this study

The model represents six independent (all five dimensions of higher education service quality and perceived value) and two dependent variables (student satisfaction and student loyalty). Even though all hypothesis have been mentioned above, for practical reasons, the list of them will be provided once again below:

H1: Non-Academic aspects of higher education (HE) service quality have a direct, positive, and significant effect on student satisfaction.

H2: Academic aspects of higher education (HE) service quality have a direct, positive, and significant effect on student satisfaction.

H3: Reputation as an aspect of higher education (HE) service quality has a direct, positive, and significant effect on student satisfaction.

H4: Access as an aspect of higher education (HE) service quality has a direct, positive, and significant effect on student satisfaction.

H5: Programme Issues as an aspect of higher education (HE) service quality have a direct, positive, and significant effect on student satisfaction.

H6: Student perceived value has a direct, positive, and significant effect on student satisfaction.

H7: Students satisfaction has a direct, positive, and significant effect on student loyalty.

Methodology

Sample design and data collection

The sample for this study are students studying at first cycle of studies studying at accredited private higher education institutions in Bosnia and Herzegovina. At this moment, there are eighteen accredited higher education institutions out of total fifty HEIs in the country.

The target in terms of number of responses is to collect at least 500 surveys. The data will be collected in several phases. First phase is online survey data collection. Second phase is collecting data via phone administered survey. It is expected that third phase will be face to face collection of data by using hard copy forms of surveys.

Research instrument

The survey will be developed on the basis of variables mentioned in literature review part and presented in research model. For all variables, there are previously developed scales which are validated by many researchers and highly reliable. The summary of variables, scales and references is presented in table below:

TABLE 2: The summary of scales

| # | Variable | Scale to be adapted & applied | Reference |
|---|----------------------|---|---|
| 1 | Non-Academic Aspects | | |
| 2 | Academic Aspects | | |
| 3 | Reputation | HEdPERF | Firdaus (2005); Firdaus (2006b) |
| 4 | Access | | |
| 5 | Programmes issues | | |
| 6 | Perceived Value | PERVAL Customer satisfaction with service | Sweeney and Soutar (2001) Voss, Godfrey and Seiders (1998) |
| 7 | Student Satisfaction | Customer satisfaction with relationship Student satisfaction | Adjei, Noble and Noble (2010) Alves & Raposo (2009) |
| 8 | Student Loyalty | Measuring repurchase and recommendation | Brown and Mazzarol (2009); Faizan, et al. (2016). |

Source: Prepared for this study

Analyzing methodology

For purposes of analyzing methodology, Structural Equation Modeling will be used (SEM). There are many reasons behind this decision: SEM Accounts for Random Measurement Error, SEM can Control for some Types of Non-Random Error, SEM allows for Straightforward Evaluation of Convergent and Discriminant Validity, SEM gives a Global View, SEM emphasizes Theory Testing (Blanthorne, et al., 2006).

In addition, SEM has become one of the most popular statistical tools to test the relationships proposed in a parsimonious model (Cheng, 2001).

According to Eddie W.L. Cheng (2001), only one significant relationship can be justified by multiple regression while on the other hand, SEM has helped to develop new relationships based on the modification indexes.

Expected Results

As already indicated in all seven hypothesis, direct, positive, and significant effect is expected to occur between all relationships in the model. If this expectation come true, the findings of this research will be in accordance with most of the studies mentioned in literature review part.

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BUSINESS CONTINUITY MANAGEMENT IN HIGHER EDUCATION: RESPONSE PLAN FOR THE THREAT OF NEGATIVE MEDIA REPRESENTATION

(CASE STUDY ON INTERNATIONAL BURCH UNIVERSITY)

Anelina Durmo

International Burch University
Bosnia and Herzegovina
lina.neira@gmail.com

Abstract: Business Continuity Management (BCM) can be defined as a holistic management process (ISO 22301:2012) which means that interdependences and connections between all parts of process are very important. BCM is the best way for the organization to prepare for response in potential future crisis situations and to avoid damage from theoretical events.

Awareness of importance of BCM in higher education in Bosnia and Herzegovina is not at a satisfactory level. One of the risks that can have the highest impact on higher education institution is reputation risk. This BC response plan is particular preparedness plan of the University for the event of negative media representation.

The purpose of this study is to raise awareness of importance of business continuity response plans for incidents or crisis situations in higher education institutions. Additional reason for this study is importance of the reputation of these institutions. Image and reputation of higher education institutions are crucial for their existing.

Answers will be sought for the following research questions: How higher education institution can protect of reputational damage, in the first place of negative media attention? How to make BC Response Plan? Why is communication plan extremely important as a part of BC response plan?

Keywords: BCM, higher education, response plan, reputation, media

JEL Classification: H12, M10, I23

Introduction

Optimism is not a strategy neither is a plan.

In day and age of global crisis (economic, financial, migrant, terrorism, etc.) and wars all around the world, also in era of a great influence of social network communication and propaganda, many organizations (institutions and companies) in all industries are facing with a lot of rising problems.

Not only companies for profit and the others financial institutions are important to save and continue business in the case of some kind of crisis; also Higher Education Institutions should consider what can happen. HEI are important because HEI's business depends of their reputation and they are responsible for their academic and administrative staff as well as for their students. In one word for all their stakeholders.

Business Continuity Management (BCM) can be defined as a holistic management process (ISO 22301:2012) which means that interdependences and connections between all parts of process are very important.

BCM is the best way for the organization to prepare for response in potential future incident or crisis situations and to avoid damage from theoretical events.

Crisis is defined as “a critical event that may impact an organization's profitability, reputation, or ability to operate.” (Wikipedia, Business Continuity Institute [BCI], n.d.)

„A critical event, which, if not handled in an appropriate manner, may dramatically impact an organization's profitability, reputation, or ability to operate.“ (Wikipedia, Disaster Recovery Institute International, n.d.)

In Europe, in the first place in UK and Ireland there is no obligatory requirements from government for HEI with the exception of teaching hospitals connected to universities (McGuinness and Marchand, 2014) but there is defined BCM according to Higher Education Business Continuity Network (HEBCoN). HEBCoN are partner with the BCI, Kenyon, and Cambridge Risk Solution.

Historically, universities have given little attention to Business Continuity Management (Beggan, 2011).

In the USA a lot of universities are implemented BCM. For example, Northwestern University has got a complete BCM and open access to templates for BCM, links to case studies in USA, etc. Also, Marquette University and many others in USA.

“US HEI are required by federal law to establish continuity of operations plans (McCluskey, 2007). Universities face a number of challenges when preparing continuity of operations plans including an open fluid environment, diverse beliefs and subcultures, and the balance between preparedness and rigid security controls (McCluskey, 2007). HEI have been responsive to policy mandates by establishing clear priorities - human lives, protected facilities, fortified information technologies, and plans for business recovery.” (Zaghab, 2011, p.2)

There are several governance guides for BCM in HEI, such as “Action Guide for Emergency Management at Higher Education Institutions” which has been developed to give higher education institutions a useful resource in the field of emergency management. (U.S. Department of Education Office of Safe and Drug-Free Schools, 2010)

Awareness of importance of BCM in B&H is on low level in global. Government has got only few obligatory laws for financial institutions but higher education law in Bosnia and Herzegovina doesn't recommend any of prevention measures of BCM for HEI.

The purpose of this study is to raise awareness of importance of business continuity response plans for incidents or crisis situations in higher education institutions.

Additional reason for this study is importance of the reputation of these institutions. Image and reputation of higher education institutions are crucial for their existing.

Answers will be sought for the following research questions:

- How higher education institution can protect of reputational damage, in the first place of negative media attention?
- How to make BC Response Plan?
- Why is communication plan extremely important as a part of BC response plan?

BCM is important because of that it's the proactive measure and is a proactive measure that concerns all business processes, assets, facilities, and human resources, not just data center and communication network. (Adapting Business Continuity To Your Organization, n.d.)

The other very important fact is that BCM is not just a plan. BCM refers to all issues associated with risk, not just natural or man-made disasters, so it can help one organization to uncover potentially significant costs and risks before they happen. (Adapting Business Continuity To Your Organization, n.d.)

Image and reputation of higher education institutions are crucial for their existing. Consequences of lost reputation and bad image can destroy one HEI and everything which was built for years.

Research method used in this study is qualitative method, case study on International Burch University.

Review the literature

According to ISO 22301:2012, *Societal security - Business continuity management systems – Requirements for manage and effective Business Continuity Management System* it's required to apply Plan-Do-Check-Act (PCDA) model as well as other International standards (ISO 9001, ISO, ISO/IEC 27001, etc).

In this standard there is a list of BCMS requirements for the organization and all interested parties for general, legal and regulatory obligations and responsibilities.

Focus in standard is in planning of BCMS and in compliance of planning with the organization's mission, goals, internal and external obligations and responsibilities. Also, Standard asserts importance of leadership, involving high management in this process, awareness of all including parties and communication.

For the communication three question have to be considered: what it will communicate, when to communicate and with whom to communicate (ISO 22301:2012, p. 13).

Also, Standard differentiates internal and external communication.

BCM Umbrella shows the relationship between risk disciplines. (Figure 1)

Figure 1: Business Continuity Institute - BCI, 2003



In this study it'll be discussed mainly about Crisis Management and Communication and PR, so reviewing the literature will cover primarily these risk disciplines.

Crisis Management can be defined as a critical organizational function which failure can cause harm to stakeholders, (Coombs, 2014, p. 1)

Reputation is the second important for one organization and it placed after public safety.

Coombs defines reputation as "how stakeholders perceive an organization". (2014)

Some research suggests that lessons designed to protect the organization's reputation will help to reduce the likelihood of negative word-of-mouth. (Coombs, 2014)

The other component to consider in crisis response is role of social media and the third component are emotions. According to previous researches focus is on anger, sympathy, and anxiety as the primary fears that arise from a crisis.

Crisis Management's role is preventing or lessening the damage a crisis can cause in an organization or affect to stakeholders.

For the establishing Crisis Management three main phases according to Coombs, (2014) are:

- 1) Pre-Crisis Phase which includes preparing Crisis Management Plan, defines Crisis Management Team and spokesperson, making Pre-draft Messages and defines Communication Channels,
- 2) Crisis Response which includes Initial Response and Reputation Repair and Behavioral Intentions
- 3) Post-Crisis Phase which includes return to normal business operations.

Coombs differentiates two crisis communication research lines: internal crisis communication management communication with employees about a crisis and stealing thunder which is defined as a matter of timing involving the disclosure of information about a crisis.

One interesting paper has written by Blue Moon Consulting Group. The paper is focused at the most important distinctions between terms about crisis management role in crisis and to proactive & strategic approach to manage reputational risk in Higher Education.

First, in the paper is explained that crisis management and emergency management are not the same as well as the crisis communication isn't crisis management. It is really a fact that the common mistake is to confuse these concepts.

Difference between crisis management and emergency management (EM) is that EM is defines as the process of managing physical events and Crisis management defines the process of managing the broader impacts and consequences of events and issues – not just physical ones. (Blue Moon Consulting Group, n.d.)

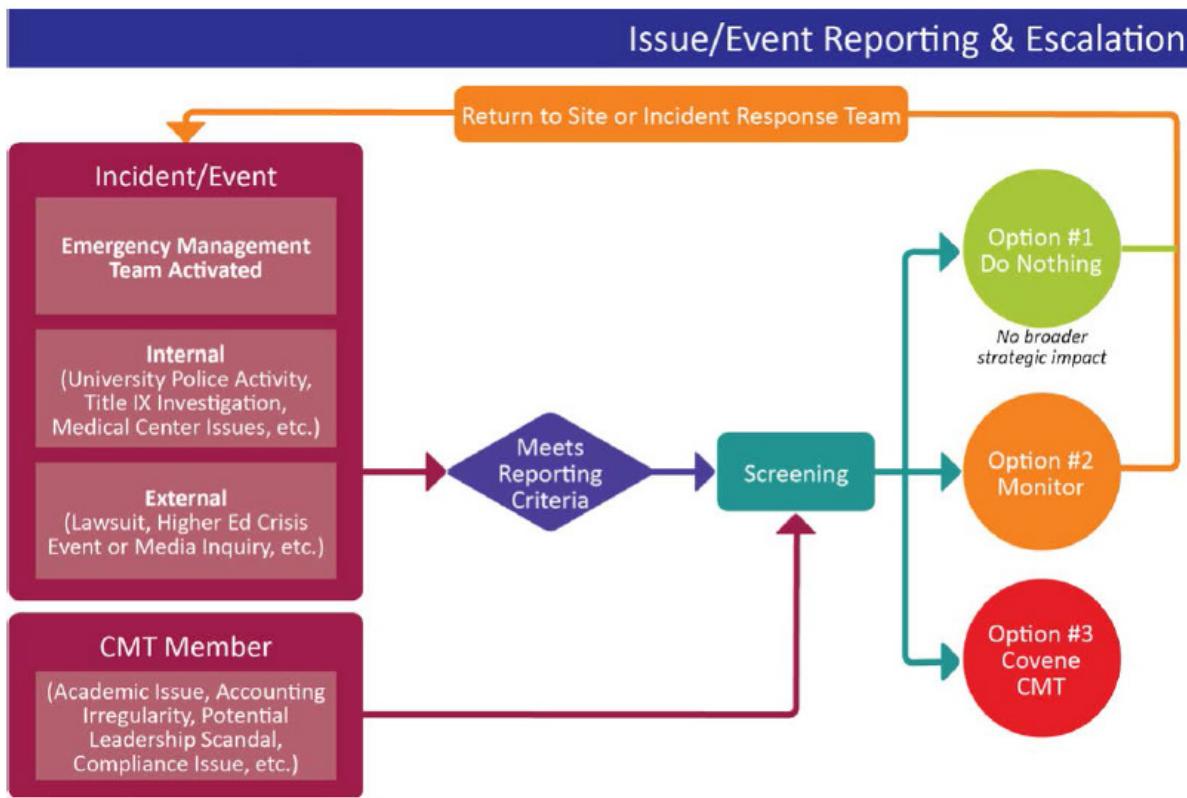
A second mistake is to confuse crisis communication with crisis management. While communications certainly is a critical, visible and impactful part of crisis management but it's not the whole. For many organizations, a crisis is by definition the point at which stakeholders start to make inquiries leading to the inevitable question, "What are we going to say?" From a crisis management standpoint, equally critical to "what are we going to say?" should be the questions, "why didn't we know about this earlier?", "who needs to be involved?" and "what are we going to do?" (Blue Moon Consulting Group, n.d.)

In the paper it's explained what are the four critical components of effective CM. That components are the answers of these mentioned questions

The most important is to have:

- 1) A Clear Reporting Process & Criteria - Defining the what, how, when and to whom issues and events that have the potential to create significant reputational risk are identified and reported.
- 2) A Strategic Incident Screening Process - Analyzing and assessing information in a broader context.
- 3) Defined Parameters for Crisis Team Activation - Detailing when and how your university's Crisis Management Team will be engaged such that it is understandable, predictable and repeatable. (Figure 2)

Figure 2: Issue/Event Reporting & Escalation



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This paper is very useful in establishing CM and creating of the plans for business continuity because it provides all the steps in the process and key benefits for it.

According to literature thinking that bad publicity won't happen to our organization is really wrong opinion and a great mistake. If there is plan and preparation steps for it, organization will give itself a much better chance of limiting the damage and staying in control of the situation. "Simply being prepared for adverse publicity can prevent a bad story from becoming a terrible one." (The Marketing Donut, n.d.)

BCM Methodology

According to ISO 22301:2012 BCM Methodology is as follows:

- Risk Analysis
- Business Impact Analysis
- Business Continuity Strategy
- Plan Development
- Testing and Exercising
- Program Management

Risk Analysis

Risk Analysis is the first step in BC Planning. It's a process of identification and classification of potential risks. Risk assessment can be defined as "the determination of quantitative or qualitative estimate of risk related to a well-defined situation and a recognized threat". (Wikipedia, Risk Assessment, n.d.)

Usually, quantitative risk assessment method is used for the classification of risks. Quantitative risk assessment requires calculations of two components of risk (R):

- the magnitude of the potential loss (L)
- the probability (p) that the loss will occur

Risk = Probability x Loss

$$R_i = p(L_i)$$

Risk categories

Potential threats which are in correlation with BCM can be separated in specific categories:

- **Social:** Threats emerging from criminal activities or and other social influences
- **Operational:** External/Internal threats which come from inside the University or outside
- **Financial:** Threats which cause a financial loss
- **Natural/Environmental/Disaster:** Threats which can happen from natural events or environment/man made influence
- **Political:** Events/threats caused by political events

(Wikipedia, Social Risk Management, n.d.)

International Burch University - general information

International Burch University (IBU) was established in 2008 in Sarajevo, with the goal of presenting a unique opportunity to rethink the very idea of a modern university. (International Burch University, n.d.)

IBU is member of the private Bosna Sema Educational Institutions. (International Burch University, n.d.)

Mission

"The mission of International Burch University is to support education, scientific research and the training of highly qualified personnel to work in academic and professional fields through the development of modern curricula and creating an environment to encourage creative, objective and critical thinking and continuous learning. Through its public activities and joint projects and cooperation with institutions from the private and public sectors, as well as international institutions, the university aims to improve the community and contribute to solving local and global challenges. An important aspect of all activities is a friendly academic environment that encourages each student to take a leading role in reaching their personal and intellectual potential." (International Burch University, n.d.)

Vision

"Achieving excellence in education, research & development, and innovation & entrepreneurship through mentorship and guidance." (International Burch University, n.d.)

Number of personnel/Headcount

Figure 3: Number of academic staff (International Burch University, n.d.)

| Number of academic staff in 2013-2014 | Prof. | Assoc. Prof | Assist. Prof. | Senior Teaching Assistant | Assistant | TOTAL |
|--|--------------|--------------------|----------------------|----------------------------------|------------------|--------------|
| Employees | 6 | 10 | 27 | 40 | 6 | 89 |
| External collaborators | 2 | 3 | 9 | 3 | 1 | 18 |
| TOTAL | 8 | 13 | 36 | 43 | 7 | 107 |

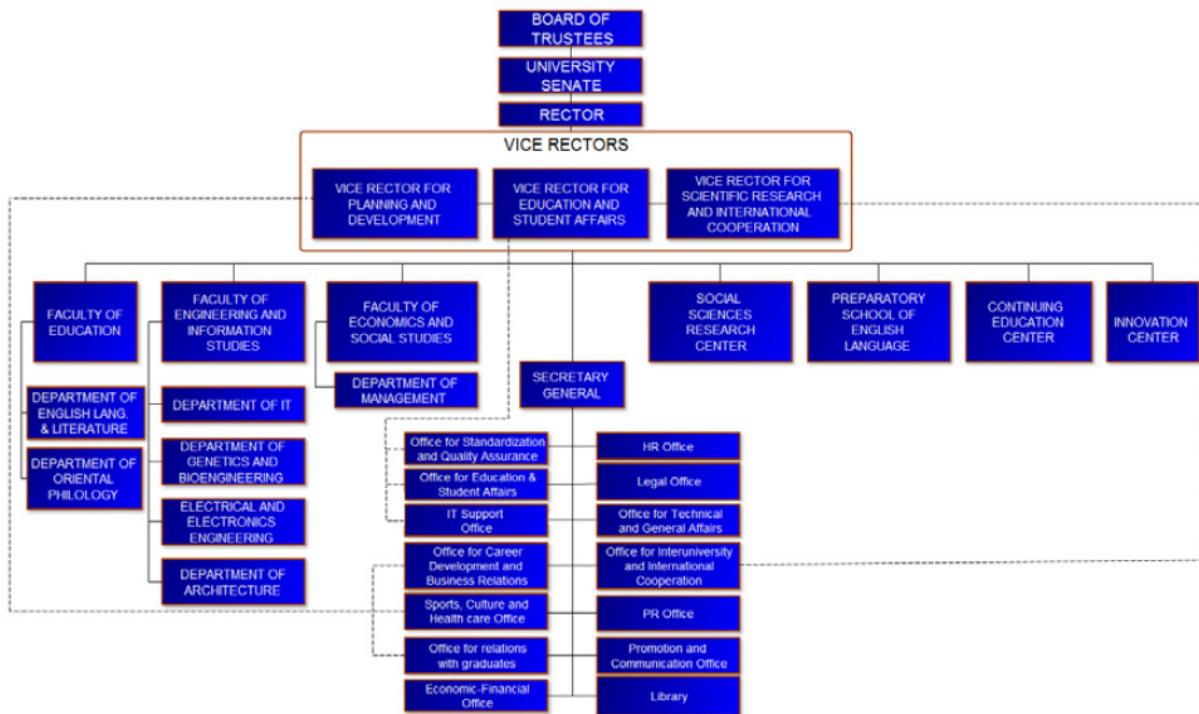
Table 26: Structure of academic staff in academic 2013-2014

Figure 4: Number of administrative staff (International Burch University, n.d.)

| Qualification structure of administrative staff at International Burch University | |
|--|----|
| BACHELOR DEGREE | 30 |
| HIGH SCHOOL DEGREE | 20 |
| UNQUALIFIED | 6 |

Table 29: Qualification structure of administrative staff in 2013-2014

Figure 5: Organizational Chart of University (International Burch University, n.d.)



Development strategy of HEI International Burch University for period 2014-2019

Some of important strategic goals are:

- TL&QA (teaching and learning quality assurance)
- Strengthening the relations between the University and the community
- Improving PR of University

Business impact analysis (BIA)

After risk assessment, it's very important to do second step and essential component of an organization's business continuance plan - Business impact analysis (BIA) which is defined as "a systematic process to determine and evaluate the potential effects of an interruption to critical business operations as a result of a disaster, accident or emergency." (TechTarget, n.d.)

BIA is a component to show any vulnerabilities and a planning component to develop strategies for minimizing risk. Purpose of the BIA is to identify critical functions with defined Recovery Time Objective (RTO) for critical processes. The recovery time objective (RTO) defined as "the targeted duration of time and a service level within which a business process must be restored after a disaster (or disruption) in order to avoid unacceptable consequences associated with a break in business continuity." (Wikipedia, n.d.)

Academic Continuity is the most important for every HEI, so strategy for increasing academic continuity capacities should be in place for the IBU.

Education and scientific research is a primary mission of International Burch University. Develop academic continuity/recovery plans will ensure preparedness of IBU for the wide risks/threats.

It is also important to ensure training for individuals charged with implementing the plans to understand the roles, responsibilities, and activities in the plans.

Priorities for crisis response

The priorities for decision making are as follows, in order of priority:

1. **Life and health safety** - The priority in incident or crisis situation is the safety of all persons who are involved in that incident/crisis situation.
2. **Protection and enhancement of the reputation of University** - The next priority is the brand and reputation of the IBU.
3. **Prevention of further risk or damage** – Some actions should be taken to protect against further risk arising or further damage being done.

Response Plan of IBU for the Threat of Negative Media Representation

This threat is in category of social and political threats with intention to discredit the institution/company in public.

Universities are not currently obliged by government to have specific continuity arrangements but thinking that this kind of event won't happen to education institution is not a good choice.

If plan exist and preparation is ongoing process, it's a much better chance of limiting the damage and staying in control of the situation. Being prepared for negative publicity can prevent an incident from becoming a crisis.

Sources of the risk:

- Global situation in the world reflects on Bosnia and Herzegovina as well as Balkan's instability as social, political, and economic environment.
- Competitors, unemployment, negative political strategy, malicious intentions (manipulating with emotions of the public).

Possible harmful consequences /losses

- Loss of reputation, credibility
- Loss of staff
- Loss of students
- Impact on other important business partners
- Financial loss

Table 1: Possible losses, defined RTO

| <u>Possible Harmful Consequence</u> | <u>Time after incident when this consequence become critical (RTO)</u> | | | | | |
|---|--|------|-------|-------|-------|--------|
| | 0-2 days | 1 wk | 2 wks | 3 wks | 4 wks | >4 wks |
| Loss of reputation, credibility | x | | | | | |
| Loss of students | | | | | | x |
| Loss of staff | | | | | | x |
| Financial loss | | | | | | x |
| Impact on other important business partner(s) | | x | | | | |

Factors that should be consider in preventing/reacting of this type of situation:

- Continuous monitoring at social, political, and economic environment and awareness of global situation.
- Building positive image through implementing IBU business strategy and IBU Strategy on public relations.
- Awareness of the speed at which information spreads, especially via social networking sites, and takes quick action to neutralize negative publicity.

Major Rules for handling Negative Media Representation

What should University do:

- Act promptly to confront and neutralize negative publicity
- Turn to experts such as lawyers, psychologists and PR professionals if it's necessary
- Inform stakeholders (defined target groups)
- Making positive spin
- Learn from own mistakes

What should never do:

- Ignore the power of society/individuals using social media to destroy reputations
- Not be prepared for the worst-case scenario

Requirements /Content

- Crisis Management Team: role, responsibilities
- Crisis Plan/Checklists
- Communication Plan: internal and external

Purpose

- Neutralize crisis, prevent panic, put the situation under control

Scenario (proactive, reactive)

- Prepare for unwanted event
- Investigate what happened, why and what is background of the event and how to react

Before incident/crisis (Mitigation/prevention)

First step for proactive scenario of IBU is to define a Crisis Management Team.

Members of Crisis Management Team:

- Crisis Manager (High Management/Rector, Vice Rector)
- BC Manager (Crisis Coordinator)
- PR
- HR Office Representative
- Legal Office Representative
- Heads of academic departments
- Optionally, representatives of others departments
- Two deputies for every team member

The role of Crisis Management Team is to analyse the situation and formulate crisis management plan to save the organization's reputation.

Responsibilities of the Crisis Management Team:

- Detecting the early signs of crisis
- Identifying the problem areas
- Set IBU objectives for the crisis
- Evaluate the potential impact of a crisis
- Prepare crisis management plan which works best during crisis situation
- Motivate employees not to lose hope and release their stage best
- Consider legal & regulatory compliance issues
- Approve global communications internal/external
- Help the organization to resolve crisis and also prepare it for the future

Crisis Plan/Checklist (Preparedness) Second step is making crisis plan/checklist Content of the plan:

- Who should informs whom in defined times
- Names, contacts, addresses, e-mail addresses of Crisis Management Team and other critical/essential functions, stakeholders, key media

- Steps in resolving the situation
- Folder of information - various documents that may be needed during the incident/crisis (previous press releases, photos, biographies, history of the University, annual reports, financial indicators - all need to be saved at the safe backup location)

Unit Preparedness

Every unit at the University should have a plan to promote preparedness. That plan will distribute to all involved and appointed employees.

Unit Communication Procedure:

Staff Phone Tree (staff phone tree with email, personal email, cell, etc.)

Key people & resources

Communication Resources:

Table 2: Emergency home contact list (University)

| | |
|--------------------------------|---|
| Resource/description: | Emergency home contact/email list (University) |
| Responsible department: | Human Resource Office |
| Location: | Defined secure location |

Table 3: Message posted on web site

| | |
|--------------------------------|---|
| Resource: | Message posted on web site |
| Responsible department: | Promotion and Communication Office |
| Additional Info: | In cooperation with PR |

Table 4: List of students

| | |
|--------------------------------|---|
| Resource: | List of students |
| Responsible department: | Office for Education & Student Affairs |
| Location: | Defined secure location |
| Additional Info: | Student roster |

Proclamation of Crisis

Crisis Management Team should consider:

- The all relevant facts about event and decide if the event is incident or crisis.
- That decision will depend of political, social situation and media reactions of it and also of defined parameters for Crisis Team activation
- When crisis is proclaimed, every Crisis Team Member will do what is defined for his/her role.
- It should be considered that the content of the crisis must remain confidential.

Response of crisis (during a crisis)/Checklist

Crisis Communication Plan

Creating a Crisis Communication Plan is important step in preparing University to control and manage situation.

In creating Communication plan, it should be considered:

- Compliance with IBU Strategy on public relations
- Rapidity of the preparing a press statement (the most important in this situation)
- Avoiding negative publicity (keep public informed clearing up any misconceptions about University)
- Agreed statement to the public (not to speak untruth)
- Informing target groups continuously. The target groups include: students, partners, institutions, economy and civil sector, media and employees
- Nominating of PR - It is recommended that the statements give only one person. This should be somebody who can stay calm in the face of media, unpleasant questions, and pressure.
- Positive spin - Look for the 'good news' of the viewpoint of University - by making these public University can ensure negative press is mixed with the positive.
- Internal communication:
- Nobody should give the official statements except of PR.
- All statements should be approved by Crisis Manager.
- Employees get instructions (guidelines) for external communication. Press Releases should include information about:
 - What happened
 - Investigation is ongoing
 - What University made/taken
 - When will be the next info

Example:

Info about the event, the consequences that University still doesn't have results of the investigation but that is expected in time. PR can say something about the brand of University, what does University expect of resolution the situation, recommend the experts who can speak in University favour.

Update on situation/event

During a crisis there will be a need for update information about the ongoing situation. This is need for all involved and the others who don't know in the first time what happening. Also, it's necessary to inform media and public about ongoing situation.

Closing a crisis (Recovery)

When crisis has been finished the business can back to normal business operations. The decision about closing the crisis situation is made by the Crisis Manager.

It should be considered:

- What has been achieved to control or reduce risks
- Implications for observed risk
- Decision to close crisis and back to normal business operations

Post-incident analysis

After the termination of incident/crisis University should do a post-incident analysis. The purpose of this analysis is to:

- Review all actions implemented during the crisis and to upgrade the process for the next time
- To identify cause of the incident and possible controls to prevent or avoid repetitiveness
- Identify lessons learned for the future
- Implement any improvements to the crisis response process itself
- Define ongoing action plans

Conclusion

This case study has presented some new and preliminary findings about the BCM implementing in higher education institutions.

Previously studies about BCM in Higher Education Institutions were completed in many countries, basically, this research topic is presented in USA and UK.

Lack of government requirements in most European countries in this area is reason why this topic isn't evaluated as important in HEI.

This study provided basic steps in BCMS methodology based on ISO 22301:2012 as well as planning crisis team and communication.

The data showed that BCM is still not practice within universities in B&H.

Implementing BCM could be a point of significant competitive advantage for a university but universities in BiH are not aware of this potential.

IBU is on a good way to exploit this potential.

Writing Response Plan for the Threat of Negative Media Representation was the challenge for implementation a little segment of BCM for the first time in higher education institution in B&H.

Limitation in study are that complete risk assessment and BIA hasn't done because in focus was one threat. For future researches it's recommended to extend the scope of BCM planning.

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EUROPEAN BANKING UNION: EFFECTS AND CHALLENGES

Emina Žunić Dželihodžić

School of Economics and Business

Bosnia and Herzegovina

zunic.emina@gmail.com

Abstract: This paper analyzes impact of new banking structure on different countries. Analysis include banking sectors of both: European Union members and non-European Union member's countries. For the purpose of analysis, data from these banking and financial sectors for period 2008-2014 were used. European banking sector as well as entire financial sector integration is necessary. This necessity is deduced from the problems in this banking sector. Namely, widespread connection between banks and sovereigns which was detected by analysis of these two types of debts. Fragmentation of the Eurozone credit markets was, mainly, caused by sovereign debt crisis due their extremely high correlation. Analysis has shown that this was especially emphasized in peripheral countries of Eurozone. This was disclosed through correlation analysis of sovereign and bank Credit Default Risk premium. Therefore, banking union with good absorbing shock mechanism at union level, credible discipline on state level as well as with central regulatory mechanism should resulted in reduction of this correlation and its complete elimination in the long run. However, potential benefits of this new structure will be unequally distributed. Actually, effects will depend on number and size of banks which are located in certain country.

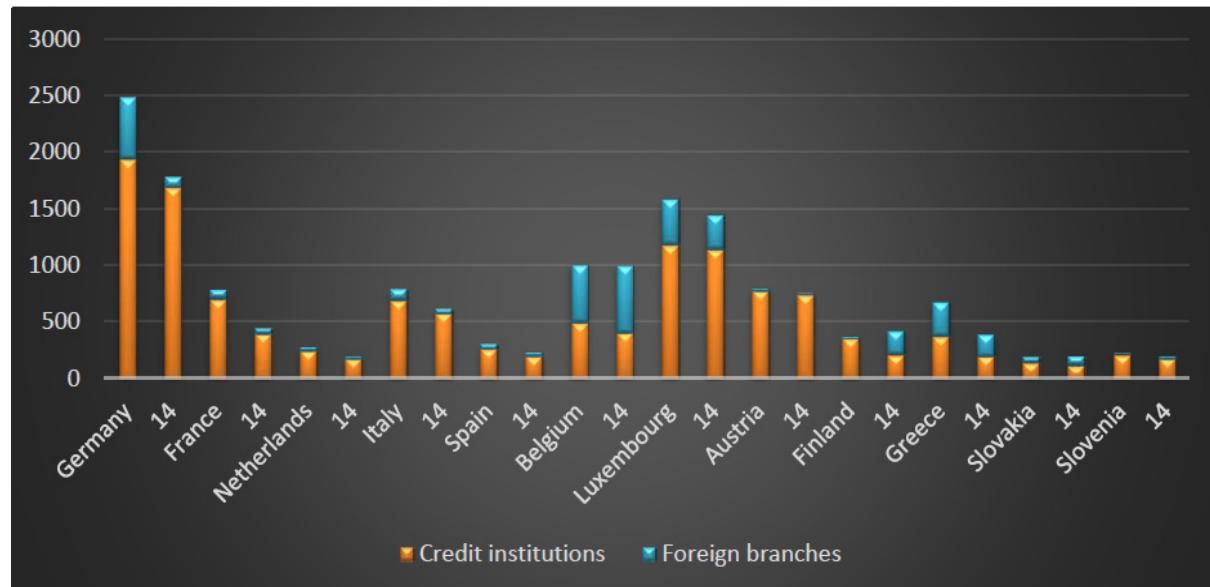
Keywords: correlation, Eurozone, banking union, bank, sovereign

JEL Classification: E44, E58, G21

Introduction

Eurozone financial sector asset – including banks, insurance companies, ICPFs (pension funds) and so called „banking from shadow“ have almost double during last decade and reached level of 57 trillion euros in 2014th. From the beginning of the crisis 2008th Eurozone banking sector has pass through rationalization process that resulted in decrease of credit institutions. This banking sector consolidation is connected with pressures on cost reduce, deleveraging and restructuring. At the end of 2014th total number of credit institutions (including foreign branches) was 5.948 and it was reduced from 6.100 at the beginning of 2014th. By comparison, this number at the end of 2008th was 6.690. Developments over time resulted in decrease of 742 credit institutions since then to 2014th, what represents decrease of around 11, 1%.

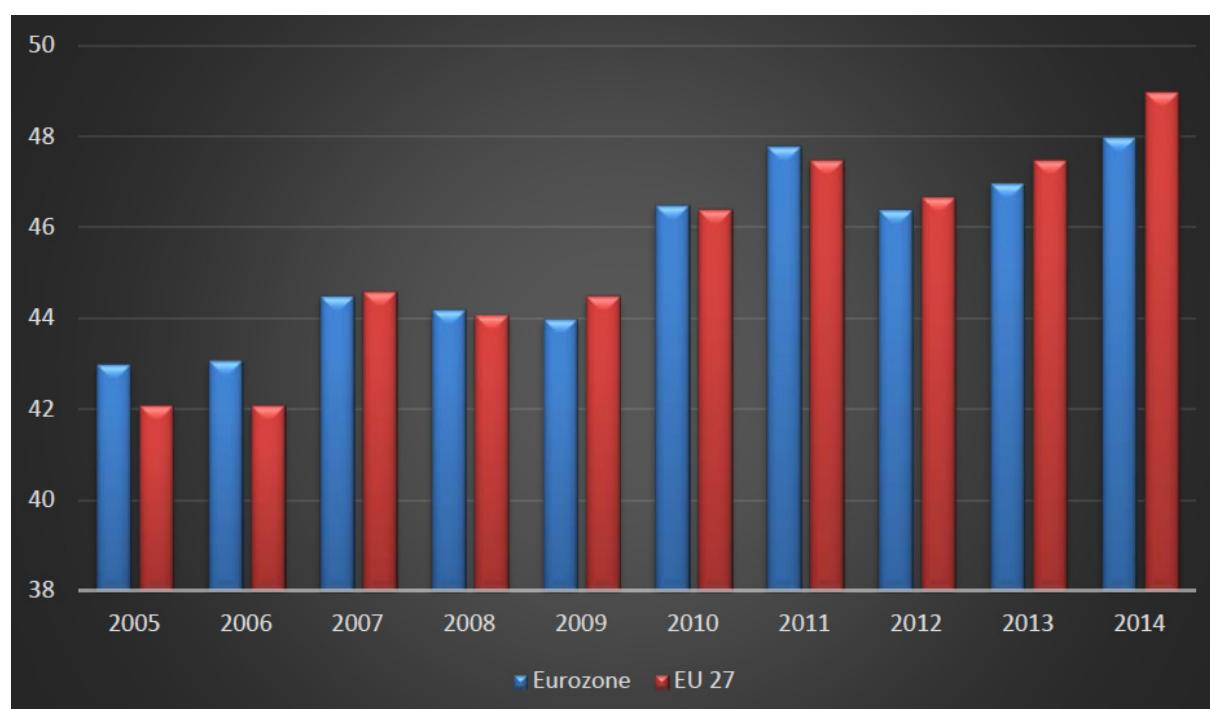
Graph 1: Number of credit institutions and foreign branches 2008 vs 2014



Source: *Banking Structure Report, 2015*

Market concentration measured by total asset hold by five greatest credit institutions or by Herfindahl index has increased in Eurozone as well as at European Union level from 2010th and further compared with the period before the crisis. This indicator recorded a high value in 2011th, after that it has decreased in 2012th and again recover in 2013th and 2014th, but in any case, remaining above the level before the crisis period.

Graph 2: Market concentration



Source: *Banking Structure Report, 2015*

A modest increase in 2014th was mostly caused by developments during the crisis in countries where big banks were affected by consolidation by parent banks decisions what was especially noticeable in Cyprus, Greece and Spain. If we compare those indices between different countries, we will notice a huge number of structural factors. Therefore, banking system in big countries such as Germany and Italy are much more fragmented with bigger amount of savings and more cooperative banking sector. On the other hand, banking systems in smaller countries are much more concentrated with exception of Austria and Luxembourg. At the end of 2014th market concentration has reached level of near 95% in Greece and at the Germany and Luxembourg a little bit above 30%. According to current situation development during period 2008-2014, it is expected that over time the banking structures have become much more concentrated in most countries.

Literature review

Since problematic that this paper considers is most recent problem in European banking sector, a few papers had the subject of this issue. Namely, idea of new banking sector structure have occurred a few years ago and together with that new researches occurred. First disclosed paper gives a first legal and technical analysis new banking structure proposals, referring also to some of the discussions that have already sprung up and identifying a few of the controversial points. (Wytmeersch, 2012) Further, researches have analyzed a number of euro-area countries that have been affected by a lethal negative feedback loop between banking and sovereign risk, followed by disintegration of the financial system, real economic fragmentation and the exposure of the European Central Bank. (Pisani-Ferry & Wolff, 2012) Following paper have shown that it was much easier to endorse the concept of a banking union than it is to design and implement one. Banks are central to the European financial system, supplying about three quarters of all credit, and are therefore critical to the functioning of the wider economy in Europe. Their supervision is not just a technical issue, but it requires many subjective judgments that have serious implications for credit provision, economic growth and jobs. (Elliott, 2012) The following paper have investigated the role of "Europeanisation" for bank recovery and resolution that will be managed nationally based on EU law. A first evaluation indicates that the potential benefits of solving bank problems via the resolution mechanism of a new European banking union would be distributed unequally between the member countries of the Euro area. Germany would be the biggest loser, Spain and the Netherlands the biggest winners. Of the non-euro countries, the UK and Sweden have the most to gain, but Poland would lose. The country-specific gains of European banking union depend on the number and size of banks which are located in a country. It is, however, not yet clear whether the goal of macroeconomic stabilizing of bank resolutions would be better achieved when executed via the Single regulation mechanism or with the ESM, both for the countries affected and for the Euro area as a whole. (Breuss, 2013) Further, authors have analyzed role of SRM. The central body of the SRM should be either the European Commission, or a new authority. This legislative effort should not be taken as an excuse to delay decisive action on the management and resolution of the current European banking fragility, which imposes a major drag on Europe's growth and employment. (Veron & Wolff, 2013) Further, it was proven that 2014 handover, and a subsequent change in the European treaties that will establish the robust legal basis needed for a sustainable banking union, together define the policy sequence as a bridge that can allow Europe to cross the choppy waters that separate it from a steady-state banking policy framework. (Veron, A realistic bridge towards European banking union, 2013)

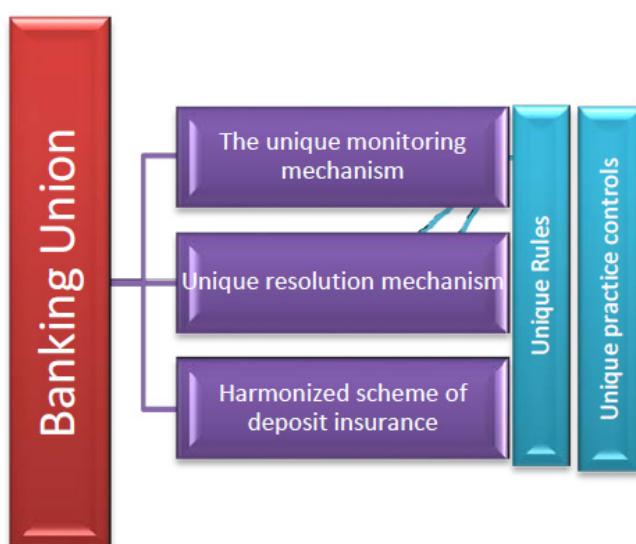
Banking Union

From the beginning of crisis 2008th, European Commission has worked hard to discover the lessons from the crisis in order to create a safe and stable financial sector. Commission has suggest 28 new rules for better regulation, supervision and financial sector management so that in the future, taxpayers will not pay full price for the mistakes of banks. Most of the rules are now in force or are nearing completion. Since financial crisis develop and transform to debt crisis in Eurozone 2010/11, it was clear that for these countries with together currency need to work harder in order to break the vicious circle between banks and public finances. Therefore, in June 2012 the Heads of State and Government decided to create a banking union, exclusively economic and monetary union in order to enable a centralized application for all banks in the euro area (as well as for those countries that are not EU members, but that they wanted to join). Therefore, the objectives of the introduction of this new structure could be defined as:

- strengthening of bank capital and liquidity,
- "Single rule book" including rules about salaries,
- an effective resolution regime that protects depositors,
- effective control and supervision,
- suppression paradigm "too big to fail",
- safer and more transparent financial markets,
- reducing reliance on credit ratings,
- identifying risks posed by "banking from the shadows" and
- prevention and punishment of market abuse.

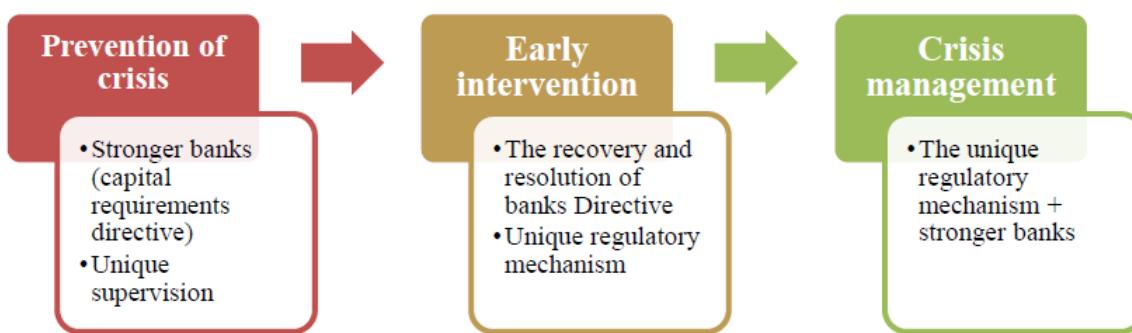
This new regulatory framework with equal rules for all banks in 28 member countries, listed in one rule book is basis of banking union. Uniform Rules will primarily help preventing a banking crisis and if banks get into difficulty a common framework for the management of the process including the means to mitigate them in the right way is defined. This uniform rules will also ensure that all EU deponents their deposits up to 100.000 euro will be secure at anytime and anywhere in Europe. Banking union ensure uniform implementation of these rules in Eurozone. New banking structure could be presented as follows.

Figure 1: Banking Union



Since November 2014th ECB has become supervisor for 6.000 banks in Eurozone in the context of the single supervisory mechanism. In order to ensure that ECB has clear insight into banks that are under its control, a comprehensive assessment of the financial condition of each bank conducted. In case of bank meltdown despite strong supervision, unique new resolution mechanism will enable the efficient resolution of problems in banks through Unique-resolution committee and the Single-resolution fund. If the bank still suffers meltdown unique regulatory mechanism will with clear rules for decision-making for internationally active banks a ton more effectively solve problems than the existing framework of national resolution. Together with the new EU regulatory framework for the financial sector, the creation of a banking union is a big step in the economic and monetary integration in the European Union. This should lead to increase in financial stability. Thus, financial sector should now be able to lend to real sector, thereby supporting economic recovery and job creation.

Figure 2: Steps in the implementation of new banking structure



European Commission has prepared suggestions of 28 legal requirements that covers all financial participants in order to better manage financial sector. These proposals constitute a single rulebook. Therefore, it's important to ensure strong pervasive regulation, without gaps, in order to be able to guarantee equal conditions for all banks that enable formulation of unique financial services market. A unique supervisory mechanism gives the European Central Bank responsibility for supervising banks in the Eurozone. Therefore, ECB is charged to ensure real European supervisory mechanism which is not intended to protect national interests but the weakening of the link between banks and public finances taking into account the risk to financial stability. Package capital requirements for banks and the regulation of capital requirements created by a new global standard for banking capital (known as the Basel III framework) in the legal framework of the European Union. The new rules have been in force since 01 January 2014 and, as such, allow banks to keep a sufficient level of capital both in terms of quality and in terms of quantity. The financial sector and the whole European Union is now based on a strong basis in the event that some of the banks will encounter difficulty. These resolutions require banks to present their recovery plans describing the measures that would be taken in the event of entering into unwanted financial situation and plans for changes to existing plans if they are no longer applicable. Banking supervisors have expanded their powers to be able to intervene in the event that an institution gets into financial difficulties, but before the problem becomes critical and while its financial position has not become irreversible. In banking union, if is considered that viability of banks in danger, ECB is only supervisory authority that will supervise early intervention in coordination with relevant resolution authorities.

Advantages and Disadvantages

From the conceptual point of view unified supranational banking supervision should help to strengthen the single European financial market. Also, as positive aspect of these new structure it should be considered unique rule book and fact that implementation of new banking union could help in raising cross-border comparability of de jure and de facto control of the banking sector in the euro area and the EU. The unique regulation of the banking sector as well as coordination will support the simplification and harmonization of critical areas such as stress tests or taxation of the banking sector. Concentration of banking sector supervision in one supranational body should also improve banking regulation management. Also, from practical point of view, supranational banking supervision should increase regulator independency from political parties, while it will also significantly help improve the banking as well as the capacity to manage the financial crisis. However, increased regulation of the banking sector and international cooperation in itself does not end there. A unique supranational regulatory body of the banking sector in Europe should ensure the achievement of the ultimate goal of regulation of the banking sector - financial stability. Mostly on a voluntary basis based participation of non-EU countries in supranational banking union should help in avoidance of excessive remuneration of national and / or additional uncoordinated local regulations. Such practices could literally eat profitability internationally active banks in non-EU countries, what potentially could lead to higher market risk at aggregate level some big banking groups from West Europe that operate in those countries. For larger internationally active banks to maintain and manage liquidity and capital buffers at the aggregate level will be much more effective than holding too much liquidity and capital buffers to each local market.

Banking union will contribute to the termination of the links between banks and the state on following way:

- **Banks will be stronger and more immune to shocks** - unified supervision will ensure the effective implementation of prudential requirements for banks, requiring them to keep an adequate level of reserves and liquidity. This will make the EU stronger banks, strengthen their capital in order to adequately manage the risks associated with their activities and absorb any losses;
- **The problematic banks will be resolved without taxpayer money, limiting negative effects on government fiscal position** - troubled banks will be solved by financing shareholders of the bank, its creditors and the decision of the Fund to finance industry. Banks should get out of trouble while the fiscal position of the country should not be weakened;
- **Banks will no longer be “European in life but national in death”** - since it will be watched truly European mechanism so will any destruction be supervised these same mechanisms.

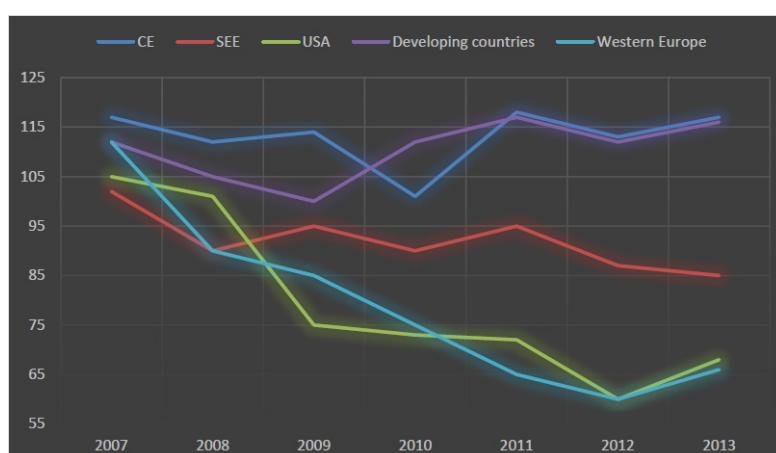
Besides advantages of these centralized and unified supranational banking sector, supervision and regulation by the banking union is carried ECB can cause a lot of nontrivial overflow, for EU countries and also for non-EU countries. Since non-EU countries are small markets, they won't be standards market at the EU level as well as at the global level, but they will be its followers. For example, central banks of these countries have very limited de jure and de facto presence in the relevant international bodies and forums (such as the BIS, the ECB or G7 / G20 forum). The experience of European integration has shown that at some stage, banking union may suffer from some problems in the community, or more precisely, it was easier to create it, but to manage it. In addition, the marginal costs of cooperation are growing with the

growth of the number of members of the community as the banking union. Therefore, policies to achieve the greatest possible number of voluntary members of the Union may be called into question. Furthermore, policy makers at the EU should be aware of the risk that voluntary entry into the banking union could mean entering the euro zone in particular non-EU countries. Also, as in the euro zone there is no option of voluntary leaving and the banking union the same option does not exist because it is not feasible from a practical point of view.

The effect on Member States

Inevitably there will be many demanding tasks in terms of implementation of new parts improved banking regulation in the years to come. Consistent implementation countercyclical capital protection will be a major challenge for both the EU Member States and to other countries and, as such, will require close co-ordination and co-operation. The implementation of the new requirements will be especially difficult for developing countries. In some of these countries there is still considerable scope for financial deepening. Therefore, the gap in the ratio of loans / GDP is significant in these countries, which per se does not have to result in financial stability. On the other hand, a fairly consistent implementation of additional capital requirements, particularly in the European Union and banking union, can definitely stimulate regulatory arbitrage. All in all, a consistent implementation of anti-cyclical policy and capital protection throughout the European banking market will definitely be a challenge in the future. A recent upgrade of regulations is definitely put emphasis on the fact that the Bank of Western Europe and reduce the risk of borrowing in an unstable economic environment with disappointing low level of GDP growth. In this regard it is worth mentioning that there is empirical evidence that even the application of Basel I in countries whose economies are not bank-based, such as the United States, had a significant impact on credit growth. Therefore, it's not surprise that there is very weak credit growth in Eurozone. From the perspective of the private sector should be emphasized that the deleveraging in non-EU countries was gradually and that definitely can be classified in one of the toughest on the European banking market. Therefore, it should be noted that the recent strengthening of the regulation is definitely the most impact on the less profitable business lines and markets. Therefore, the bank became even more challenging to implement long-term strategies and make a profit at low interest rates.

Graph 3: Total cross-border claims of European banks



Source: http://www.rbinternational.com/eBusiness/01_template1/829189266947841370-829189181316930732-829189181316930732-NA-2-EN.html

Conclusion

Regardless of the foregoing, the fact is that the supranational control under the control of the ECB met with resistance from the competent national authorities since new structure take away some of the powers that until then had control of the banks. Large European banks must still work with their supervisors in their daily regulatory programs. This is especially true for banks that operate outside the euro zone markets.

Consistent and supranational banking sector supervision in entire Europe will, unquestionably, become one of the main factors for strengthening of cooperation in banking sector and strengthening of financial stability in west as well as in central and east Europe. Political initiator to coordination, harmonization and simplification of regulation and supervision of banking sector is, also, good thing for CEE countries. Namely, banking markets at this region are highly integrated with banking sector of west Europe. Ideally speaking, unique supranational supervision could help to reduce overall IT costs, direct and indirect, as well as supervisory who control the private sector.

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Aroma Marketing Concept and the Level of Awareness Among Bosnia and Herzegovina population

Irma Imamović

International Burch University

Bosnia and Herzegovina

irma.imamovic93@gmail.com

Abstract: Smell certainly arouses emotions and memory. In marketing, however, scent is proven to be very effective in helping contrast one brand from another. It triggers a desire that strongly influences our buying behavior and purchase decision. The right aroma can help to recall some pleasant association, people or events, whether it is great memory from childhood, or an enjoyable time spent in friend's home. This is the reason why so many companies use scents as marketing tool to attract customers and distinguish themselves from competition. After theoretical part of the study, the interviews showed that level of awareness of scent or aroma marketing concept among Bosnia and Herzegovina population is high and they perceive scents to have substantial influence on consumer behavior and purchase decisions.

Keywords: scent marketing, emotions, memory, marketing tool, behavior

Introduction

Online environment is steadily replacing brick-and-mortar marketing world which happens to be more appealing to consumers. It is very important for company to keep and maintain its customers in traditional stores, while, at the same time, serving their online presence. A one tool that can be used to attract customers is the use of scent marketing. It is more than just spreading pleasant fragrance in the air. It is actually the art of blending the firm's brand image and identity, target market and all marketing communications and link them with a scent that amplify these branding features. The result is happier customer who remembers your brand. Businesses are constantly seeking innovative ways to differentiate themselves from competition, attract new customers and retain the loyal ones. The point of scent marketing is the control of aromas, where many industries such as hospitality, retail, financial services and many others embraced this tactic of using smells as a way to better present their brand and communicate to their target audience.

Car industry recognized long time ago how important is to cover up the smell of a new car and many of them sprayed their own aromas into the new automobiles- for example, Cadillac had custom made scent Nuance which they spread in car interior. Westin Hotels also use this marketing strategy, pouring their lobbies with a white tea fragrance, because of its ability to both relax and energize. Singapore Airlines introduced scented towels in their services, where Sony poured mandarin and vanilla odors into their showrooms.

When planning your marketing strategy, managers consider number of factors such as strong communication, target market, distribution channels, but also, they should consider to include aromas as additional part. Awareness for this successful marketing tool is becoming even higher today, where many companies and retail stores use scents and odors to increase sales and build their brand identity.

In this paper, we are going to explain the most important aspects of research methodology and the data we collected will be processed with SPSS. The one-sample t test is used, along with independent t test, ANOVA, MANOVA and Chi-square test.

Research methodology

Research Design

According to Burns and Bush (2014), research design or research plan encompasses advanced decisions that create the master plan specifying the methods and procedures for collecting and analysing the needed information. I decided to conduct a primary research, with quantitative nature and focus on gathering enough information from a large number of respondents. Further, survey was being used, which involves interviews with a large number of people answering on a predesigned questionnaire, as a method of data collection. Given the fact that the survey is online, which implies that computer technology plays an important role in conducting the interview, research took place in an online environment, or more precisely, in an online setting.

Research Objectives

Defining the problem is of major importance as it is the starting point of any scientific research. That being said, the research was conducted to have an insight of the level of awareness of scent marketing concept among Bosnia and Herzegovina's population, as it is the latest trend recorded in marketing and it was very appealing to know whether it is represented among B&H society. The next thing we should consider is research objectives which are aimed to:

1. Determine what is the level of awareness of scent marketing concept in Bosnia and Herzegovina;
2. What is opinion about importance of using scents as marketing tool?

In regard to that, primary research was conducted and focused on gathering and analyzing primary data. The sample ranging from 100 to 170 respondents was chosen and I employed a quantitative approach by using online questionnaire as a main method of data collection. Therefore, the setting of this research is an online environment, or more precisely Facebook pages and e-mails. This particular setting was chosen in regard to extensive internet presence of young and adults and high response rate as one of the main features of online questionnaires. Furthermore, ethical dilemmas that I stumbled upon during this research process were lack of monitoring due to computer-administered survey and the possibility of respondents to answer in an untruthful manner. Moreover, 168 respondents took part in questionnaire. Taking into consideration that research was organized as online survey, lack of monitoring as one of the significant disadvantage has made it difficult to recognize the ones who were not interested, even though they have said they would willingly fill out the survey. Further, online questionnaire was created by Google Forms (free, online tool for survey collection and analysis) and gathered data was analyzed by SPSS program. Questions are made to be as simple as possible, so respondents would easily give their answers. It is also important to mention that some responses were partial or inconsistent, despite the fact that respondents were given certain instructions and explanations, such as that the data gathered by this research will be used specifically for the purpose of a research project and that respondents' response anonymity is assured. The survey was created in English and was accepting responses from December 19th to December

21st in 2015.

Data Collection

Regarding this research study, quantitative research was conducted, that is, online questionnaire, as it is perceived to be the most convenient for this type of the research. The main advantage to use questionnaire is that they are quick and cheap to administer. It enables us to collect data from a large number of respondents and to get certain reliability and suitability. Moreover, questionnaires avoid influences on the respondents' answers where they fill the questionnaire by themselves. The questionnaire consists of 16 questions designed in English. Questions are made as short and clear as possible, so they can be easily understood and answered. It will be provided in the appendix at the end of the paper.

First five questions deal with demographic aspects of each respondent. Questions five to eleven deal with individual respondents, their income level and preference for scents in retail stores. The last five question deal with the Aroma marketing concept. This task was approached with great preparation and detailed research on all available secondary data to get better insight about this topic in Bosnia and Herzegovina. Well-structured questions, substantial sample group and having proper perspective and clarity in judgments lead to better decisions in every step of the research process. As it was stated, respondents were noticed about the purpose of the questionnaire, so they feel confident and provide us with valuable information, hence there is no space for useless data. To avoid biases and negative impacts on outcome, steps were taken to ensure the reliability of research. So, in respect to that, research was carried out in the following manner:

1. Preparation took place before designing the questionnaire, that is, the basic objectives of the study were reviewed and relevant information visualized,
2. Each respondent was given with information and intent of the online questionnaire,
3. Each respondent was informed of his/her anonymity,
4. Questions are delivered in appropriate type and sequence that is best suited to answer the question,
5. Cautions for time length to fill the questionnaire were considered.

It is also important to mention ethical behavior because it is a requirement in conducting marketing research, such as fairness, respect, openness, honesty and responsibility.

Results

One sample t-test

One sample t- test is used to determine whether a sample comes from a population with a specific mean. Here we asked respondents whether they think scents influence buying behavior. They were offered with the rate response depending on the intensity of agreement and disagreement. Scale was between 1 (strongly disagree) and 10 (strong agree). Hence, we assume that level of agreement regarding scent's influence on buying behavior is more than six.

So, we can state null and alternative hypothesis:

Ho: there is no evidence that the level of agreement among respondents is more than 6;

Ha: there is evidence that the level of agreement among respondents is more than 6

| One-Sample Statistics | | | | |
|------------------------------|-----|--------|----------------|-----------------|
| | N | Mean | Std. Deviation | Std. Error Mean |
| Agreement level | 167 | 5.1437 | 2.36255 | 18282. |

| | Test Value = 6 | | | | | |
|--------------------|----------------|-----|--------------------|----------------------|--|--------|
| | t | df | Sig. (2-tailed) | Mean Differ- ence | Confidence Interval of 95% the Difference | |
| | | | | | Lower | Upper |
| Agreement level | -4.684 | 166 | 000. | 85629.- | -1.2172 | 4953.- |

The first table “One- sample statistics” gives descriptive statistics for the variable “Agreement level”. We can see that number of respondents N is 167 and it has Mean of 5.1437. The second table, labeled “One- sample test” gives the result of the t- test analysis. The first column represents the value of the t- statistics which is -4.684 and the next one is degrees of freedom of 166. In the column Sig. (2- tailed), we can see the corresponding two- tailed p value of 0.000. Here we took the significance level of 5%, so it can be seen that $p < 0.05$. Therefore, we reject the null hypothesis (Ho) at $\alpha = 0.05$, which means that sample mean is not significantly different than hypothesized value. Hence, we say that there is no enough evidence to accept null hypothesis which states that the level of agreement among respondents is less than 6.

Independent sample t-test

The independent t- test is used for testing the difference between the means of two independent groups. Here we compare variables obtained from two independent samples. This test assumes that two groups are independent of one another, the dependent variable is normally distributed, and the distribution of the dependent variable for one of the groups being compared has the same variance as the distribution for the other group being compared.

In this example two groups of respondents regarding their age categories were asked the question: “Are you aware of Aroma or Scent Marketing concept?”. The first group belongs to age category of 18-25 and the second one belongs to age category of 26-45. Based on this, we wanted to determine is there a difference in knowledge about Aroma Marketing between these two groups. So, we can state null and alternative hypothesis:

Ho: There is no difference between two groups of respondents’ knowledge about Aroma Marketing concept;

H_a: There is a difference between two groups of respondents' knowledge about Aroma Marketing concept.

| Independent Samples Test | | | | | | | | | | |
|--------------------------|-----------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|--------|
| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| Response | Equal variances assumed | .020 | .889 | .067 | 154 | .946 | .00615 | .09135 | -.17430 | .18660 |
| | Equal variances not assumed | | | .067 | 70.023 | .947 | .00615 | .09166 | -.17666 | .18896 |

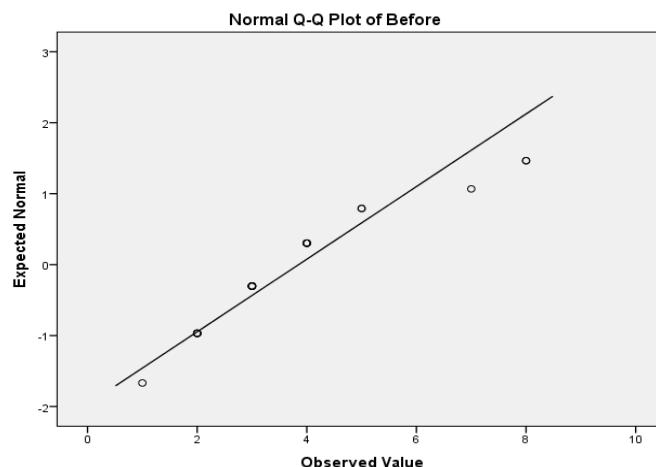
The assumption of variance homogeneity has not been disturbed, since the Levene statistic is $F = 0.020$ and the corresponding significance level is low ($p < 0.05$), and we can use the row equal variances assumed t test statistic for evaluating of null hypothesis of equality of means. T statistic shows value of 0.067 with 154 degrees of freedom. We can say that there is no difference between two age groups regarding the knowledge about Aroma Marketing concept due to the fact that corresponding p value is greater than significance level of 5%, that is $p > 0.05$. However, the mean values indicate that age group of 18-25 recorded more positive answers ($M = 1.4696$) than second age group of 26-45 ($M = 1.4694$).

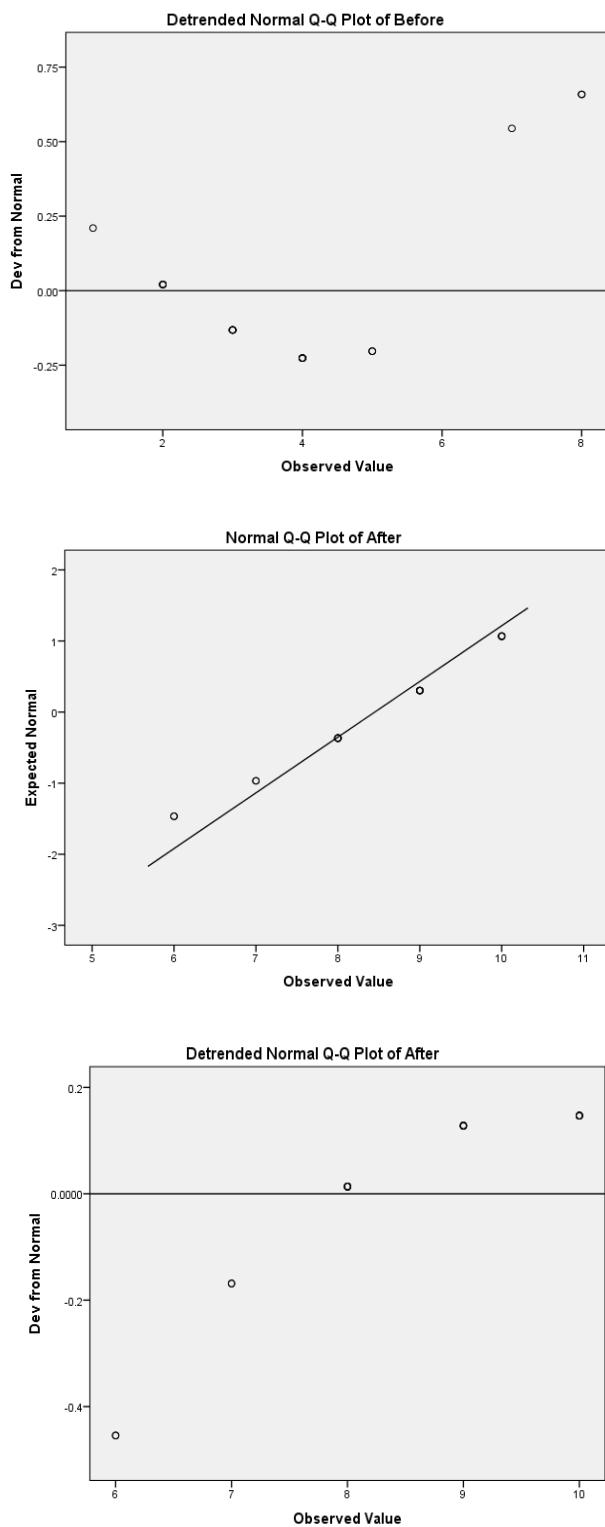
Paired sample t-test

The paired sample t test is used when two groups are tested twice, that is, they are subjects of repeated measures. This student t- test assumes normality of sampling means' distribution.

In this part of the paper, we chose twenty respondents and collect their answer regarding the question whether they believe that retail stores can use scents to make people enter the shop. After the study they were presented with the Aroma marketing concept and its use in marketing and management in general. After seven days, the same groups of people were asked to answer to the same questions. They were offered with the rate response ranging between 1 (Strongly Disagree) and 10 (Strongly Agree). So, we can state the null hypothesis:

H_o: The respondents' opinion is same before and after going through Aroma marketing presentation.





To test normality we look at figure *Normal Q-Q Plot*, that compares cumulative distribution of the observed values with the expected values derived from the normal distribution. The normal distribution forms a straight line and if a variable's distribution is normal, the data distribution will fall more or less on the diagonal, which is the case here. It shows very little departure from normality for both *Before* and *After* variables. Also, figure *Detrended Normal Q-Q Plot* shows little deviation from normality for both *Before* and *After* variables.

| Paired Samples Test | | | | | | | | | | | |
|---------------------|--------------------|----------------|-----------------|---|----------|----------|---------|-----------------|------|--|--|
| | Paired Differences | | | | | t | df | Sig. (2-tailed) | | | |
| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | | | | |
| | | | | Lower | Upper | | | | | | |
| Pa ir 1 | Before - After | -4.60000 | 1.81804 | .40653 | -5.45087 | -3.74913 | -11.315 | .19 | .000 | | |

The result of this test shows us there is significant difference in the opinion before and after the given presentation on the topic. We see that degrees of freedom is 19 and t statistics shows value of -11.315. At significance level of 0.05 there is enough evidence to reject the null hypothesis which states that there is no difference between before and after opinion of respondents ($p < 0.05$).

ANOVA

The one-way analysis of variance (ANOVA) is an extension of independent sample t test and is used determining whether the means from several independent groups differ. In this case we want to find out whether difference exists among four sets of educational background (High school, Bachelor degree, Master's degree, PhD degree) on the opinion that use of scent is a good marketing tool. This test assumes again, that dependent variable is normally distributed and that groups have approximately equal variance on the dependent variable. In the online survey, respondents answered on the question "The use of scent is a good marketing tool" with the rate response ranging from 1 (Strongly disagree) to 10 (Strongly agree). Therefore, the null hypothesis states: Ho: There is no difference among four sets of educational background;

Test of Homogeneity of Variances

| Opinions | | | | | |
|------------------|-----|-----|------|--|------|
| Levene Statistic | df1 | df2 | .Sig | | |
| 492. | 3 | 162 | | | 688. |

ANOVA

| Opinions | | | | | |
|----------------|----------------|-----|-------------|------|------|
| | Sum of Squares | df | Mean Square | F | .Sig |
| Between Groups | 14.697 | 3 | 4.899 | 694. | 557. |
| Within Groups | 1142.749 | 162 | 7.054 | | |
| Total | 1157.446 | 165 | | | |

The assumption of homogeneity of variance has not been violated due to the fact that Levene statistic and corresponding significance level are high. The first row named *Between groups* shows the variability between groups , second row *Within groups* shows variability due to the random error and the third row gives the total variability (Ho & Ho, n.d.)¹ The result from the One-way ANOVA test confirms that respondents' opinion is same among all three groups of educational background that is $p > 0.557$.

¹ Ho, R. & Ho, R. Handbook of univariate and multivariate data analysis with IBM SPSS.

Factorial analysis of variance

The factorial univariate ANOVA includes the analysis of two or more independent variables. It allows us to assess the effects of each independent variable individually and joint effect of variables, also. This test assumes that samples are independently drawn from the source population and the dependent variable is normally distributed. Also, distribution of dependent variable for one of the groups being compared has the same variance as the distribution for the other group being compared.²

In this part, we want to determine how gender and educational background influence the opinion of using scents as efficient marketing tool. Respondents were asked the same question as in the previous example; "The use of scent is a good marketing tool" and could choose from 1 (Strongly disagree) to 10 (Strongly agree), depending on the intensity of agreement and disagreement. We wanted to do 2-way factorial analysis; hence we choose two type of educational background: high school and bachelor degree. The null hypothesis states:

Ho: The educational background and gender do not have effect on respondents' opinion that scent is good marketing tool.

Levene's Test of Equality of Error Variances^a

Dependent Variable: Opinion

| F | df1 | df2 | Sig. |
|------|-----|-----|------|
| .415 | 3 | 128 | .743 |

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Gender + E.B + Gender * E.B

1. Gender

Dependent Variable: Opinion

| Gender | Mean | Std. Error | 95% Confidence Interval | |
|--------|-------|------------|-------------------------|-------------|
| | | | Lower Bound | Upper Bound |
| Female | 5.453 | .295 | 4.870 | 6.035 |
| Male | 5.298 | .360 | 4.585 | 6.011 |

2 Ho, R. & Ho, R. Handbook of univariate and multivariate data analysis with IBM SPSS.

2. Educational background

Dependent Variable: Opinion

| Educational background | Mean | Std. Error | 95% Confidence Interval | |
|------------------------|-------|------------|-------------------------|-------------|
| | | | Lower Bound | Upper Bound |
| High School | 5.505 | .349 | 4.814 | 6.196 |
| Bachelor Degree | 5.245 | .308 | 4.636 | 5.855 |

Tests of Between-Subjects Effects

Dependent Variable: Opinion

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|-----------------|-------------------------|-----|-------------|---------|------|
| Corrected Model | 11.312 ^a | 3 | 3.771 | .557 | .644 |
| Intercept | 3608.503 | 1 | 3608.503 | 533.513 | .000 |
| Gender | .748 | 1 | .748 | .111 | .740 |
| E.B | 2.103 | 1 | 2.103 | .311 | .578 |
| Gender * E.B | 8.975 | 1 | 8.975 | 1.327 | .251 |
| Error | 865.749 | 128 | 6.764 | | |
| Total | 4696.000 | 132 | | | |
| Corrected Total | 877.061 | 131 | | | |

a. R Squared = .013 (Adjusted R Squared = -.010)

The assumption about homogeneity of variance is again tested by Levene's test of equality of error variances which tests the hypothesis that the population error variances are equal. Here we can see that Levene statistic is $F = 0.415$ and the corresponding level of significance is large $p > 0.05$. Hence, assumption about homogeneity of variance has not been violated. In this example, neither gender, educational background nor combination of gender and educational background has effect on the respondents' opinion.³ The main effect of Gender is not significant ($p > 0.05$). From the estimated marginal means, the males' opinion ($M = 5.298$) is not significantly different from the females' opinion ($M = 5.453$). Also, marginal means of educational background show that respondents with high school diploma ($M = 5.505$) and respondents with bachelor diploma ($M = 5.245$) have slightly same opinion of viewing scent as a good marketing tool. Hence, the main effect of educational background is not significant ($p > 0.05$). The interaction effect of Gender*Educational Background neither have significant effect on respondents' opinion ($p > 0.05$).

Also, we wanted to determine whether gender (In SPSS 1- Female; 2- Male) and age (In SPSS 1: 18-25; 2- 26-45) have effect on respondent's preference of scents in retail stores. The null hypothesis is that gender and age do not influence respondent's preference of scents in retail stores.

3 Ho, R. & Ho, R. Handbook of univariate and multivariate data analysis with IBM SPSS.

| Tests of Between-Subjects Effects | | | | | |
|-----------------------------------|-------------------------|----|-------------|---------|------|
| Dependent Variable: Response | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | .Sig |
| Corrected Model | 532 ^a . | 3 | 177. | 186. | 906. |
| Intercept | 106.093 | 1 | 106.093 | 111.107 | 000. |
| Gender | 291. | 1 | 291. | 305. | 583. |
| Age | 005. | 1 | 005. | 005. | 943. |
| Gender * Age | 005. | 1 | 005. | 005. | 943. |
| Error | 46.788 | 49 | 955. | | |
| Total | 284.000 | 53 | | | |
| Corrected Total | 47.321 | 52 | | | |

(a. R Squared = .011 (Adjusted R Squared = -.049)

Again, Gender does not influence respondent's preference, neither as age or combination of gender and age

Chi square test

Chi-square test is usually used for comparison of observed data with the data one's expect to acquire according to certain hypothesis. Here we wanted to determine with a significance level of $\alpha = 0.05$ whether relations exist between respondents' age levels (18-25; 26-45; 46-65) and knowledge (familiarity) about Aroma Marketing concept. In the table, Familiarity with Aroma Marketing concept is the row where responses are recorded with Yes and No (in SPSS it was coded like this: 1-Yes; 2-No). The Respondent's age is the column (in SPSS it was coded like this: 1: 18-25; 2: 26-45; 3: 46-65). So, we can say that null hypothesis is:

Ho: there is no relation between respondent's age and familiarity with Aroma Marketing concept.

| Chi-Square Tests | | | |
|------------------------------|--------------------|----|-----------------------|
| | Value | df | Asymp. Sig. (2-sided) |
| Pearson Chi-Square | 043 ^a . | 2 | 979. |
| Likelihood Ratio | 043. | 2 | 979. |
| Linear-by-Linear Association | 008. | 1 | 930. |
| N of Valid Cases | 166 | | |

.a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.70

The table labeled *Familiarity with Aroma Marketing concept * Respondent's age* Cross tabulation shows descriptive statistics that was required in analysis. We requested for actual and expected count, which is produced for each row (*Familiarity with Aroma Marketing concept*) and each column (*Respondent's age*). Row Count shows actual frequencies for particular cell and Expected Count shows expected frequencies for each cell assuming no association. The last table represents the result of Chi-square test. In this case, the p value is 0.979 ($p > 0.05$) which is higher than corresponding

significance level 5%. So, we cannot reject the null hypothesis. In other words, there is no significant relationship between respondents' age and the knowledge about Aroma Marketing concept.

Discussion

Before we discuss the results of this study, we are going to recall two previously mentioned research objectives:

- Determine what is the level of awareness of scent marketing concept in Bosnia and Herzegovina;
- What is opinion about importance of using scents as marketing tool?

The independent sample t- test showed that respondents belonging to two different age groups (18-25 and 26-45) do not differ in their knowledge about Aroma marketing concept. It is important to mention that most of them are familiar with this term. However, one research from Sweden showed that large number of shops in Umea are not quite familiar with the use of aromas in their business and even though number of stores are no aware of its implications as marketing tool, some of them use aromas empirically. Chi square test also showed that no relations exist between respondents' age levels (18-25; 26-45; 46-65) and knowledge (familiarity) about Aroma Marketing concept.

Zoladz and Raudenbush (2005) were investigating the influences of ambient aromas on magnifying cognitive performance and the results indicated improved participants' activities and tasks such as attention level, memory and visual motor response speed, by both cinnamon and peppermint fragrances. Here is important to mention that participants specified their energy and mood level higher, but their tiredness level lower when were surrounded by peppermint aroma. People working in the pleasantly scented environment reported better task execution, better efficiency and being more ambitious regarding work goals than participants who worked in non-scented environment (Herz 2002). Regarding these studies, we can say that one sample t- test in our case showed similar findings regarding respondents' opinion whether scents influence buying behavior. Most of them confirmed that they strongly believe that aromas indeed affect buying behavior.

Many previous researches proved that scents are able to affect retail performance, as well. Several studies showed there is congruence between aromas and other factors present in the ambient, such as positive influence on product evaluation, money and time spent in the shop. The paired sample t- test showed that after the respondents were presented with the Aroma marketing concept and its use in management, their responses showed strong agreement toward the fact that retail stores can use scents to make people enter the shop. The result from One- way ANOVA test confirms that respondents' opinion regarding the question whether the use of scents is a good marketing tool is same among all three groups of educational background. However, it must be highlighted that most of the respondents reflected quite strong agreement with this statement. Also, in factorial analysis of variance we want to determine how gender and educational background influence the opinion of using scents as efficient marketing tool. Respondents were asked the same question as in the previous example, and the results were quite the same as it was the case with Anova.

Crowely and Henderson (1996) come up with idea to make an experiment where different odor was released each day for the total 20 weeks into retail environment. Two aromas were used: neutral and pleasant. They observed and tracked participant behavior and were then asked to fill in the questionnaire. The major findings from this research were that people had more positive shop appraisal, they were more likely to visit the retail store again, they would linger longer and possibility of actually purchase something was increased.

Spangenberg, Grohmann and Sprott (2005) investigated how gender relates to scent recognition and evaluation, where male customers found rose fragrance more appealing, but women preferred vanilla scent more. Both genders evaluated the shop, employees and environment in general, more favorably, stayed much longer, and spent more money than they were intended to spend. We can notice that all these previous studies on this particular topic involve experimental study which is not the case with this research paper. However, one more Anova result showed that gender and age of respondents in this case did not have effect on respondent's preference of scents in retail stores. Furthermore, many of participants in online survey stated that they in most cases prefer fresh smells. Most of the people said that only sometimes they like scented environment.

The findings from this research give us an insight into the awareness of scent marketing concept among Bosnia and Herzegovina population and can be useful both for retailers and for upcoming researches on this particular topic.

However, using scents as a part of marketing strategy does not fit the same for every business, and mainly depends on company's structure, culture, organization and size, its customers and many other factors. Aroma and its effects on customers' purchase behavior and decision making process is recognized just recently, and this new marketing trend can, if used precisely, create competitive advantage for the firm and boost brand identity, if we take into consideration that there are not so many businesses that are aware of this strategy and its implications. That being said, it important to highlight that it may not be sustainable in the long run, because other retail shops may use it as well.

As it was mentioned previously, aromas are used to grasp customer's emotions and memory and managers should know what kind of fragrance to use. People will enjoy and remember pleasant odor, but can also remember the bad one and be dragged away, because not all people react in the same way when exposed to scented area, so appropriate market research should be conducted to deeply investigate target markets' characteristics.

If there are future researches to come, one suggestion for researchers would be to pay attention about well explained concept of scent marketing, given the fact that there can be confusion about this term among respondents, especially if information is going to be collected from people that do not have a solid marketing knowledge. Hence, they should give an explanation about the term or provide few questions to actually test what is the true knowledge about scent or aroma marketing.

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Appendix



Aroma Marketing



What is your gender?

- Female
 Male

What is your level of education?

- High school
 Bachelor Degree
 Master's Degree
 PhD Degree

What is your age?

- 18-25
 26-45
 46-65
 65 and more

What is your nationality?

- Croatian
- Bosnian
- Serbian
- Other:

What is your income level?

- 500-1000
- 1001-1500
- 1501-2500
- 2501 and more

How much money do you spend in a month?

- 100-200
- 201-500
- 501-1000
- 1001-1500
- 1501-2500
- 2501 and more

What stimulates your purchase?

- Color
- Shape
- Odor/Scent
- Price

How often do you go to market?

- Every day
- Once a week
- Few times in a week
- Once a month
- Few times in a month

Do you prefer scents in retail stores?

- Yes
- Sometimes
- Maybe
- No

Are you willing to pay more for the product that features pleasant fragrance?

- Yes
- Sometimes
- Maybe
- No

What type of fragrance (scent, odor) you like the most?

- Floral
- Oriental
- Woody
- Fresh
- Other:

Are you aware of Aroma or Scent Marketing concept?

- Yes
- No

I believe scents influence buying behavior:

1 2 3 4 5 6 7 8 9 10

Strongly disagree Strongly agree

Retail stores can use scents to reinforce brand image:

1 2 3 4 5 6 7 8 9 10

Strongly disagree Strongly agree

Retail stores can use scents to make people enter the shop:

1 2 3 4 5 6 7 8 9 10

Strongly disagree Strongly agree

The use of scent is a good marketing tool:

1 2 3 4 5 6 7 8 9 10

Strongly disagree Strongly agree

Submit

"IMPLEMENTATION OF AN ENTERPRISE RESOURCE PLANNING (ERP) AND ITS EFFECT ON THE MANAGEMENT ACCOUNTING SYSTEM"

Amar Čolaković

International Burch University
Bosnia and Herzegovina
amarchola@hotmail.com

Abstract: In the previous period, organizations from very different sectors have successfully adopted ERP systems. In this study, we will research the impact of ERP in the accounting industry regarding the case study from company in Bosnia and Herzegovina. By many theorists, accounting is usually described as the process of collecting, analyzing, and presenting financial data required for taking appropriate management decisions. Studies have explored the effects of IT in the business and accounting, but they didn't cover complex technologies such as ERP. Utilizing ERP in accounting allows spending more time on analyzing the data instead of collecting it. This is possible because all information is stored in one place (database) which is easily accessed by everyone allowed to use it. With the successful implementation of ERP in company, accountants have more time to spend for analyzing and reporting, enhancing their roles, and shortening common tasks and activities. The aim of this paper is to explore the significance of ERP systems in management accounting. This research will try to understand what is the role of modern accountants. Enterprise resource planning software has shaped activities and processes in the accounting sector.

Keywords: accounting software, ERP, Enterprise resource planning, modern accountants.

JEL Classification: M41, L86.

Introduction

In this paper, we will analyze recent sensational changes that have reshaped accounting practice and research. In particular, the advanced upheaval, has changed the very way of work for accountants and constrained analysts and specialists alike to battle with a large group of new threats and opportunities confronting.

Accounting specialists specifically should manage a wide cluster data handling and choice making issues that did not exist before two decades. Thus, we are meant to research how accounting is moved to another level of value and importance by joining the effect of information technologies on human mentality and performance.

In this work, we will look at the part of certain elements that impact the accounting, in light of innovation. We will likewise concentrate on the collaboration impact between a possibility variable and the data framework.

In today's time of computerized innovation, each business is going digital. From exceptionally old organizations to incipient developing organizations, this change is universal and exponentially expanding, with incredible number of rate of new businesses now picking an advanced stage on which to acquaint themselves with purchasers. We will focus our area of research mainly on the accounting sector, and

we will try to give the answer on the question what is the role of modern accountant.

Opposing achievement and disappointment results consolidated with the way that there is no accord on the effect of ERP implementation identified with business is the motivation behind why scientists, specialists and researchers are progressively inspired by breaking down components which decide ERP achievement and ERP client fulfillment. The utilization of big enterprise resource planning (ERP) innovation has encouraged us to analyze this vision.

Literature review

The presentation of ERP innovation has in a general sense changed the accounting practices either at the budgetary reporting and administration bookkeeping level or at the reviewing strategies and assessment level (Scapens and Jazaeyri, 2003). As per Malinić and Todorović (2012) the genuine center and desire of ERP is coordination of the considerable number of offices and elements of big business into one data framework, which can address specific issues of different clients.

As contended in Grabski et al. (2007), ERP frameworks are not the same as customary frameworks in scale, unpredictability, authoritative effect, cost and resulting business sway. The ascent and fall of the e-transformation has been breathtaking; be that as it may, the guaranteed connection will continue to go on (Desmukh, 2006).

Peccarelli (2004) sees the achievement of accountants in light of how they utilize their time, how quick and simple they get to information from various sources, and how well they comprehend coordinated frameworks and virtual office capacities using the web.

While, IT specialists and ERP specialists can be considered as interpersonal channels to give illumination and extra data on the ERP framework and along these lines encourage the presentation of new accounting work (Daoud and Triki, 2013).

Pierce and O'Dea (2003) have analyzed managers' sentiment concerning the future part of management accounting and found that the real components include: association, physical area, collaboration and comprehension of the business. Pierce and O'Dea (2003) propose that future management accountants need information of accounting and back as well as learning of the organization's business, particularly comprehension of production and sales exercises.

Organizations which have better AIS, have upper hand. Additionally, organizations need to enhance their frameworks with a specific end goal to coordinate their data requirements for better basic leadership (Ballada and Ballada, 2012).

Cutting edge period of organized registering is described, in programming sense, by the control of customer server design. Key programming components of this configuration are system programming and administration database framework. By their specialized attributes and exhibitions, they give, as administration suppliers, for the clients (customers) to get to and utilize the information and data from databases in system environment. On the bases of customer engineering, business data or coordinated data framework (ERP) was created (Malinić and Todorović, 2012).

Despite the fact that ERP frameworks are outlined by non-accountant specialists, they prompt bookkeeping forms (Chapman, 2005). Since modules of accounting are the heart of ERP framework which include: ledger, receivable records, payable records, settled resources, transferable and non-transferable resources, administration of money, cost control and planning.

For organizations, we ought to concentrate on reinforcing its cost idea to workers, fortify the nature of development representatives, and continually upgrade their education specialists to ERP as the center, the foundation of interior control instruments and venture advancement to adjust to persistently enhance the inner administration of undertakings Level (Zheng, 2014).

Along these lines, to put it plainly, straightforward terms, Cloud Computing can be characterized as an answer for use outer IT assets (servers, stockpiling media, applications and administrations), by means of Internet. Distributed computing is just the guarantee of a simple open innovation. On the off chance that the guarantee will inevitably transform into something certain yet stays to be seen (Mihai, 2015).

Data

The goal of this study is to recognize, assess and examine the effect of ERP on the management accounting framework and management accountants. A research gap appears to exist concerning how management accounting is bolstered by various information systems. Along these lines, it is the purpose for this research undertaking to build up a comprehension of the relationship between management accounting and ERP.

In this research, data is obtained from online surveys, which were distributed to the participants of the research. Sample, and participants in this survey, are employees of accounting agency in Bosnia and Herzegovina, which have successfully adopted ERP system in their work.

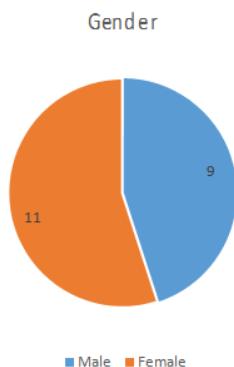
The sample is relatively small with the number of participants being equal to 20. Because of this reason we have used Nonparametric tests to analyze the data. The term nonparametric is not intended to infer that such models totally miss parameters yet that the number and nature of the parameters are adaptable and not settled in advance.

In the table 1. We have analyzed descriptive statistics of the data obtained. Variables for this analyze were age, gender and education level of respondents. We can see that N is 20, what is the number of respondents included in this research.

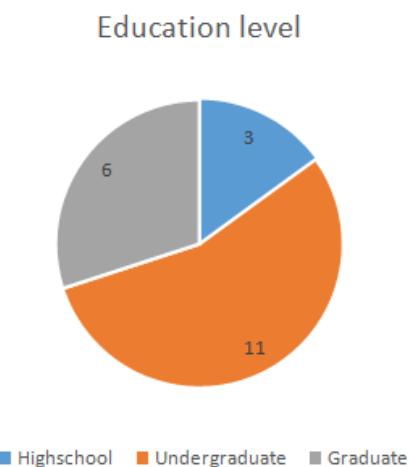
Those three variables help us shape the image of the accountants employed in one company. In the next section of this paper, we will show graphically results of the obtained data.

Table 1. Descriptive Statistics

| | | | Statistic | Std. Error |
|-----------------|-----------------------------|-------------|-----------|------------|
| | Mean | | 3.50 | 1.045 |
| | 95% Confidence Interval for | Lower Bound | 1.31 | |
| | Mean | Upper Bound | 5.69 | |
| | 5% Trimmed Mean | | 2.56 | |
| | Median | | 2.00 | |
| ERP_1_age | Variance | | 21.842 | |
| | Std. Deviation | | 4.674 | |
| | Range | | 22 | |
| | Interquartile Range | | 1 | |
| | Skewness Kurtosis Mean | | | |
| | 95% Confidence Interval for | Lower Bound | 4.219 | .512 |
| | Mean | Upper Bound | 18.370 | .992 |
| | 5% Trimmed Mean | | 1.55 | .114 |
| | Median | | 1.31 | |
| ERP_2_gender | Variance | | 1.79 | |
| | Std. Deviation | | 1.56 | |
| | Range | | 2.00 | |
| | Interquartile Range | | .261 | |
| | Skewness Kurtosis Mean | | .510 | |
| | 95% Confidence Interval for | Lower Bound | 1 | |
| | Mean | Upper Bound | 1 | |
| | 5% Trimmed Mean | | -.218 | |
| | Median | | -2.183 | .512 |
| ERP_3_education | Variance | | 2.15 | .992 |
| | Std. Deviation | | | .150 |
| | Range | | 1.84 | |
| | Interquartile Range | | 2.46 | |
| | Skewness | | 2.17 | |
| | Kurtosis | | 2.00 | |
| | | | .450 | |
| | | | .671 | |
| | | | 2 | |
| | | | 1 | |
| | | | -.177 | .512 |
| | | | -.548 | .992 |

Figure 1: Gender of employees

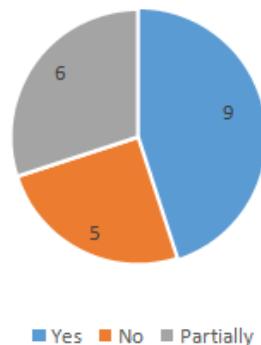
From this figure, we can see that relation between male and female in the company is almost equally distributed, where number of female employees is bigger for one employee. This is interesting case, when there is a bigger number of women than men in one company.

Figure 2: Education level

In figure 2. We can analyze education level of employees. With only 3 employees who have finished high school, we can say that education level of employees in this company is relatively big, considering that 11 employees have finished their undergraduate level of faculty, and that six of them have graduated.

Figure 3: Understanding ERP

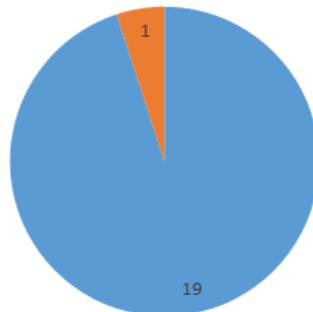
Understanding ERP



In the figure number three we have analyzed understanding of the broader term of ERP. We can see from the figure 3, that less than half of employees are aware of term ERP. Nine employees answered that they understand ERP, five of them don't understand ERP concept, and six of them answered that they understand partially. We can comment that maybe they have heard of that term but are not sure what does it represent truly, or so what does it contains from the operational side of it.

Figure 4: Work in the accounting sector without ERP support

Work in the accounting sector without ERP support



In this question, respondents were asked if they are able to work in the accounting company, without ERP support. It is reasonable that 19 of them have answered that they are not able to work in the accounting sector without proper IT software. In our case, it is ERP software. From the figure 4, we can see that only one employee think that it is possible to properly do the job without ERP support. We can comment, that it is reasonable that not all employees in the company are accountants, and that this answer can come from the non-accountant.

H1. IT doesn't shape the role of modern accountants

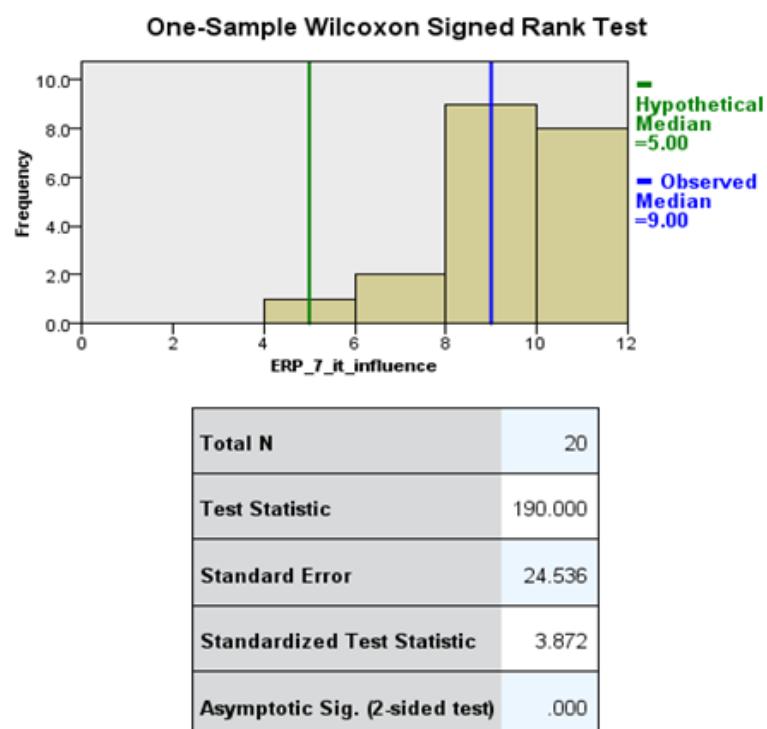
Table 2: Information technology influence

| Hypothesis Test Summary | | | |
|---|--------------------------------------|------|-----------------------------|
| Null Hypothesis | Test | Sig. | Decision |
| 1 The median of ERP_7_it_influence equals 5.00. | One-Sample Wilcoxon Signed Rank Test | .000 | Reject the null hypothesis. |

Asymptotic significances are displayed. The significance level is .05.

We have analyzed our hypothesis in statistical software IBM SPSS, and following data has been obtained. With the significance level of 0.000 which is less than 0.05 our hypothesis is rejected what means that IT strongly influence and shape the role of modern accountant. In the table 3. we can see that observed meidan is 9.00 what is bigger than the hypothetical median 5.00.

Table 3: One-Sample Wilcoxon Signed Rank Test



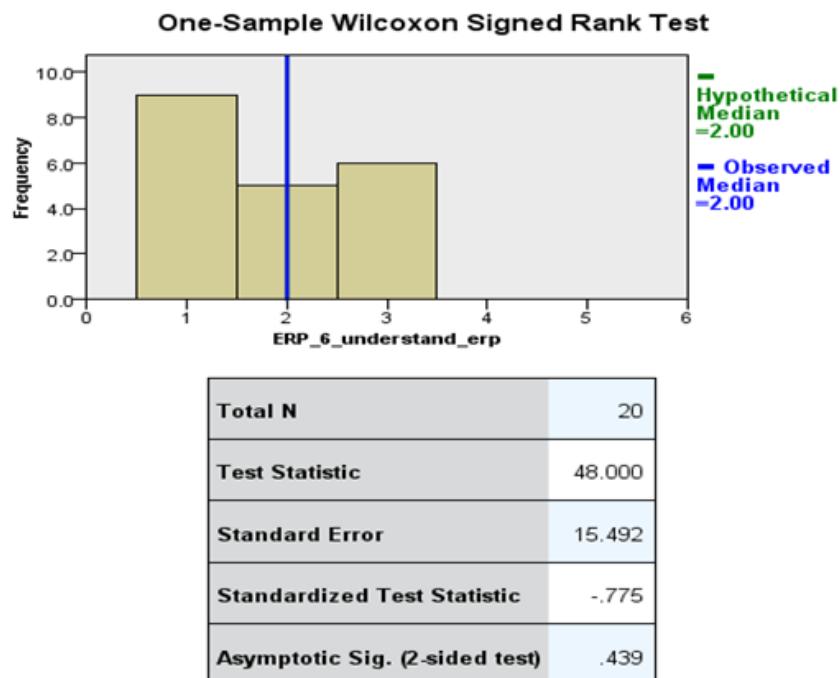
H2. Accountants are not fully aware what ERP concept represents

Table 4: Understanding of ERP concept

| Hypothesis Test Summary | | | | |
|---|--------------------------------------|------|-----------------------------|--|
| Null Hypothesis | Test | Sig. | Decision | |
| 1 The median of ERP_6_understand_erp equals 2.00. | One-Sample Wilcoxon Signed Rank Test | .439 | Retain the null hypothesis. | |

Asymptotic significances are displayed. The significance level is .05.

In the table 4 we have analyzed understanding of ERP concept. This means that employees are fully aware and have understanding what actually ERP bring to them. With the result of 0.439 which is bigger than 0.05 we accept H0. In table five we see that observed median is equal with the hypothtical.

Table 5: One-Sample Wilcoxon Signed Rank Test

H3. There is relation between extent that organization's information system have impact on reporting, and whether IT influence employees' work

Table 6: Correlations

| | | ERP_13_extent_information | ERP_7_it_influence |
|--------------------|-------------------------|---------------------------|--------------------|
| Spearman's rho | Correlation Coefficient | 1.000 | .604** |
| | Sig. (2-tailed) | . | .005 |
| | N | 20 | 20 |
| ERP_7_it_influence | Correlation Coefficient | .604** | 1.000 |
| | Sig. (2-tailed) | .005 | . |
| | N | 20 | 20 |

In this table we have analyzed correlation between extent that organization's information system have impact on reporting, and whether IT influence one's work. With the significance level of 0.005 our hypothesis is accepted. Correlation Coefficient is 0.604. This is highly positive correlation.

H4. There is a relation between department of studying concerning employees and their opinion on actual changes in the accounting processes brought in via ERP systems

Table 7: Correlations

| | | ERP_15_taxatio | ERP_4_departm |
|------------------|-------------------------|----------------|---------------|
| Spearman's rho | Correlation Coefficient | 1.000 | -.592** |
| | Sig. (2-tailed) | . | .008 |
| | N | 20 | 19 |
| ERP_4_department | Correlation Coefficient | -.592** | 1.000 |
| | Sig. (2-tailed) | .008 | . |
| | N | 19 | 19 |

**. Correlation is significant at the 0.01 level (2-tailed).

In the table 7. we have analyzed correlation between department of studying concerning employees and their opinion on actual changes in the accounting processes brought in via ERP systems. With the significance level of 0.008 which is less than 0.05 our hypothesis is accepted. Correlation coefficient is -0.592, with the negative sign, what means that this is a negative correlation.

H5. Accountants agree that organization's information system has impact on Operational planning, Reporting and Flexibility and efficiency.

Table 8: Kruskal-Wallis Test

| Hypothesis Test Summary | | | | |
|-------------------------|--|---------------------|------|-----------------------------|
| | Null Hypothesis | Test | Sig. | Decision |
| 1 | The distribution of Independent-ERP_13_extent_information_Samples planning is the same across Kruskal-categories of ERP_1_age. | Kruskal-Wallis Test | .511 | Retain the null hypothesis. |
| 2 | The distribution of Independent-ERP_13_extent_information_Samples reporting is the same across Kruskal-categories of ERP_1_age. | Kruskal-Wallis Test | .464 | Retain the null hypothesis. |
| 3 | The distribution of Independent-ERP_13_extent_information_Samples flexandeff is the same across Kruskal-categories of ERP_1_age. | Kruskal-Wallis Test | .202 | Retain the null hypothesis. |

Asymptotic significances are displayed. The significance level is .05

In the table 8. we have analyzed whether accountants agree based on their ages if organization's information system has impact on Operational planning, Reporting and Flexibility and efficiency. With the significance level of 0.511; 0.464 and 0.202 all respectively bigger than 0.05 we accept the null hypothesis in all three cases which concern planning, reporting and flexibility and efficiency.

CONCLUSION

A research gap appears to exist concerning how management accounting is bolstered by various information systems. Along these lines, it is the purpose for this research undertaking to build up a comprehension of the relationship between management accounting and ERP.

The fact is that technology is a key driver of progress, and more particularly, it highlights the developing significance of the web, knowledge management and the computerization of financial information taking care of.

Information technology progressions have incredibly helped the accounting frameworks of business units. Because of today's modernized accounting data frameworks, business framework seems to move forward. Numerous exchange procedures were streamlined consequently making productive operations. The reasonableness of information innovation for business units makes new way for these elements to enhance their business.

In the years to come, business sector union will be an absolute necessity, to make strong arrangements that would draw in consideration and would assemble trust of the business sector in this better approach for overseeing organizations.

ERP systems likewise have the capacity to help in the present management accounting processes. This conclusion strengthens the case that having an ERP system is still superior to having no ERP system.

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THE EFFECTS OF ICT APPLICATION IN PRIMARY SCHOOLS

Nusreta Omerdić

University of Travnik
Bosnia and Herzegovina
nusi.o@hotmail.com

Mediha Ridić

University of Travnik
Bosnia and Herzegovina
mediha.ridjic@hotmail.com

Samira Beba

Primary school „Turb“ Travnik
Bosnia and Herzegovina
samira_beba@hotmail.com

Abstract: Information - communications technology has become an integral part of modern life at the time of abrupt changes. Modern technology enables teachers high quality knowledge transfer. ICT used in teaching enables students to develop the ability to work independently, to use different sources of information, and to be ready for modern life. The goal of the research is to examine the possibilities and the importance of applying ICT in primary schools.

The study included 277 respondents of Primary School "Turb" in Turbe; 110 students of lower grades of primary school (5th grades), 110 students of upper grades of primary school (8th grade) and 57 teachers of Primary School "Turb." Respondents expressed their views using a questionnaire composed of variables related to the frequency of ICT application in teaching, students' motivation for learning through ICT, and the possibilities of ICT application in teaching. The collected data were analyzed through descriptive statistics. T-test was used to show the importance of differences between the mean of respondents' attitudes of primary school (of students and teachers) on the ICT application in teaching. The results showed that the ICT application in education contributes to improving the quality of teaching and that as a result students are more motivated to work. However, the possibilities of ICT application in teaching are still limited.

Keywords: teaching, primary school, motivation, communication, ICT.

Introduction

In these times of constant changes we can see that the belief in education and learning as a key resource for individual and society development has become strengthened. "Education is a prerequisite for social change, and social changes include changes in education. So, it is a mutual relationship of education and intensity of social change. If the changes are more intense, the need to reform education is higher" (Fočo, 2003). Lasić-Lazić, Banek and Špiranec (2005) point out that the development dynamics is especially visible in the field of teaching aids and resources. As the time passes, the educational materials are becoming increasingly produced, distributed and available in digital form. Beside the reforms in education, and the concept of lifelong learning, the rise of digital educational material is conditioned also with continuous scientific

and technological progress. Constant accumulation of new knowledge brings rapid obsolescence of educational material, prompting the need for modification, upgrading and customizing. Modern education requires changes in the traditional - educational system, methods, forms, principles. Matijević (2009) provides two types of teachers, reproductive and creative teachers. Unlike reproductive teachers who work according learned model, creative teachers are constantly in an action research. Such teachers are constantly creating new educational scenarios in which actively involve their students.

In order to change the education system, adapt it to the information society, it is necessary to start from the youngest children in preschool and elementary school. The role of educators and teachers is to teach children how to learn and communicate in the information society (Soleša and Soleša-Grijak, 2011). Under the influence of information technology, traditional teaching that is rooted by J.A. Komenski becomes gradually abandoned. The role of the teacher is changing, and the teacher is not only a teacher but an organizer of teaching and partner in direct communication. To answer the challenge of time it is necessary to bring innovation in the educational activity, which are aimed at raising the level and quality of educational work, with the rational use of human resources, time and creativity of teachers and students. The most valuable knowledge that the student can get by acquiring computer literacy is knowledge of how to find the necessary information (Ibrahimović, 2012). In order to monitor the progress of technology and modern trends in education Andjelic and Laušić-Ramljak (2015) believe that teachers need to have digital competence. Digital competence is achieved by the use and communication using ICT and the use of tools for creating e-content. The use of computers in education provides a number of opportunities, but it is important to select those features and content that will enhance the educational process and make teaching more interesting and easier to motivate students and for adopting new teaching facilities.

For the modern organization of educational work, particularly for the use of modern teaching technology, it is necessary to provide appropriate material - technical conditions. The aim of our research is to examine the importance and possibilities of application of ICT in primary school. The paper is based on the assumption that the use of ICT in education contributes to improving the quality of teaching that students are more motivated to work, that the teaching content is interesting, but that the possibilities of using ICT in teaching is still limited.

Methods

Sample

The sample consisted of 220 students and 57 teachers from Primary School "Turbe" in Turbe. Of the total number of students, 110 students are from lower grades of elementary school (V) and 110 students from upper primary school grade (VIII grade).

Research techniques

- Content analysis;
- Interviewing and
- Arranging and statistical data processing (Selimović, Rodić, Selimović, 2013).

Instruments

In the study we used a questionnaire. The first set of questions, a total of 3, which is located at the beginning of the questionnaire, was intended for the collection of basic socio-demographic data on students involved in the research. These are: gender, class and school performance on the first half of the year. Then we had the variables related to the frequency of application of ICT in teaching, students' motivation for learning through ICT and the possibilities of using ICT in teaching. Respondents expressed their views through a five-point Likert scale, as follows: 1 (never); 2 (at times); 3 (medium); 4 (often) and 5 (always).

Statistical analysis

The collected data was analyzed by descriptive statistics. With T-test, we tested the significance of differences between the mean values of the attitudes of the respondents (students of lower and higher grades of elementary school, students and teachers) of elementary school on the application of ICT in teaching.

Research Results

Table 1: Measure of central tendency, variability and distribution of frequency characteristics.

Use of ICT in the class (students)

| Indicator | N | M | SD | 1 (%) | 2 (%) | 3 (%) | 4 (%) | 5 (%) |
|---|-----|------|------|-------|-------|-------|-------|-------|
| Teachers in the class are using digital teaching material. | 220 | 1,90 | 81, | 30,00 | 55,00 | 11,80 | 0,90 | 2,30 |
| At school we have the opportunity of learning using ICT | 220 | 1,50 | 92, | 69,50 | 18,60 | 5,90 | 3,60 | 2,40 |
| The use of digital teaching aids contributes to a more relaxed atmosphere in class | 220 | 3,44 | 1,21 | 3,20 | 23,60 | 26,40 | 20,00 | 26,80 |
| We mastered the material in classes in which is used digital educational content | 220 | 3,80 | 1,31 | 10,50 | 7,70 | 11,80 | 31,40 | 38,60 |
| The use of digital teaching content motivates me more | 220 | 3,41 | 1,51 | 15,90 | 16,80 | 14,10 | 16,40 | 36,80 |
| Teaching classes where we have the use of digital educational contents are more interesting | 220 | 4,21 | 1,19 | 5,50 | 6,80 | 9,50 | 17,70 | 60,50 |
| Computer skills are a useful skills. | 220 | 4,61 | 78, | 0,90 | 3,20 | 4,10 | 17,30 | 74,50 |
| I like to use computer. | 220 | 4,36 | 1,08 | 3,20 | 5,90 | 9,50 | 14,50 | 66,80 |
| I use the computer as an additional source of information. | 220 | 4,30 | 1,02 | 3,20 | 4,10 | 8,20 | 29,10 | 55,50 |

| | | | | | | | | |
|--|-----|------|------|-------|-------|------|------|------|
| Modes on computer are completely incomprehensible to me | 220 | 1,67 | 1,17 | 67,30 | 15,00 | 8,20 | 2,70 | 6,80 |
|--|-----|------|------|-------|-------|------|------|------|

Reminder: total number of respondents; M-arithmetic mean; SD-standard deviation

Based on the results of the assessment of students, we conclude that teachers in primary schools rarely use digital teaching resources, but also that students do not have the possibility of learning by using ICT. The use of digital teaching aids contributes to a more relaxed atmosphere in class, as considered by the most of students. Most students better master the material in the framework of digital educational content, because such lessons are more interesting to students. Students believe that computer skills are useful skills and most of them like to use a computer, and the computer is used as an additional source of information. The majority of primary school students are familiar with modes on computer. Research results suggest that the century of modern technology in Elementary School "Turbe" does not possess ICT equipment which would ensure pupils with a better and more interesting classes.

Table 2: Applying ICT in class– comparing the significances based on grade (t-test)

| Parameters | Grade | N | M | SD | Diff. M | F | Signif. | t-value. | Signif. |
|------------|-------|-----|------|-----|---------|------|---------|----------|-------------|
| ICTZ | V | 110 | 3,48 | 45, | 0,32 | 676, | 412, | 5,253 | 000, |
| | VIII | 110 | 3,16 | 44, | | | | | |

Reminder: N-total number of respondents; M-arithmetic mean; SD-standard deviation; Diff. M-diff between arithmetic means; F and Signif.- Leven's equality test; t-value. i Signif.- t-test value and its significance. ICTZ- ICT sum of variables

The value of $t = 5.253$ and its significance $Sig. = 0.000$ indicates that there is a statistically significant difference between students in lower grades of elementary school (V) and students older grades (classes VIII) on the use of ICT in teaching. Based on the arithmetic mean (M), we see that students in lower grades (V) have a positive opinion on the use of ICT in education in relation to students in higher grades (VIII classes).

Table 3: Measure of central tendency, variability and frequency distribution.

| Use of ICT in teaching (teachers) | | | | | | | | |
|--|----|------|-----|-------|-------|-------|-------|-------|
| Indicator | N | M | SD | (%) | (%) | (%) | (%) | (%) |
| Teachers in the class are using digital teaching material | 57 | 2,18 | 85, | 17,50 | 57,90 | 14,10 | 10,50 | 0,00 |
| At school we have the opportunity of learning using ICT | 57 | 2,14 | 95, | 29,80 | 33,30 | 31,60 | 3,50 | 1,80 |
| The use of digital teaching aids contributes to a more relaxed atmosphere in class | 57 | 3,54 | 93, | 0,00 | 17,50 | 22,80 | 47,40 | 12,30 |

| | | | | | | | | |
|---|----|------|------|-------|-------|-------|-------|-------|
| We mastered the material in classes in which is used digital educational content | 57 | 3,49 | 71, | 1,80 | 3,50 | 42,10 | 49,10 | 3,50 |
| The use of digital teaching content motivates me more | 57 | 4,12 | 95, | 0,00 | 7,00 | 17,50 | 31,60 | 43,90 |
| Teaching classes where we have the use of digital educational contents are more interesting | 57 | 4,39 | 88, | 0,00 | 5,30 | 10,50 | 24,60 | 59,60 |
| Computer skills are useful skills. | 57 | 4,91 | 29, | 0,00 | 0,00 | 0,00 | 8,80 | 91,20 |
| The students like to use the computer | 57 | 4,42 | 71, | 0,00 | 0,00 | 12,30 | 33,30 | 54,40 |
| I use the computer as an additional source of information | 57 | 4,16 | 99, | 1,80 | 8,80 | 5,30 | 40,40 | 43,90 |
| The computer mode is completely incomprehensible | 57 | 1,86 | 1,03 | 52,60 | 15,80 | 24,60 | 7,00 | 0,00 |

Reminder: N-total number of respondents; M - arithmetic mean; SD-standard deviation

Due to lack of ICT equipment teachers rarely use digital resources and students do not have the possibility of learning by using ICT. Most teachers believe that the use of digital teaching aids contributes to a more relaxed atmosphere in class, that such lessons more interesting, students are more motivated and better master the material. Computer skills are a useful skills for both students and teachers and most teachers use a computer as an additional source of information. Teachers know the modes of the computer, although a certain percentage (7.00%) believe that they are often incomprehensible.

Table 4: Applying ICT in class-comparing the significances between students and teachers(t-test)

| Parameters | Profile | N | M | SD | Diff. M | F | Signif. | t-value. | Signif. |
|------------|----------|-----|------|-----|---------|------|---------|----------|-------------|
| ICTZ | Students | 220 | 3,32 | 47, | 20,- | 007, | 934, | -2,869 | 004, |
| | Teachers | 57 | 3,52 | 47, | | | | | |

Reminder: N-total number of respondents; M-arithmetic mean; SD-standard deviation; Diff. M-Diff. between arithmetic means; F and signif.- Leven's test of equality; t-value. and t-test value and its significance; ICTZ- ICT sum of variables.

With T-test, we found that there is a statistically significant difference between the students and teachers on the application of ICT in teaching. Based on the arithmetic mean (M) we see that teachers have a more positive opinion on the application of ICT in relation to students.

Discussion

In Scotland, ICT is an integral part of the existing curriculum in primary and secondary education. However, research conducted in 2000 indicate a low level of use of ICT in schools (Williams, Coles, Wilson, Richardson and Tucson, 2000). Selwyn and Bullon (2000) examined the use of ICT in school and at home. The results showed that the majority of students are educated consumers of ICT, but their extracurricular access to technology is diverse. Based on the results of research there is a need to ensure meaningful and regular access to technology in schools for all children. Smeets conducted the research on the characteristics of the learning environment and the contribution of ICT learning environment (2005). The results showed that many teachers apply several elements of powerful learning environments in their classrooms. This is primarily related to the presentation of authentic tasks and encouragement of active learning. However, adapting education to the needs and abilities of individual students turned out to be quite limited. The use of ICT in general, only showed characteristics of traditional approaches to learning. The chances of using open ICT applications, which are expected to improve the learning environment, were higher for teachers who have created a powerful learning environment for their students and when students had been able to use multiple computers. Hayes dealt with the application of ICT in Australian schools (2007). The aim of the research was to examine ways in which teachers in different environments use ICT in their classrooms to mediate the learning of students. The results showed that ICT greatly integrated into the schools in a way that supported and complemented the existing teaching practices. There is still a need for a better understanding the impact of computer technology on learning opportunities, and successful integration of ICT requires a fundamental change in the basic activities of the school. Modern technology allows to teachers the better transfer of knowledge to children with special needs. The fact that computer allows calmness to children, concentration, varied learning, opened all aspects of knowledge, self-improvement, and self-esteem, it makes a world of ICT technologies and endless irreplaceable assistant (Čop and Topolovec, 2009). Zovko and Didović (2013) conducted a study in the Republic of Croatia with the aim to determine whether there is a digital division between students of fourth grade in some urban and rural areas. The results showed that there is a digital division between these two regions due to the knowledge of the use of technology, but also the possibility of buying new technology.

Conclusion

Based on the research results, we concluded that, due to the lack of ICT equipment, teachers in elementary school "Turbe" rarely use digital teaching resources and students do not have the possibility of learning by using ICT. The use of digital teaching aids contributes to a more relaxed atmosphere in class, students are more motivated to work and most of the students better master the material in the framework of digital educational content, because such lessons are more interesting to students. The results indicate that there is a statistically significant difference between students in lower grades of elementary school (V) and students in higher grades (classes VIII) on the use of ICT in teaching. Students in lower grades (V) have a positive opinion on the use of ICT in education in relation to students in higher grades (VIII classes). With T-test, we also found that there is a statistically significant difference between the students and teachers on the application of ICT in teaching. Teachers have a positive opinion on the application of ICT in relation to students. Modern education requires the application of modern teaching aids that will enable students to be more actively involved in the teaching process. In addition, modern teaching technology

improves interaction among students. Individualization of teaching strengthens the independence of students and focus on further education. In order to achieve a better quality of teaching, it is necessary to provide and use modern educational technology.

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PASSENGERS' SATISFACTION IN COACH TRAVEL IN BOSNIA AND HERZEGOVINA - STUDY ON PERCEPTION OF UNIVERSITY STUDENTS IN SARAJEVO

Adis Ćatić

International Burch University
Bosnia and Herzegovina
adis.catic@hotmail.com

Edin Smajić

International Burch University
Bosnia and Herzegovina
esmajic@ibu.edu.ba

Abstract: Transportation of people was always very important aspect of human life. Today, there are many ways in which people can travel. This paper was occupied with coach travel, and passengers' satisfaction in it in Bosnia and Herzegovina. A coach is a type of vehicle used for carrying passengers on excursions, touristic journeys and trips, and on other long distance journeys such as intercity or international bus lines. The goal of this study was to find out level of passengers' satisfaction in coach travel in Bosnia and Herzegovina, and what is most important for passengers when they use coach travel services - is it price, speed, safety, comfort, or something else.

Study was performed on perception of university students in Sarajevo, because they are representative sample of passengers' population in Bosnia and Herzegovina. Focus of the study was on "on board experience", which is actually experience of passengers while they are inside of the vehicle. Research clearly indicated what aspects of coach travel are most important for passengers, and also suggested some proposals that can make coach travel more competitive and attractive.

Keywords: passengers' satisfaction, university students, coach travel

1. Introduction

Coach travel is one of the most important transportation modes in Bosnia and Herzegovina. Actually, it is important way of transportation of people in most of developing countries. In developed countries, where air and rail transportation is well organized, smaller number of passengers uses coach travel services. Anyway, coach travel finds place in organizing touristic trips, excursions and other kinds of journeys in every country, no matter is it developed or developing country. Purpose of this study was to illuminate current situation in coach travel market in Bosnia and Herzegovina, to find out what aspects of coach travel are most important to passengers and to reach level of satisfaction of passengers who travel by coach in Bosnia and Herzegovina.

Since coach travel is, as we said, one of the most common ways of transportation in Bosnia and Herzegovina, it is important to investigate current situation, to analyze reasons and to reach final conclusion in order to make it more attractive and more affordable for all segments of passengers. Although this study was focused only on university students who are studying at any of universities in Sarajevo, conclusions that were reached during the research can also be applied for some other groups of passengers.

1.1 Importance and contribution of the study

There are number of reasons that give importance to this research. First of all, this research clearly showed level of satisfaction of university students/passengers with coach travel services of Bosnian transportation companies they travel with, or they have travelled. It is important in order to motivate transportation companies to increase the level of quality of their services and to try to make users of that services more satisfied. Other reason of importance of this research is that the research showed what aspects of coach travel are the most important for university students/passengers. By this information, transportation companies can focus their efforts to improve especially those aspects of coach travel that research participants stated as most important.

This research is important because it helps both, transportation companies who provide coach travel services and passengers who use them at the end. Because coach travel is one of the most important ways of transportation in Bosnia and Herzegovina (maybe the most important one), it is crucial thing to make it attractive, affordable, comfortable and safe. This research gives its contribution to this very important issue.

1.2 Objectives of the study

We can identify several objectives of this research. First of all, objective of the research was to find out what factors or what aspects of coach travel are most important for university students/passengers in Sarajevo when they use coach travel services on intercity lines, international lines, students' trips and any other kind of journeys by coach. They were asked to fulfill the survey and to rate importance of specific factors such as price, crew, safety, etc.

Next, one of objectives of the study was to investigate and to find out level of university students' satisfaction with coach travel services of Bosnian transportation companies they travel with. University students were also asked to give their comments, proposals, suggestions, critics and experiences (good or bad). These comments were greatly useful in the process of data analysis and commenting of final results.

Finally, this research was done in order to find out what are the most common problems that passengers and transportation companies are facing with, and to try to provide some new ideas, proposals or possible solutions for those problems. There were no a lot of researches like this in the past in Bosnia and Herzegovina, so this one is very important in process of illumination of coach travel sector and passengers' satisfaction in it in this country.

2. Literature review

There are number of articles and other kinds of works written about bus and coach travel. Anyway, there are more articles that are examining issues in public and urban transportation, and less about coach travel. We already differentiated these two terms, but in order to get closer to the topic of transportation of people, in this section we will also review some articles that are focused on bus transportation, urban and public transport.

Bodiono (2009) was writing about passengers' satisfaction in public bus transport in Indonesia. The overall result showed that service quality attributes influences overall customer satisfaction in using public bus transport. The service quality could be evaluated and improved by analyzing single attributes but also by analyzing factors based on several attributes. The overall aim is to make public bus transport an attractive, satisfied, and marketable mode of transport. (Budiono, 2009)

Yusof et al. (2014) investigated factors that are affecting students' satisfaction towards bus services in University of Utara, Malaysia. The objective of this study was to explore factors that influence student satisfaction on bus services in University Utara Malaysia (UUM). A factor analysis yielded three factors which are attitude of bus driver, reliability of the buses and facilities of buses. (Zahayu Md Yusof, Masnita Misiran, Lee Pei Pei and Ho Tian Tian, 2014)

Woldeamanuel and Cyganski (2011) were writing about factors affecting travelers' satisfaction with accessibility to public transportation. This research is similar to previous two. Authors state that accessibility to public transportation is one of the important attributes to assess the effectiveness of a transit system and the integration of transportation with land use. The level of accessibility can be a determining factor for users' perception and satisfaction with the overall transit system. (Mintesnot Woldeamanuel and Rita Cyganski, 2011)

Islam et al. (2014) conducted a study about measuring customers' satisfaction on bus transportation. The purpose of the study was to examine the factors measuring customers' satisfaction, especially the impact of service quality on customers' satisfaction in public transportation industry in the university town of Sintok located in Kedah province of Malaysia. (Rabiul Islam, Mohammed S. Chowdhury, Mohammad Sumann Sarker and Salauddin Ahmed, 2014) Authors say that service quality attributes influences overall customer satisfaction in using public bus transport.

In March 2011, Passenger Focus, which is independent national passenger web site, wanted to get a better understanding of coach passenger needs and experiences in Great Britain, so it commissioned preliminary research. This included identifying any improvements which could be made and how complaints were handled. Focus groups and depth interviews were undertaken with users several transportation companies in UK. (Coach passengers needs and experiences, 2011) Results indicated that participants of the survey used the coach because it was significantly cheaper than other modes. Also, they mentioned other advantages of travelling by coach: getting a seat is always guaranteed, the seats can be comfortable; coach travel can be a stress free and relaxing experience and the time can be used to work or read. (Coach passengers needs and experiences, 2011) Authors claim that coach travel is one of the most affordable kinds of transportation.

3. Coach travel overview

In order to define coach travel correctly, it is necessary to define a term "coach". Before that, terms "coach" and "bus" have to be distinguished. In Bosnian language there is no difference between these two terms, but in English language it is important to differentiate them.

Coaches and buses are both used for carrying passengers from place to place. The differences between a bus and a coach may be hard to recognize, especially when coaches are often confusedly referred to as buses and the terms are used interchangeably. However, buses and coaches differ in service, comfort and pricing. (Gianino) In American English, the word "bus" may refer to any form of public transport by road, be it a short ride through New York City or a coast-to-coast marathon. (Bus and Coach Travel in Europe: Understanding the difference, 2011)

Things are a little different in European English. A "bus route" is essentially a local service, geared to local traffic. You cannot normally reserve seats in advance. A "coach service," by contrast, is usually a longer-distance service, often one where advance booking is recommended (even if often not absolutely necessary) and usually operated by a vehicle that has more comfortable seating than you would find on a local bus service.

(Bus and Coach Travel in Europe: Understanding the difference, 2011) Unlike transit buses designed for shorter journeys, coaches often have a luggage hold that is separate from the passenger cabin and are normally equipped with facilities required for longer trips, including comfortable seats and sometimes a toilet. (Wikipedia - Coach, 2016)

The term "coach" was previously used for a horse-drawn carriage designed for the conveyance of more than one passenger, the passengers' luggage, and mail that is covered for protection from the elements. (Coach (Bus), 2016) Coach development could only benefit from the improvement in roads. Before turnpike trusts, coaches had been un-sprung and any journey in them was very uncomfortable as there was no suspension. Basically a wooden carriage, aided by four wooden wheels, was used to move people or produce. (Treuman, 2016)

The world's first motorized bus went into service on 18 March 1895. Father of it was Carl Benz. Technically speaking, the world's first motorized bus was in fact a converted passenger car model, fitted with what was known as a landau body – a design very familiar at that time as a carriage body. It was powered by a horizontal single-cylinder rear-mounted engine with an output of 5 hp. The drive to the rear wheels was provided by chains. The bus had space for eight people, including the driver. (Mercedes Benz - first motorized bus) Today's coaches are equipped with toilets, Wi-Fi, comfortable seats, air condition, kitchen, fridge, TV and audio systems, and many more things. Buses and coaches are an integral part of public transport and travel, and key elements in a sustainable transport system. (The role of bus and coach transport in mobility chain)

4. **Methodology**

This study was occupied with university students who are studying in Sarajevo. Reason for choosing university students for research sample is because they represent important part of passengers' population in Bosnia and Herzegovina. They travel from their home towns to Sarajevo and of course, they use coach travel services. They also organize student trips and excursions all around Bosnia and Herzegovina and Europe. One of reasons why university students in Sarajevo were chosen for research sample is also because they come from almost every part of the country. Because of that, we assumed that they represent good and realistic sample of student population in Bosnia and Herzegovina.

According to the data of Institute of statistics in Federation of Bosnia and Herzegovina for 2013, there were 33 919 university students in Sarajevo, studying at State University and other private education institutions. (FB&H, 2013) According to this, at least 0,01% of student population has had to be investigated. Total number of respondents was 388 which satisfy the minimum requirements of sample size.

Survey was conducted in order to find out what criteria or factors are most important for university students in Sarajevo when they use coach travel services on intercity lines, international lines, student trips and excursions. Also, goal of the survey was to explore level of satisfaction of university students with quality of coach travel services of Bosnian transportation companies they travel with, or they have travelled. Survey was divided into three parts. In first part, students were asked to rate specific criteria (factors/variables) in terms of importance to their travelling experience. There were six variables explored in this survey:

- Price and accessibility
- Crew inside of the vehicle
- Safety during the trip
- Comfort, ergonomics and visual look of the vehicle
- Equipment in the vehicle
- Speed and accuracy

Inside of each variable, there were several questions to rate them in terms of importance to university students' coach travelling experience. Participants were asked to rate them from 1 – not important to 5 – very important. In second part of survey, students were asked to rate their level of satisfaction with coach travel services of Bosnian transportation companies from 1 – very dissatisfied to 5 – very satisfied. Third part of survey was actually open question for students to give their suggestions, proposals, experiences and comments. This was very useful in process of interpretation and commenting of the results.

5. Results

Quantitative data was collected from university student respondents' surveys. Data was analyzed in Microsoft Excel using means and standard deviations, as well as comparing the means of male and female respondents. Total number of respondents was 388. Respondents were asked to give their information about gender, age and current study program. Surveys were collected via online methods using Google Forms tool for making questionnaires, and via visiting universities, students' flats and dormitories.

5.1 Analysis of variables

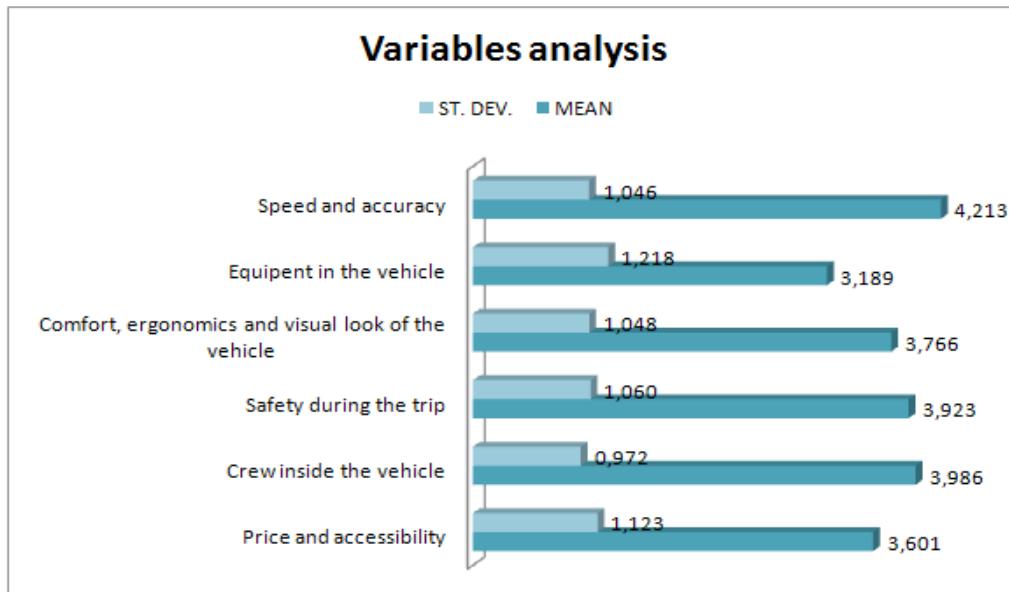
In the table below, we can see that „speed and accuracy“ variable has the biggest value of mean (4,213). „Crew inside of the vehicle“ is second with mean of 3,986. „Safety during the trip“ is on third place with mean of 3,923. „Comfort, ergonomics and visual look of the vehicle“ has mean of 3,766. Fifth variable is „price and accessibility“ with mean of 3,601. Equipment in the vehicle has the lowest mean (3,189).

Table 1: Analysis of variables

| VARIABLES | MEAN | ST. DEV. |
|--|-------|----------|
| Price and accessibility | 3,601 | 1,123 |
| Crew inside the vehicle | 3,986 | 0,972 |
| Safety during the trip | 3,923 | 1,060 |
| Comfort, ergonomics and visual look of the vehicle | 3,766 | 1,048 |
| Equipment in the vehicle | 3,189 | 1,218 |
| Speed and accuracy | 4,213 | 1,046 |

From these results, we can conclude that speed and accuracy are most important element of coach travel for university students. Speed and accuracy of transportation companies are factors that can affect some other aspects of life of passengers. If there are delays in transportation of people, some other obligations and issues can suffer because of that. It is so important for university students to have fast and accurate coach travel, especially on regular bus lines (intercity, for example). During touristic journeys and other student trips, delays can be more accepted than during regular bus lines.

From the figure below, we can see graphical view of average means and standard deviations of each of six variable. We can notice that variable with highest value of mean actually has the second lowest value of standard deviation, and variable with lowest mean actually has the highest value of standard deviation. This value of standard deviation for „speed and accuracy“ variable supports reliability and validity issues of the research. Second most important factor for university students is nice and friendly crew inside of the vehicle. It is important for them to have kind and helpfulness drivers or tour leaders who will always be communicative.

Figure 1: Analysis of variables

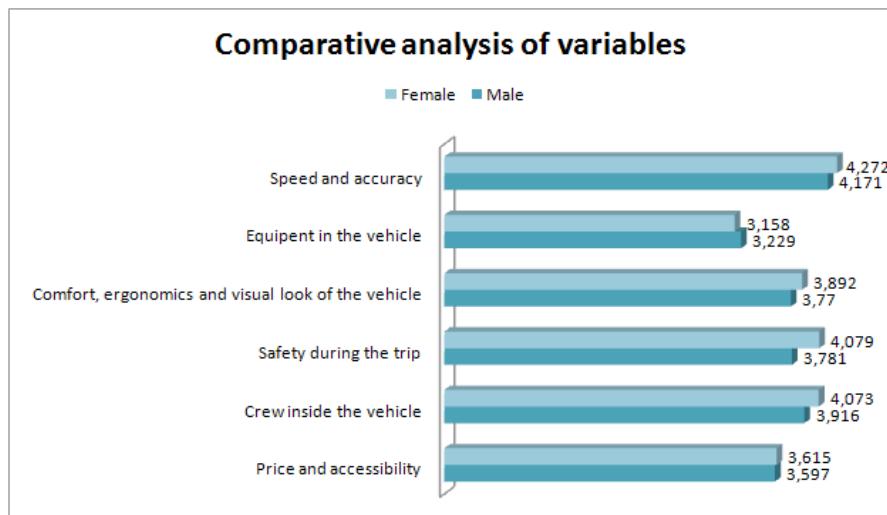
5.2 Comparative analysis of variables

In this section, data gathered from male and female respondents will be compared in order to find out what aspects of coach travel are most important for male and for female university students. As we can see from the table below, speed and accuracy are the most important factors of coach travel for both, male and female university students, but this factor is more important for female than for male respondents. We can also notice that means for females are higher than means of males in each variable except equipment in the vehicle. That means that five of six factors of coach travel are more important for female than for male university students.

Table 2: Comparative analysis of variables

| VARIABLES | Male | Female |
|--|--------------|--------|
| Price and accessibility | 3,597 | 3,615 |
| Crew inside the vehicle | 3,916 | 4,073 |
| Safety during the trip | 3,781 | 4,079 |
| Comfort, ergonomics and visual look of the vehicle | 3,770 | 3,892 |
| Equipment in the vehicle | 3,229 | 3,158 |
| Speed and accuracy | 4,171 | 4,272 |

In the figure below, we can see graphical view of average means of male and female respondents for each variable. Only equipment in the vehicle, which is actually variable with lowest importance for university students, was more important for males than for females. We can say that female university students are more demanding kind of passengers than male university students.

Figure 2: Comparative analysis of variables

5.3 Analysis of university students' satisfaction in coach travel in B&H

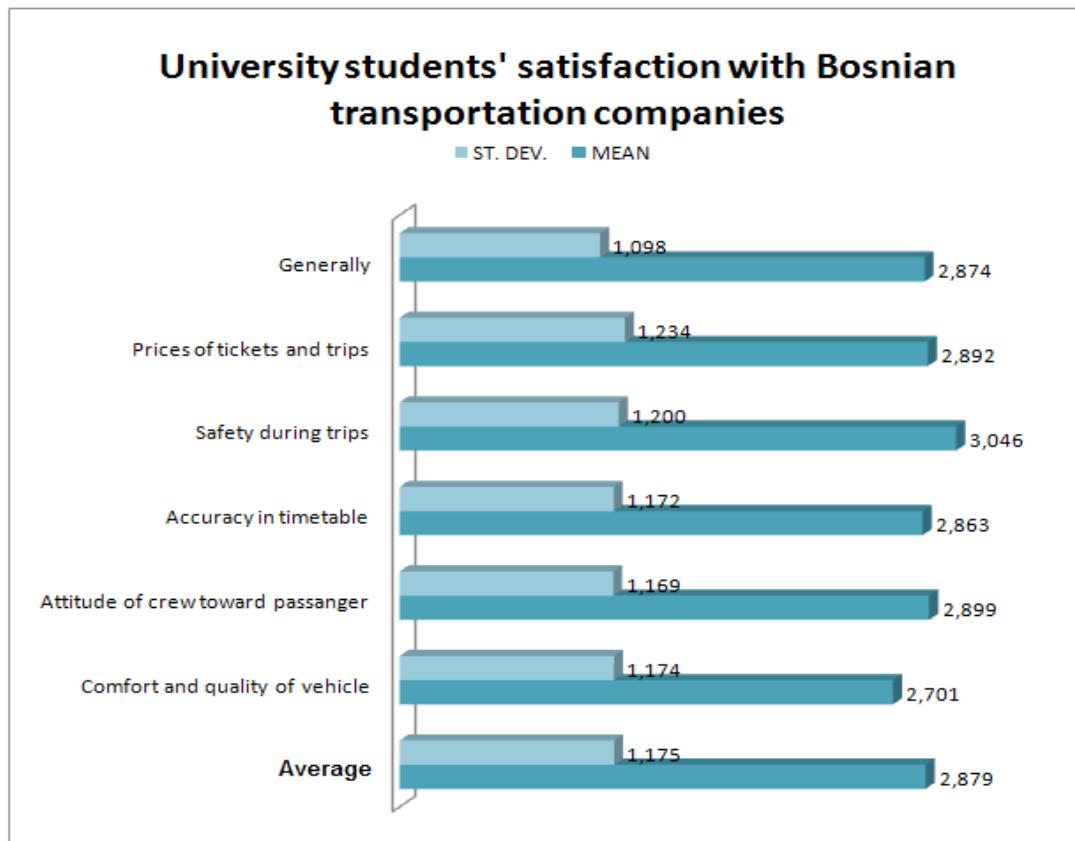
In this section of the study, second objective of the research will be examined. Overall level of university students' satisfaction with Bosnian transportation companies they travel with or they had travelled will be discovered.

In the table below, we can see means and standard deviations of each of six question regarding university students' satisfaction with Bosnian transportation companies. Safety during the trip has the biggest value of mean (3,046) which means that university students are the mostly satisfied with feeling of safety when they travel by some of Bosnian transportation companies. Research showed that university students are the least satisfied with comfort and quality of vehicles in Bosnia and Herzegovina.

Table 3: Students' satisfaction with Bosnian transportation companies

| Students' satisfaction with Bosnian transportation companies | MEAN | ST. DEV. |
|--|-------|----------|
| | 2,879 | 1,175 |
| Comfort and quality of vehicles | 2,701 | 1,174 |
| Attitude of crew toward passenger | 2,899 | 1,169 |
| Accuracy in timetable | 2,863 | 1,172 |
| Safety during trips | 3,046 | 1,200 |
| Prices of tickets and trips | 2,892 | 1,234 |
| Generally | 2,874 | 1,098 |

In the figure below we can see graphical view of means and standard deviations of each question regarding university students' satisfaction with Bosnian transportation companies. We can see that the biggest value of mean is only 3,046 (safety during the trips). University students are the least satisfied with comfort and quality of vehicles. At the end, according to average mean (2,879) we can conclude that university students are very little satisfied or neither satisfied nor dissatisfied with quality of Bosnian transportation companies.

Figure 3 Students' satisfaction with Bosnian transportation companies

5.4 Comparative analysis of university students' satisfaction in coach travel in B&H

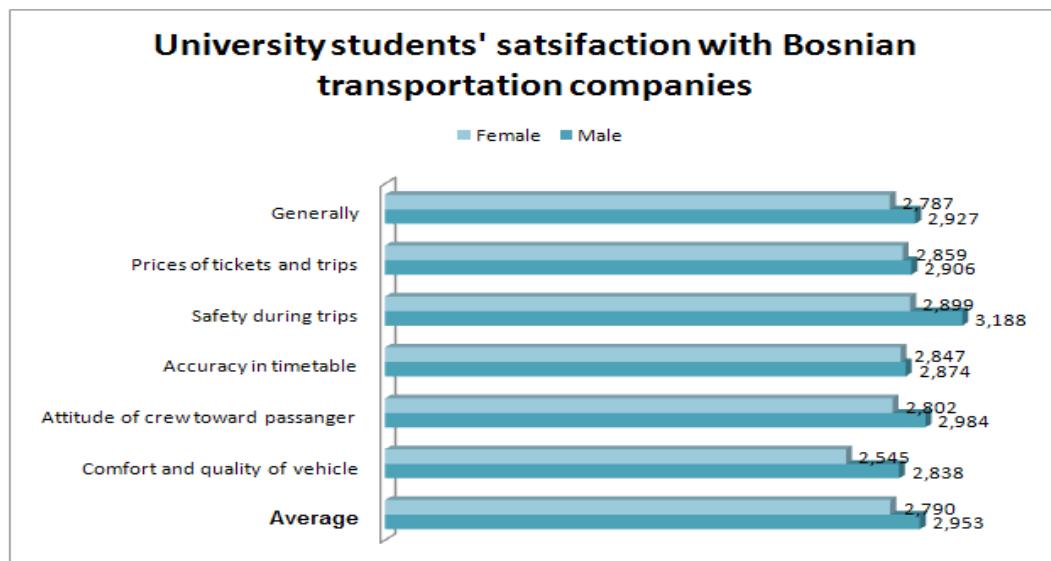
In this section, data gathered from male and female respondents will be compared in order to find out which of these two groups has higher level of satisfaction with Bosnian transportation companies. From the table below, we can see that females' means have lower values than males' means in each of six questions regarding university students' satisfaction with Bosnian transportation companies. Average mean of males is 2,953 while average mean of females is 2,790.

Table 4: Comparative analysis of students' satisfaction with Bosnian transportation companies

| University students' satisfaction with Bosnian transportation companies | Male | Female |
|---|-------|--------|
| | 2,953 | 2,790 |
| Comfort and quality of vehicle | 2,838 | 2,545 |
| Attitude of crew toward passenger | 2,984 | 2,802 |
| Accuracy in timetable | 2,874 | 2,847 |
| Safety during trips | 3,188 | 2,899 |
| Prices of tickets and trips | 2,906 | 2,859 |
| Generally | 2,927 | 2,787 |

We can conclude that female university students passengers are less satisfied with Bosnian transportation companies than male university students passengers. Not only that, females are also more demanding than males, regarding importance of variables that were investigated in the main part of research.

Figure 4 Comparative analysis of students' satisfaction with Bosnian transportation companies



6. Conclusion

After detailed process of analyzing and commenting of collected data, we can conclude that transportation sector in Bosnia and Herzegovina still needs a lot of improvements. Focus of the study was on coach travel and passengers' on-board experience. After carefull analysis, we can say that research showed that speed and accuracy are the most important factors that make university students satisfied when they use coach travel seriveces. Respondents stated that this element of coach travel has significant importance to their coach travelling experience. Second important factor which affects their satisfaction is crew inside the vehicle. Behavior of coach driver or any other member of crew is significantly important for university students. Feeling of safety during the trip is third most important element of overall travelling experience of university students. After these elements, we have comfort, ergonomics and visual look of the vehicle; price of tickets and trips; and equipment in the vehicle. It is interesting to mention that all variables except equipment in the vehicle are more important for female respondents than for male respondents, so we can conclude that female university students are more demanding than males.

When we talk about university students' satisfaction with Bosnian transportation companies they travel with or they have travelled, research clearly indicated that university students are not so satisfied with domestic coach travel. It is also interesting to mention that female students are less satisfied than male students in each of six investigated questions regarding their satisfaction with Bosnian transportation companies. This research clearly showed what aspects of coach travel transportation companies should pay attention to.

6.1 Research limitations and recommendations for future studies

This study was occupied with experiences and opinions of university students who are studying in Sarajevo. Other groups of passengers were not included into this research. That is exactly first limitation to this study. All results are based only on responds of university students in Sarajevo who are between 18 and 30 years old. Second limitation to the study is that university students from other cities were not included in this research. University students in Sarajevo were chosen to be a sample for the research because

they come from all parts of Bosnia and Herzegovina. However, not including university students from other cities in the research is surely one of limitations to this study. However, according to the number of respondents who participated in the research, we can freely say that research was effective and successful. In order to investigate overall level of students' satisfaction in coach travel in Bosnia and Herzegovina, future researches should include university students from all other university cities in the country. Of course, it will demand larger sample of university students. Also, all other groups of passengers (workers, pensioners) should be included in the research in order to find out a general level of satisfaction of passengers in Bosnia and Herzegovina and what criteria are most important for passengers when they use coach travel services.

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EFFECTS OF SOCIAL MEDIA COMMUNICATION ON BRAND EQUITY AND BRAND PURCHASE INTENTION: A CASE STUDY ON DOMESTIC BRANDS IN BOSNIA AND HERZEGOVINA

Sumeja Softić

International Burch University
Bosnia and Herzegovina
sumejasoftic@hotmail.com

Mersid Poturak

International Burch University
Bosnia and Herzegovina
mersid.poturak@ibu.edu.ba

Abstract: Social media is forming an increasingly central part of how companies communicate their marketing strategies to their customers. Online communities carry a strong and influential voice, and there is much to be gained from engaging directly with people through these channels – whether it is reaching and keeping existing customers or acquiring new ones.

In light of such positive ground for social media this study aims to provide an empirical analysis of the impact social media communication has on brand equity and purchase intention. A systematic literature review has been conducted in order to understand how the dimensions of social media create word of mouth i.e. electronic word of mouth (E-WOM) on social media platforms and how this E-WOM further influences brand equity and customers' purchase intention of domestic brands in Bosnia and Herzegovina.

300 data sets were generated through a standardized online-survey and analyzed in SPSS.

The results of the empirical study showed that both firm-created and user-generated social media communication influence brand equity, consequently impacting brand purchase intention.

Keywords: Social Media Communication, E-WOM, Brand Equity, Purchase Intention, Bosnia and Herzegovina

JEL Classification: M31, M37

1. Introduction

The fast paced integration of Internet as a marketing tool in recent years has had a huge impact on how brands chose to communicate with their customers. The Internet has provided a huge platform for local and global brands to expand their market and acquire more customers than ever before. An increasing number of consumers are embracing the internet and spend more time searching for information, which largely affects their purchase decisions. Given such opportunities, firms and their brands have dived into Social Media Marketing, which emerged as the most popular and effective tool of marketing and communication nowadays.

As proposed by Bernoff & Li, 2011 social media platforms offer an opportunity for customers to interact with other consumers; thus, companies are no longer the sole source of brand communication. Moreover, consumers are increasingly using social media sites to search for information and turning away from traditional media, such as television, radio, and magazines (Mangold & Faulds, 2009). This phenomenon has reduced marketers' control of brand management (Berthon, Pitt, McCarthy, & Kates, 2007). Therefore, it is of crucial importance to understand that customers' perceptions of brands are not anymore influenced only by what the companies communicate, but what other customers have to say about the particular brand as well.

This is a relatively new advancement clinched alongside Bosnia and Herzegovina which is a transitional market full of marketing opportunities for foreign and domestic brands. However, most of domestic brands still do not have online presence and are not able to manage the challenges of the new digital era and its advantages.

In fact, only 35 per cent of consumers in Bosnia and Herzegovina opt for domestic products when doing their shopping, according to a research in 2015 by the agency Global Market Solutions (GMS).

As the values of a brand depend largely on their customers' perceptions, domestic companies need to face the challenges of the digital era and monitor and engage their target audiences on social media platforms.

This article is part of a larger study that aims to fill a gap in the literature with respect to understanding the effects of E-WOM, which is created of firm-created and user-generated communication on social media, towards brand equity and consumers' purchase intention, a topic of relevance as evidenced by many researchers, including Villanueva, Yoo, & Hanssens (2008), Taylor (2013) and many other papers such as Christodoulides, Jevons, & Bonhomme (2012), Smith, Fischer, & Yongjian (2012).

Results of this research will enable domestic brands to learn more about their clients and this work will be an important source of information for marketing managers in terms of planning and developing their strategies. Data was collected through a standardized online survey. The survey included questions assigned to each one of the examined variables and was distributed to active social media users in Bosnia and Herzegovina. A total of 300 usable responds were collected and analyzed. The main objective of this paper was to explore the utilization of Social Media marketing activity of domestic brands in Bosnia and Herzegovina and understand its effects on brand equity and customers' purchase decisions. Another objective of the study was to quantify constructs concerning the current state of customer's perceptions and attitudes towards social media activity of domestic brands and their purchase intention.

This article provides a platform for further research, highlighting business implications and providing recommendations for practical business applications.

2. Literature Review

As defined by the Merriam Webster Dictionary: "Communication is the act or process of using words, sounds, signs, or behaviors to express or exchange information or to express your ideas, thoughts, feelings, etc., to someone else." Therefore, social media communication can be interpreted as the transmission of a message to others, via an online platform.

Social media marketing enables marketers to distribute their messages and content to a broader audience while enabling them to interact directly with their existing and potential customers. In order to do this quickly and cost efficiently brands must understand where their target audience spends their time on social media.

However, besides the firm-created content on social media, Web 2.0 is a term that describes the Internet as a platform whereby content is continuously modified by all internet users in a participatory and collaborative approach (Bernoff & Li, 2011).

Kaplan & Haenlein, 2010 define user-generated content (UGC) as the sum of all ways in which people make use of social media. The term user-generated content is usually applied to describe the various forms of media content that are publicly available and created by Internet users (Kaplan & Haenlein, 2010). Hence Bruhn, Schoenmueller, & Schäfer (2012) and Schivinski & Dabrowski (2013) have used the dimensions of social media communication as firm created content and user generated content.

Word of Mouth is the powerful tool to influence people and also can influence their buying behavior. This can be proved according to (Richins & Root-Shaffer, 1988) who stated that Word of Mouth has been shown to play major role for customers' buying decisions. Hennig-Thurau, Gwinner, Walsh, & Gremler (2004) define online Word of Mouth as being: "Any positive or negative statement made by potential, actual, or former customers about the product or company which is made available to a multitude of people and institutions via the internet". According to Cheung, Chan, & Rabjohn, 2008 more and more consumers use Web 2.0 tools such as online discussion forums, consumer review sites, weblogs, and social network sites to exchange product information. Online Word of Mouth can provide the opportunity to consumers to read other consumers' consumption opinions and experiences as well as write contributions by themselves.

Another key concept, studied by various researchers is the brand equity. It is a marketing asset (Styles & Ambler, 1995) that can produce a relationship that differentiates the bonds between a firm and its public and that nurtures long-term buying behavior. The understanding of brand equity and its growth raises competitive barriers and drives brand wealth (Yoo, Donthu, & Lee, 2000). This research employs (Aaker, 1999) construct of brand equity, defined as a "set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers". According to (Aaker, 1999) brand equity is a multidimensional concept with first four core dimensions as brand awareness, perceived quality, brand associations and brand loyalty.

There are many studies showing the relationship between social media and brand equity like Bruhn et al. (2012), Kim & Ko (2010), Schivinski & Dabrowski (2013) and Christodoulides et al. (2012) etc. Some studies have shown this relationship through electronic word of mouth which is the ultimate result of social media communications like Wolny & Muelller, 2013, Yasin & Zahari, 2011, Murtiasih, Sucherly, & Siringoringo, 2013 etc. Bruhn et al., 2012 have used the term social media communication for social media as it is mainly the communications which take place on social media platforms. Moreover, empirical evidence indicated that brand equity can affect purchase intention in various contexts (Ashill & Sinha, 2004); (Chang & Liu, 2009), but the number of studies which apply Aaker's brand equity model to measure the effect of its dimensions on purchase intention is limited, given that the purchase intention refers to the subjective judgment by the consumers that is reflected after general evaluation to buy products or services (Shao, Julie, & Wagner, 2004).

3. Hypotheses

By using the identified constructs from the literature following hypotheses for the research have been formulated:

H1: There is a significant relationship between E-WOM and Brand equity of domestic brands in Bosnia and Herzegovina

H2: There is a significant relationship between Brand Equity and customers' purchase intention of domestic brands in Bosnia and Herzegovina

Hypotheses that support the main hypotheses are outlined below:

H1a: User-generated social media communication has a significant effect on E-WOM

H1b: Firm-created social media communication has a significant effect on E-WOM

4. Data and Methodology

For conducting this research, with the aim to get a closer insight into customers' purchase intention against social media communication of domestic brands in Bosnia and Herzegovina, independent variables were identified as a result of literature review. Accordingly, the survey consisted of questions that were adapted from previous researches.

Table 1: Review of survey questions

| Construct and Measurement | | Alpha | Reference |
|---|--|-------|--|
| Brand Awareness | I can easily recognize this brand among other competing brands. | 0.93 | Cathy, Haemoon, & (Assaf, 2012) |
| Brand Association | I trust the company who owns this particular brand. | 0.87 | Severi, Choon Ling, & (Nasermoadeli, 2014) |
| Brand Loyalty | This brand would be my first choice. | 0.91 | Uslu, Durmuş, & Kobak (Kolivar, 2013) |
| Perceived Quality | In comparison to alternative brands, the likely quality of this brand is extremely high. | 0.89 | (Uslu et al., 2013) |
| Firm-created social media communication | I am satisfied with the company's social media communications for [brand] | 0.92 | Schivinski and (Dabrowski 2013) |
| | The level of the company's social media communications for [brand] meets my expectations | 0.92 | |
| | The company's social media communications for [brand] are very attractive | 0.93 | |
| | This company's social media communications for [brand] perform well, when compared with the social media communications of other companies | 0.87 | |

| | | | |
|---|---|------|----------------------------------|
| User-generated social media communication | I am satisfied with the content generated on [social media sites by other users about [brand] | 0.90 | Schivinski and) (Dabrowski 2013) |
| | The level of the content generated on social media sites by other users about [brand] meets my expectations | 0.92 | |
| | The content generated by other users about [brand] is very attractive] | 0.82 | |
| | The content generated on social media sites by other users about [brand] performs well, when compared with other brands | 0.86 | |
| E-WOM | When I buy a product, the online reviews on the product are helpful in my decision making | 0.84 | (Mirza & Almana, 2013) |
| | The number of positive product reviews online affects my purchase decision | 0.90 | |
| | The number of negative product reviews online affect my purchase decision | 0.93 | |
| Brand purchase intention | I would buy this product/brand rather than any other brands available | 0.89 | Yoo, Donthu, and) (Lee 2000 |
| | I am willing to recommend that others buy this product/brand | 0.94 | |
| | I intend to purchase this product/brand in the Future | 0.89 | |

The target group of respondents included active social media users in Bosnia and Herzegovina. Social networking statistics show (as of mid-2013) that around 1.5 million social media users exist in the country ("TOP 100 Facebook Brands Social Media Stats from Bosnia and Herzegovina," 2013). The largest age group among social media users is 18-24, followed by 25-34. Even though these statistics apply to Facebook users, it is worthwhile to mention that this social media site is the most used social media network in Bosnia and Herzegovina. Male users slightly dominate female users according to the statistics. A sample of this target group was reached through an online data collection method. Respondents were identified with the snowball sampling method, (Malhotra, 2009) where researchers requested students, teachers, professionals and other people from different walks of life to help.

5. Results and Analysis

Even though 332 responses were submitted, only 300 out of these were used in the analysis. Incomplete questionnaires, as well as the ones where respondents have not become a fan of any domestic brand have been rejected. The sample was a male-dominant one (54.7% were male). The majority of respondents were in the 21-25 age group, (52.7%) followed by 25-30 (36%), below 20 (6.3%), 30-35 (4.3%) and above 35 (0.7%).

Age distribution represents statistics that show that the largest social media user group in Bosnia and Herzegovina is in the 18-30 age group ("TOP 100 Facebook Brands Social Media Stats from Bosnia and Herzegovina," 2013). All respondents were from Bosnia and Herzegovina.

As for the educational background of respondents, 50.3% had a bachelor's degree, 27% had a master's degree, 22.7% had a high school diploma. In these groups, 46% were employed in the private sector, 45.3% were students 3.7% were employeres in the public sector, 2.7% were unemployed and the same percent (2.7%) were self-employed.

The time the sample group spends on social media sites is as follows: 54.3% uses them more than two hours a day, 38.7% one to two hours a day, 6% less than one hour a day and 0.3%, 0.7% one to two hours a week and 0.3% other.

For testing hypotheses of the study linear regression was used.

The table below shows the relationship between Social media communication, calculated as the mean of firm-created and user-generated content and E-WOM, which is highly significant and therefore confirms the supporting hypotheses, H1a and H1b.

Table 2: Relationship between Social media communication and E-WOM

| Coefficients ^a | | | | | |
|---------------------------|--------------------------------|------|------------------------------|--------|------|
| Model B | Unstandardized Coefficients | | Standardized Coefficients | t | .Sig |
| | Std. Error | Beta | | | |
| 1 (Constant) | 2.508 | 210. | | 11.940 | .000 |
| SMC_mean | .409 | .055 | .397 | 7.467 | .000 |

a. Dependent Variable: EWOM_mean

A significant positive relationship among E-WOM and Brand Equity was found as presented in the table below, proving H1.

Table 3: Relationship between E-WOM and Brand Equity

| Coefficients ^a | | | | | |
|---------------------------|--------------------------------|------|------------------------------|--------|------|
| Model B | Unstandardized Coefficients | | Standardized Coefficients | t | .Sig |
| | Std. Error | Beta | | | |
| 1 (Constant) | 2.542 | .178 | | 14.277 | .000 |
| EWOM_mean | .367 | .043 | .441 | 8.483 | .000 |

a. Dependent Variable: BE_mean

Testing the variables further, it was found that there is a strong and significant positive relationship between Brand equity and Purchase intention as well.

Table 3: Relationship between Brand Equity and Purchase Intention

| Model B | Coefficients ^a | | | t | .Sig |
|--------------|----------------------------------|------------|------|------|------|
| | Unstandardized Coeffi- cients | Std. Error | Beta | | |
| 1 (Constant) | 1.728 | | .178 | | .000 |
| BE_mean | .607 | | .044 | .627 | .000 |

a. Dependent Variable: PI_mean

Therefore, we can clearly observe that the social media communication affects Brand equity, through E-WOM, further influencing customers' purchase intentions of domestic brands in Bosnia and Herzegovina.

6. Conclusion

Given the findings above, this research provides important insights about effects of social media communication on brand equity and customers' purchase intentions of domestic brands in Bosnia and Herzegovina.

The limitation of the study is that the sample is relatively small and that it is carried out in the context of Bosnia and Herzegovina only. Accordingly, suggestions for future researches would be based on going more deeply into other dimension affecting consumers' purchase decisions and analyzing larger samples. This article represents a very unique set of information for the domestic brands operating in Bosnia and Herzegovina, who can use this knowledge to build up their online marketing communication in order to reach more consumers who are willing to buy their products. This research empirically proved that social media communication of domestic brands, which creates E-WOM affects brand equity, highly influencing the purchase decisions of their customers.

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IMPACT OF LEASING PERFORMANCE FACTORS ON CUSTOMER SATISFACTION; EMPHASIS ON VB LEASING

Almir Ljeskovica

International Burch University
Bosnia and Herzegovina
almir.ljeskovica@hotmail.com

Merdžana Obralić

International Burch University
Bosnia and Herzegovina
mobralic@ibu.edu.ba

Abstract: Main objective of this study is to identify key Leasing performance factors that influence customer satisfaction in VB Leasing and other leasing companies. On the basis of literature review, eight independent and one dependent variable have been identified, and specific measuring items were developed accordingly. Structured survey was prepared on the basis of mentioned measuring items to measure related variables, and it was used as main instrument in this study. Survey has been sent in online form to clients of VB Leasing via e-mail and social networks. Out of 250 managers who received the survey, 200 respondents completed it which gives response rate of 80%. Responses were analyzed using descriptive statistics in excel, but main methodology was regression analysis using SPSS. The findings indicated that there is a significant positive relationship between Processing Speed (PS), Form Simplicity (FS), Image of Leasing Company (CI), Communication with Company (CC), Annuity Ammount (AA) and Grace Period (GP) on Customer Satisfaction (CS). On the other hand, there is no relationship between Interest Ammount (IA) and Down Payment (DP) with Customer Satisfaction (CS). Research is completed in one company operating in Bosnia and Herzegovina (BH) and it is suggested for future research to do the study considering more companies, to test more different independent variables and do the research in all cantons of Federation of Bosnia and Herzegovina, entity Republic Srpska and District Brčko.

Key words: Leasing, VB Leasing, Performance, Customer Satisfaction

1. Introduction

Lack of domestic literature regarding leasing in Bosnia and Herzegovina, along with increase of importance of this sector as a response to economic crisis and enabling people to access resources more quickly than using regular financial services, a need for researching and writing more about this important issue is evident. Main purpose of this work is to find out what are Leasing performance factors that influence Customer satisfaction in a case of VB Leasing, and to compare the issue of VB Leasing with other companies in BH.

The primary objective of this study is to identify the lesing performance factors that influence Customer Satisfaction in VB Leasing and other Leasing companies in BH. In other words, main objective is to test relationship between Processing Speed (PS), Form Simplicity (FS), Image of Leasing Company (CI), Communication with Company (CC), Annuity Ammount (AA), Grace Period (GP), Interest Ammount (IA) and Down

Payment (DP) on Customer Satisfaction (CS). The secondary objective of this study is to descriptively present difference between customer satisfaction of clients of VB Leasing and those from other companies, as well as difference in the answers of clients regarding different performance factors.

Based on eight variables, measuring items and survey questions were created. Target population was comprised of VB Leasing clients. Response rate of 80% was good enough to generalize data in the level of VB Leasing Company.

Once the results were collected, regression analysis via SPSS has been used to determine the relationships among variables. In the same time, for purpose of conducting descriptive analysis, Excel has been used.

2. Literature Review

2.1. History and Definition of Leasing

There is a lot of information regarding history and development of leasing. "First manifestations of leasing appear 4000 years ago in Mesopotamia and a little later in ancient Greece and Rome. The term of rent (lease) of land or forest etc., complements with the right to repurchase it after the end of renting period, and it even today represents the foundation of concept of financial leasing" (Slobodan Vujić, 2010). Besides Vujić (2010), on the official web page of Central Bank of Bosnia and Herzegovina, it is stated that even before 2000 BC first types of leasing were showing up. Also, Central Bank of Bosnia and Herzegovina (CBBIH) (2016) argues that in ancient Roman law first written explanations of leasing were found.

Also, Vujić (2010) reported that first specialized leasing company in the world was established in United States of America (USA) in 1952. In the Europe, leasing companies show up about ten years after they were established in the USA. "From the economic standpoint, leasing is a special financing technique, which has developed into a relatively powerful economic activity over the past thirty years" (Saša Vujić, Vujić, & Ajanović, 2013).

In BIH leasing starts to emerge by the beginning of new millennium, precisely in 2001 when first company, VB Leasing, is established. After that, other leasing companies start to work as well. Most of the leasing companies are in the ownership of same named banks. Leasing sector in BIH is regulated by two laws, due to complicated governmental structure. CBBIH emphasizes that: "In Bosnia and Herzegovina, leasing is regulated by two laws: 'The Law on Leasing of the Federation of Bosnia and Herzegovina' (FBiH), and 'The Law on Leasing on the Republika Srpska' (RS). Leasing companies are monitored and licensed by the banking agencies of the FBiH and the RS". (Central Bank of Bosnia and Herzegovina, 2016).

At the end of 2015, seven companies had permission to do leasing business in BIH. The youngest leasing company, as it is reported by Agencija za bankarstvo FBiH (2016), is established in the second half of 2015. It is Porsche Leasing d.o.o. Sarajevo. According to supervisory agency for leasing those companies are:

- 1) ASA Aleasing d.o.o. Sarajevo,
- 2) NLB Leasing d.o.o. Sarajevo,
- 3) Porsche Leasing d.o.o. Društvo za poslove lizinga
- 4) Raiffeisen Leasing d.o.o. Sarajevo,

- 5) Sparkasse Leasing d.o.o. Sarajevo,
- 6) UniCredit Leasing d.o.o. Sarajevo
- 7) VB Leasing d.o.o. Sarajevo." (Agencija za bankarstvo FBiH, 2016).

"Leasing is a financial contract that allows the separation of ownership and use of an asset" (Lin, Wang, Chou, & Chueh, 2013). Other sources, such as Central Bank of BIH also provide their definitions of leasing. On official web page of CBBIH it is highlighted that in lease agreement, lessor (leasing company) gives the right to lessee (leasing user) to use an object of a leasing contract in return for monthly payments over agreed period of time. "Leasing service represents financing to user of leasing arrangement in purchasing equipment: production machines of various types and purposes, trucks, cars, buses, IT equipment, machines for construction, agriculture, forestry, etc." (Slobodan Vujić, 2010). Also, Vujić (2010) in his book "Leasing kao savremeni oblik finansiranja" shares his idea about term leasing. He explains it and states that lessee chooses leasing object which is bought by lessor and then cedes it to the lessee on the contractually agreed period of time with certain amount of fee. Furthermore, some other authors also include only two sides in leasing contract which is noticeable from next definition. "A lease is a contractual agreement providing the use but not ownership of a piece of equipment. Two parties involving in the contract are lessor and lessee. The lessor holds the title to the equipment and provides the lessee with the use of equipment, while the lessee uses the equipment for a specific period of time and pays rent to the lessor" (Yan, 2012). There is also short definition found. It says: "Leasing is a contract through which someone uses equipment owned by somebody else. The user pays specific regular amount to the owner" (Deelen, Dupleich, Othieno, & Wakelin, 2003). As the civilization was evolving, new religions were coming with specific rules and laws. In that sense, leasing also has its roots in Islamic law. "Ijarah (leasing) refers to an agreement in a bank (the lessor) leases equipment, a building, or other facilities to a client (the lessee) at an agreed upon rental fee and for a specified duration. Ownership of the equipment remains in the hands of the lessor" (Shanmugam & Zahari, 2009). . From previously mentioned definitions and according to the official web page of CBBIH, we can conclude that participants in lease agreement typically are:

1. Leasing user (lessee),
2. Leasing company (lessor) and
3. Manufacturer or dealer of equipment.

2.2. VB Leasing – Example from Practice

VB Leasing BH is a part of and is under the 100% ownership of VB Leasing Internacional Holding, Vienna. Within the Holding, companies in the VB Leasing are operating in ten countries of Western and Central Europe (Austria, Croatia, Serbia, Hungary, Czech Republic, Slovakia, Poland, Romania, Montenegro, Slovenia). VB Leasing is a leasing company which has been operating in Bosnia and Herzegovina since 2001. VB Leasing BH has headquarter in Sarajevo and operating under the laws of Bosnia and Herzegovina. Also, VB Leasing BH has four branches located in Mostar, Tuzla, Banja Luka and Tešanj. In general, service characteristics of VB Leasing BH are identical to the basic principles of leasing services but with some specificity and giving greater importance to certain services. VB Leasing BH in range of services offers operational and financial leasing. As we saw earlier in this thesis, operational leasing can only be used by legal persons so it is a case with VB Leasing BH as well. Financial leasing is offered to legal and natural persons.

"The basic division of VB Leasing clients is on legal entities and individuals, and within that on clients who lease passenger cars, commercial vehicles and equipment" (Jahić, 2013).

Many services are adapted to market needs and speed are distinct elements which separate VB Leasing BH from other leasing companies in BiH.

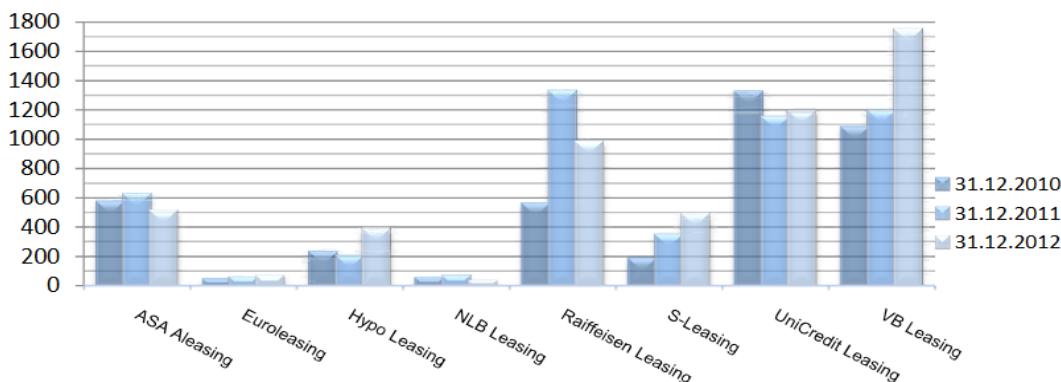
"VB Leasing BH has a transparent, open and fair relationship with clients, a quick and simple administration procedure, and clear offers which make it stand out in the BiH marketplace. Besides the financing of personal vehicles and trucks, VBL also offers financing of construction machines, medical and other equipment as well as all forms of movable property. Flexible offers provide a financial solution adaptable to each clients' needs, and what characterizes VB Leasing in particular is the speed of application processing and financing without guarantors. The young and innovative team from VB Leasing always seeks to offer something new with ever more favorable terms of financing for their clients, trying to recognize the needs of the market while making their product competitive at all times" (VB Leasing, 2010).

For VB Leasing BH it can be said that they are leaders and pioneers in leasing sector in Bosnia and Herzegovina. "VB Leasing implements a differentiation strategy through which seeks to differentiate and separate its offer in comparison to competitors" (Jahić, 2013).

According to Banking Agency of FB&H the number of newly signed contracts in 2012 much increased. Table below shows that grow.

Figure1: Market participation

Graph 3. Market participation based on the number of contracts



Source: (Banking Agency of FB&H, 2013)

Through the years, thanks to support and experience of its owner, Volksbank Leasing International Holding of Vienna, as well as good cooperation between its employees and business partners and clients, VB Leasing has proved itself to be a reliable company with straightforward transparent offers and clear calculations.

VB Leasing BH is also good example of social-responsible company. "From the start, VB Leasing has been the sponsor of many events such as Sarajevo Film Festival, the Car Selection of The Year 2008, the 3rd International Children's Competition for the Sarajevo City Anniversary in 2010, International Conference on Economic and Social Studies 2014 (ICESoS'14), many concerts, cultural events across BiH" (VB Leasing, 2010).

2.3. Scientific Studies about Leasing Performance Factors and Customer Satisfaction

2.3.1. Processing speed

Processing speed refers to time period that is necessary for a leasing company to properly respond to request of client. Delay is an important issue for service providers, and many studies are being done addressing this issue (Bielen & Demoulin, 2007).

Bielen & Demoulin (2007), Davis & Heineke (1998) and Peevers, McInnes, Morton, Matthews, & Jack (2009) are just few out of many researchers investigating issues of speed of service, waiting lines and customer satisfaction.

RQ1: Does processing speed of leasing company have positive impact on customer satisfaction?

2.3.2. Form simplicity

Speaking of simplicity, Jensen (1997) stated that it has nothing to do with "no-brains" but rather with following reasons: business complexity; age of information; making stuff simple is a lot of hard work.

According to Jensen (1997), Jim Shanley, head of NationsBank Management Development stated that simplicity is all about increasing revenue and profitability while ensuring that organization is building the capability to grow, compete and win in the future (Jensen, 1997).

RQ2: Does form simplicity of leasing company have positive impact on customer satisfaction?

2.3.3. Company image

According to Nguyen and Leblanc (1998) corporate image is related to the physical and behavioral attributes of the firm, such are following: business name, architecture, variety of products/services, and to the impression of quality communicated by each person interacting with the firm's clients (Nguyen & Leblanc, 1998).

There are many studies dealing with company image and customer satisfaction such are those of Rahman (2012) and Onyancha (2013). The latter author emphasized that in the competitive banking industry, the impact of bank brand image on the attitudes and behaviors of customers become an important issue. The results of study reveal that bank brand image has positive effects on customer satisfaction and loyalty (Onyancha, 2013).

RQ3: Does image of leasing company have positive impact on customer satisfaction?

2.3.4. Interest amount

According to Cambridge Online Dictionary, interest rate is defined as percent that a bank or other financial company charges clients when they borrow money (Cambridge Dictionary, 2016).

Norman Morris (2013) wrote an article that concluded that declining interest rates are driving improvement in bank customer satisfaction. Just in one year period, due to lower interest rates, customer satisfaction increased from 76.2 percent to 79.0 percent (Morris, 2013).

RQ4: Does interest amount of leasing company have positive impact on customer satisfaction?

2.3.5. Communication with company

Even though there are many different definitions of communications, all of them agree that this is factor that definitely cannot be neglected by modern companies (Barrett, 2006; Vanderberg, Richard, & Eastman, 1999; Bambacas & Patrickson, 2008).

Barret (2006) suggests that communication refers to transmission of meaning from one person to another or many people verbally or non-verbally. On the other hand, very popular view of communication is that it is a process by which information about policies, procedures, finance and customer feedback is conveyed to others in organization (Vanderberg, Richard, & Eastman, 1999).

RQ5: Does communication with leasing company have positive impact on customer satisfaction?

2.3.6. Annuity amount

Annuity amount is defined as Series of payments at fixed intervals, guaranteed for a fixed number of years or the lifetime of one or more individuals (Business Dictionary, 2016).

Interesting study that deals with a customers' satisfaction with annuities in 2014. It has been conducted by Deloitte Center for Financial Services and proved that more than half of respondents were very satisfied with nearly all aspects of their annuity purchase while only few stated that they were dissatisfied (Friedman, Canaan, & Gokhale, 2015).
RQ6: Does annuity amount of leasing company's product have positive impact on customer satisfaction?

2.3.7. Grace period

According to Cambridge Online Dictionary, grade period is extra time in which client is allowed to pay money he/she owe without losing something or paying an additional amount (Cambridge Dictionary, 2016).

According to Murray (2001), results of study indicated that customers are more satisfied with longer grace periods than short ones. Grace period is definitely characterized as significant condition in provision of financial services, and it contributes to customer satisfaction. Murray (2001) stated that grace period is significant in making customers more loyal (Murray, 2001).

Kanyurhi (2011) mentioned grace period as significant part of wider term called "loan conditions" (Kanyurhi , 2011).

RQ7: Does grace period of leasing company's product(s) have positive impact on customer satisfaction?

2.3.8. Down payment (participation amount)

Down payment refers to the difference between the purchase price of a property and the mortgage loan amount. Also called earnest money or front money (Business Dictionary, 2016).

Some consultants recommend clients to use down payments, while some are not. Gregg Fidan (2013) recommended to not put down payments in a case of car lease. His arguments says that in a situation that car is stolen or totaled, there are no ways to compensate that amount to buyer (Fidan, 2013).

Generally, leasing companies tend to offer customers opportunity to buy property without requesting down payment while lease signing. Higher down payments lead to lower monthly payments or interest rate discounts (DMW).

RQ8: Does down payment amount requested by leasing company have positive impact on customer satisfaction?

2.3.9. Customer satisfaction

The customer satisfaction in financial services occupied attention of many researchers. In one not so recent study, it has been concluded that managers in financial services companies are placing increased emphasis on customer satisfaction (Reichheld & Teal, 1996).

The basic argument of focusing to improvement of customer satisfaction is that satisfied customers of a firm decide to stay with the firm for future business (Heskett, Jones, Loveman, Sasser, & Schlesinger, 1994).

Famous scale with high reliability level has been adapted by Walsh and Beatty (2007). Their scale has a purpose to measure customer satisfaction, and comprised of following three questions:

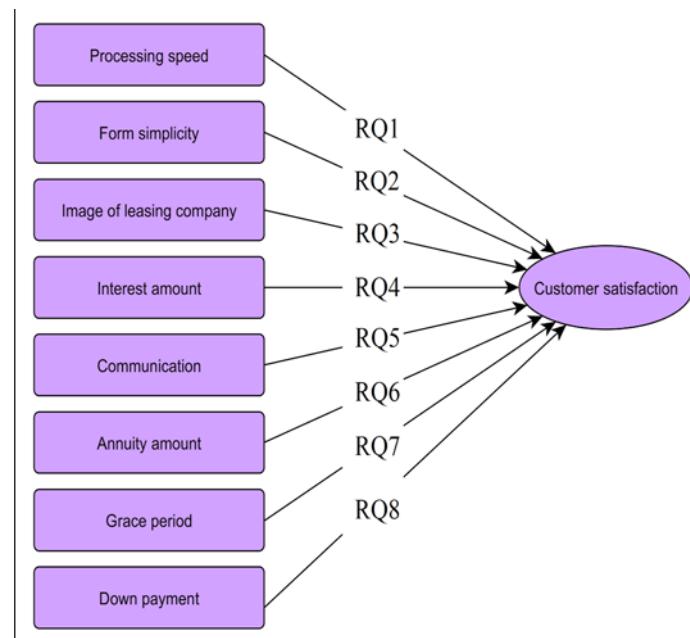
- I am satisfied with the services the company provides to me. (0.88)
- I am satisfied with my overall experience with this company. (0.95)
- As a whole, I am NOT satisfied with this company. (R) (0.51) (Walsh & Beatty, 2007).

As presented, Cronbach alpha value is satisfactory in all questions except the last (reverse question) one which is the main argument for not using this question in our study.

3. Research Methodology

Research model proposed in this study on the basis of previously reviewed literature has been presented in the following figure:

Figure 2: Proposed research model



Main instrument to collect necessary data for this study is structured survey. Instrument has been prepared for this research with purpose to conduct both exploratory comparative analysis of different issues regarding leasing in BH, but also to investigate relationship between different aspects of Leasing performance and Customer Satisfaction.

First part of the structured survey asked respondents if they are legal or individual client.

Legal respondents were then asked about form of their company, company size and leasing object bought via leasing services, while individual clients were asked about marital status, children number and employment status.

Second part of the structured survey addressed questions of types of financing previously bought equipment and number of leasing companies offered by dealer. The purpose of first and second part of the instrument was to collect data that will be used for exploratory part of the study.

Third part of the structured survey was investigating relationship between eight leasing performance factors and customer satisfaction. Independent variables are as follows:

- processing speed
- form simplicity
- image of leasing company
- interest amount
- communication

- annuity amount
- grace period
- down payment

Dependent variable is customer satisfaction. The scale used in the study to measure both dependend and independent variables is five point Likert Scale with following descriptions:

Table 1: Likert scale

| Number | Value | Meaning Assigned |
|--------|--------------------------|---|
| 1 | Strongly disagree | You totally disagree with the statement |
| 2 | Disagree | You believe that statement is not true to some extent |
| 3 | Neutral | You are finding statement as not influential |
| 4 | Agree | You believe that statement is true to some extent |
| 5 | Strongly agree | You are completely agreed with the statement |

All variables are based in the literature, and they are defined, explained and discussed in literature review section. In the following table, summary of variables, survey questions and references regarding third part of structured survey has been presented.

Table 2: Variables

| # | Variables | Survey Statements / Questions | References |
|---|--------------------------|--|--|
| 1 | Processing speed | Processing speed of leasing company is at a high level | (Bielen & Demoulin, 2007) (Davis & Heineke, 1998) Peevers, McInnes, Morton, Matthews, & (Jack, 2009) (Vujić, 2010) |
| 2 | Form simplicity | Form simplicity of leasing company is at a high level | (Jensen, 1997) (Kumbhar, 2011) (Vujić, 2010) |
| 3 | Image of leasing company | Image of leasing company is at a high level | (Nguyen & Leblanc, 1998) (Rahman, 2012) (Onyancha, 2013) (Vujić, 2010) |
| 4 | Interest amount | Interest amount provided by leasing company is very affordable | (Morris, 2013) (Kumbhar, 2011) (Vujić, 2010) |

| | | | |
|---|-----------------------|--|--|
| 5 | Communication | Communication with leasing company is at a high level | (Barrett, 2006) (Vanderberg, Richard, & Eastman, 1999) (Bambacas & Patrickson, 2008) (Kampumure, 2006) (Vujić, 2010) |
| 6 | Annuity amount | Annuity amount provided by leasing company is very affordable | (Friedman, Canaan, & Gokhale, 2015) (Vujić, 2010) |
| 7 | Grace period | Grace period provided by leasing company is very acceptable | (Murray, 2001) (Kanyurhi , 2011) (Vujić, 2010) |
| 8 | Down payment | Down payment provided by leasing company are very affordable | (Fidan, 2013) (Kanyurhi , 2011) (Vujić, 2010) |
| 9 | Customer satisfaction | I am satisfied with the services the company provides to me I am satisfied with my overall experience with this company | (Reichheld & Teal, 1996) Heskett, Jones, Loveman, Sasser, & Schlesinger, 1994 (Walsh & Beatty, 2007) |

3.1. Reliability and Validity of Survey

The main evidence that survey questions used for purpose of this research were valid is fact that no one among respondents complained about the survey questions, and that all survey questions are based on the previously done research.

All respondents clearly understood all survey questions they were asked. There was no any complaint and misunderstanding regarding interview questions.

When it comes to reliability of the survey, reliability test has been performed after collecting the data. Results of reliability test indicated that survey is completely reliable instrument for this study due to fact that Cronbach's Alpha value was 0,947 which is higher than 0,7. Table below is extraction of reliability test completed using SPSS.

Table 3: Reliability statistics

| Reliability Statistics | |
|-------------------------------|------------|
| Cronbach's Alpha | N of Items |
| .947 | 9 |

3.2. Regression Analysis Methodology

Regression, both linear and non linear one is a technique used for the modelling and analysis of numerical data. Regression can be used for prediction (including forecasting of time-series data), inference, hypothesis testing, and modelling of causal relationships (MacDonald, S. & Headlam, N., 2015).

Very useful source of information that helped to understand and do the regression analysis is a book entitled „Applied Regression Analysis: A Research Tool“ written by John O. Rawlings, Sastry G. Pantula and David A. Dickey (1998). The book covers review of simple regression in algebraic notation, an introduction to key matrix operations and the geometry of vectors, review of ordinary least squares in matrix notation, provides foundation for the testing of hypothesis and doing analysis of variance and many more.

This methodology will be used to identify relationships between independent and dependent variables as well as to measure the character of the relationship (positive / negative). Once this is completed, it will be clear which relationships are accepted and which ones are going to be rejected.

4. Data Analysis and Discussion

There were totally 200 responses and surveys that were taken into consideration. Out of those 200, 86 were legal persons users of leasing and 114 were natural persons users of leasing services. As the main purpose is finding relationship between eight independent variables, which are leasing performance factors, with one dependent variable, customer satisfaction, results will be presented from regression analysis method.

Before starting with the process of regression analysis, it is important to remind that following research questions were defined in table below:

Table 4: Research questions

| REVIEW OF RESEARCH QUESTIONS TO BE ADRESSED IN THE STUDY |
|---|
| RQ1: Does processing speed of leasing company have positive impact on customer satisfaction? |
| RQ2: Does form simplicity of leasing company have positive impact on customer satisfaction? |
| RQ3: Does image of leasing company have positive impact on customer satisfaction? |
| RQ4: Does interest amount of leasing company have positive impact on customer satisfaction? |
| RQ5: Does communication with leasing company have positive impact on customer satisfaction? |
| RQ6: Does annuity amount of leasing company's product have positive impact on customer satisfaction? |
| RQ7: Does grace period of leasing company's product(s) have positive impact on customer satisfaction? |
| RQ8: Does down payment amount requested by leasing company have positive impact on customer satisfaction? |

For purpose of doing regression analysis, SPSS Statistics 18 software has been used. Data collected via online survey has been saved in Excel sheet, and values of all variables were calculated and imported to SPSS.

Linear regression has been used to analyse the relationships between dependent and independent variables. Once the analysis was completed, following results appeared in the output report of SPSS.

Reliability test has been conducted before full regression was done. Finding of reliability test has been presented in table below.

Table 5: Reliability statistics

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .947 | 9 |

Cronbach Alpha value of 0.947 indicated that instrument used is fully reliable for making conclusions out of the data analysis.

Table 6: Model summary

Model Summary^b

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|------------|---|--------------------|-------------------|----------------------------|
| dimension0 | 1 | 950 ^a . | 902. | 898. |

a. Predictors: (Constant), PA, CC, CI, GP, PS, AA, FS, IA

b. Dependent Variable: ALLCS

When it comes to model analysis, after calculations of SPSS, R Squared value of 0.898 indicated that the model describes 89.8% of the variance in dependent variable which is acceptable result for this study.

Accordingly, Std. Error of the Estimate is 0.984 which is again acceptable level meaning that there are still few variables that could describe remaining variance in dependent variable (See Table __). This could be perceived as a limitation of this study and suggestion for all future researchers to consider more variables in order to have even higher R Squared value and lower Std. Error of the Estimate.

When it comes to relevance of the proposed model considering its hypothesis, significance level alpha under ANOVA section, of the SPSS report indicated value of 0,000. Since significance level is below 0.05, this means that proposed model is accepted as relevant, and that remaining part of regression report can be used (see Table below).

Table 7: Anova**ANOVA^b**

| Model | Sum of Squares | df | Mean Square | F | .Sig |
|--------------|----------------|-----|-------------|---------|-------------------|
| 1 Regression | 68.950 | 8 | 8.619 | 218.914 | .000 ^a |
| Residual | 7.520 | 191 | .039 | | |
| Total | 76.470 | 199 | | | |

a. Predictors: (Constant), PA, CC, CI, GP, PS, AA, FS, IA

b. Dependent Variable: ALLCS

One more operation performed within regression was correlations testing among variables. Report on correlations is presented below in table below. According to the results of correlations analysis in SPSS, there are two significant correlations among four variables.

Before explaining the correlations, it is important to state that all correlations are positive ones, which means that by increasing value of one variable, increase in value of another one will occur.

With the value of 0.876 the highest correlation is between independent variable Annuity Amount (AA) and dependent one Customer Satisfaction of all clients (ALLCS). Another significant correlation is between independent variable Company Image (CI) and dependent one Form Simplicity (FS). The correlation level is 0.874. All other correlations are presented in table below.

Table 8: Correlations

| | | Correlations | | | | | |
|---------------------|-------|--------------|-------|-------|-------|-------|--|
| Pearson Correlation | ALLCS | PC | FS | CI | IA | CC | |
| ALLCS | 1.000 | .824 | .866 | .868 | .872 | .782 | |
| PS | .824 | 1.000 | .819 | .761 | .832 | .745 | |
| FS | .866 | .819 | 1.000 | .874 | .815 | .810 | |
| CI | .868 | .761 | .874 | 1.000 | .849 | .772 | |
| IA | .872 | .832 | .815 | .849 | 1.000 | .672 | |
| CC | .782 | .745 | .810 | .772 | .672 | 1.000 | |
| AA | .876 | .737 | .811 | .851 | .838 | .735 | |
| GP | .722 | .606 | .583 | .538 | .730 | .420 | |
| PA | .870 | .818 | .863 | .772 | .881 | .746 | |

When it comes to coefficients, beta values, t values, significance level alpha values and collinearity statistics, following table below reports all mentioned.

Table 9: CoefficientsCoefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B | | Collinearity Statistics | |
|--------------|-----------------------------|------------|---------------------------|--------|------|---------------------------------|-------------|-------------------------|--------|
| | B | Std. Error | | | | Lower Bound | Upper Bound | Tolerance | VIF |
| | | | Beta | | | | | | |
| 1 (Constant) | .256 | .184 | | 1.393 | .165 | -.107 | .619 | | |
| PS | .099 | .040 | .120 | 2.500 | .013 | .021 | .177 | .223 | 4.490 |
| FS | .104 | .048 | .142 | 2.176 | .031 | .010 | .198 | .121 | 8.235 |
| CI | .146 | .052 | .181 | 2.825 | .005 | .044 | .248 | .126 | 7.932 |
| IA | .048 | .051 | .065 | .955 | .341 | -.051 | .148 | .111 | 9.028 |
| CC | .205 | .055 | .169 | 3.715 | .000 | .096 | .314 | .248 | 4.038 |
| AA | .206 | .040 | .262 | 5.183 | .000 | .127 | .284 | .201 | 4.963 |
| GP | .115 | .018 | .283 | 6.502 | .000 | .080 | .150 | .271 | 3.692 |
| PA | -.055 | .038 | -.115 | -1.451 | .148 | -.129 | .020 | .081 | 12.309 |

a. Dependent Variable: ALLCS

From table presented above, considering values of significance level alpha, the conclusions about acceptance and rejection of hypothesis will be prepared. Before doing any conclusion, it is important to bear in mind that Confidence interval for this study is 95.0 % which means that all significance level alpha values lower than 0.5 will lead to acceptance of hypothesis.

5. Conclusion

After data analysis, we can conclude that there is relationship between most of the tested leasing performance factors. Table below summarizes all research questions, leasing performance factors and their relationship with customer satisfaction.

Table 10: Research questions

| Research Questions | Sig. Level Alpha | Existence Of Relationship |
|--|------------------|---------------------------|
| RQ1: Does processing speed of leasing company have positive impact on customer satisfaction? | 0.013 | YES |
| RQ2: Does form simplicity of leasing company have positive impact on customer satisfaction? | 0.031 | YES |
| RQ3: Does image of leasing company have positive impact on customer satisfaction? | 0.005 | YES |
| RQ4: Does interest amount of leasing company have positive impact on customer satisfaction? | 0.341 | NO |
| RQ5: Does communication with leasing company have positive impact on customer satisfaction? | 0.000 | YES |
| RQ6: Does annuity amount of leasing company's product have positive impact on customer satisfaction? | 0.000 | YES |

| | | |
|---|-------|-----|
| RQ7: Does grace period of leasing company's product(s) have positive impact on customer satisfaction? | 0.000 | YES |
| RQ8: Does down payment amount requested by leasing company have positive impact on customer satisfaction? | 0.148 | NO |

While processing speed, form simplicity, image of leasing company, communication with leasing company, annuity amount and grace period have positive impact on customer satisfaction, interest amount and down payment amount have no impact on customer satisfaction.

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ENTERPRISE RESOURCE PLANNING SYSTEM IMPLEMENTATION: CRITICAL SUCCESS FACTORS THAT AFFECT ERP IMPLEMENTATION IN BOSNIA AND HERZEGOVINA

Senida Vatreš

International Burch University
Bosnia and Herzegovina
senida05@hotmail.com

Abstract: Enterprise Resource Planning (ERP), is the new generation theme in business, every company need a successful ERP system, but mostly of company that want to implement ERP have many problem, financial and managerial.

This paper tend to analyze which critical success factors affect the ERP implementation in Bosnia and Herzegovina, because unfortunately in this country, there is a lack in information about ERP implementation and many firms have big problem during approaching the new system, and fail in their intents.

Many researchers in developed country, have brought their conclusion about which factors are most affecting ERP implementation, and through their studies it will be much easier to determine what affect ERP implementation in Bosnia and Herzegovina, are the same problem affecting the implementation like in developed country or there are different problems and factors that cause unsuccessful usage of ERP system in companies, and how firms can easily and successful use ERP systems in this country.

Keywords: Enterprise Resource Planning system, Critical Success Factors, successful implementation.

JEL classification: M1, M11, M15, P41.

Introduction

Enterprise Resource Planning (ERP), is the new generation theme in business. Every company need a successful ERP system, but mostly of company that want to implement ERP have many problem, financial and managerial.

Now a days managers want to know every movement in their company just clicking on their computers, laptops or smart phones, in every moment of the day, they want to control the resources which enter and come out from the manufacturing process, knowing their suppliers, prices, quantity, and quality and of course who is their final customer which uses their products or services. But the problem is: how to reach successfully this "knowing everything" in the company?

Because of too much interest in this field, researchers in enterprise information systems want to make the new theoretical and practical approaches to ERP, and now a days there are so many literature, that try to describe ERP in deep and how to approach ERP and successfully implement the system in companies in every country.

Unfortunately in Bosnia and Herzegovina, because of lack in information about ERP implementation, many firms have big problem during approaching the new system,

and fail in their intents. So, writing about, and analyzing the subject referred to the situation in Bosnia and Herzegovina, it tends to have an insight what can bring easement to managers and company, knowing a little more about something that is useful to be efficient and effective. Managers knowing what are the problems which can have during ERP implementation, and knowing what can affect their successful ERP implementation, they can prepare their action before initializing the first step of implementation, they can be ready to take the risks that can bring the using of the system, and successfully manage everything to get benefits from it.

Many researchers have brought their conclusion about which factors are affecting ERP implementation and which problems they have.

This paper is a combination of a literature review, that is an important part of the study considering the fact it provides us with solid theoretical background of this topic, and a scientific research done in three Bosnian company, which they differ in type of their business and organization.

They use different ERP systems, and they are very stable and successful in their work for a long term. It was analyzed what bring them to have a successful usage of their ERP systems, how they implement it and which difficulties they had during the implementation.

All collected information are obtained in different ways through a questionnaire identical for all respondents; one was an interview face to face, one was a correspondence by e-mails and, the last one, a deputy of the company attended to a presentation, organized by some students, where he explained the ERP implementation in their firm. Because of ethical issue in the paper the three companies' names will not be known, and they will be named each with a letter of alphabet "A", "B", and "C" company.

The study includes a few sections starting with this introduction, it provides a literature review, next section is about the research methodology. Then the results are presented, findings are discussed and finally recommendation, limitations and conclusions.

Literature review

An ERP software system is a complex information technology-based suite of programs or modules that allow an organization to collect, manage, and retrieve data from within nearly any part of the company. This set of modules integrates with the organizations sales, supply chain, customer relationships, and financials. The software essentially becomes integrated with the entire business operation and allows managers and leadership to access and review data that is vital to day-to-day decision making. Implementation of this software is one of the keys to determining overall success within the organization. (Mullins, 2013)

It facilitates a corporation to manage the efficient and effective use of resources (materials, human resources, finance, etc.) by providing a total integrated solution for the organization's information-processing requests, through a process-oriented view consistent across the company. (Shahin Dezzar, Ainin Sulaiman , 2009) The benefits associated with ERP systems are both tangible and intangible, and could be reflected in operational, managerial, strategic, infrastructural, and organizational dimension of a business.

When implemented successfully, ERP system can reduce cycle time, enable faster business transactions, facilitate better management, and enable e-commerce integration. However, the successful implementation of ERP systems has proven to be a difficult task. In one estimate, over half of ERP implementations are judge to be failures. (Neil A. Morton, Qing Hu, 2008)

It is a big investment that cost approximately, for a medium-sized company, according to the internet page of ERP Software Blog, in range between \$175,000 to \$ 750,000, including total software and service. (Kaupp, 2016)

Depending on different factors (financial, size of company, business nature etc.) companies decide to purchase the ERP software that match the best to them. Is possible to have information about the best, the popular or the most purchase software clicking on some internet sites, for example, according to ERP software 360 (Top 5 Client/Server ERP software Application, 2016) internet site, the five most popular ERP systems in 2016 are:

1. Epicor
2. Infor
3. Microsoft Dynamics
4. Oracle
5. SAP

The five best ERP system in 2016 according to the Capterra site (Top ERP software Products, 2016) are:

1. SAP ERP
2. M1
3. Passport Business Solution
4. VIENNA Advantage ERP/CRM
5. One Soft Connect

What is crucial for a successful ERP implementation are the critical success factors (CSFs) which affect it.

Joseph Bradly, in his research paper, selected ten critical success factors in ERP implementation based on tree criteria that dictate a successful implementation, that are: organizational improvement, on time and on budget; and divided in to three group: successful factors, factors that did not differentiate between success and failure and factors that are not required for the success of the projects. Observed successful factors are:

1. Project manager: Choosing the right full time project manager, with successful project management, business sand ERP experience behind can be central to project success. He don't need monetary or non-monetary rewards, but he just need a personal sense of accomplishment and recognition of performance.
2. Training: is regarded as important. Train stuff and spending resources on training result as a success factor.
3. Champion: is any individual who made a decisive contribution to the innovation by actively and enthusiastically promoting its progress through critical stages in order to obtain resources and/or active support from top management (Jose Manuel Esteves, Joan A. Pastor Collado, 2002); the use of a champion, in projects has a significant role in projects success.

Factors that did not differentiate between success and failure:

1. Consultants
2. Role of management in reducing user resistance
3. Steering committee

Factors that are not required for the success of the projects:

1. Integration of business planning and IT planning
2. Reporting level of project manager
3. Participation of the CEO or general manager (Bradley, 2008)

In literature is mention that there are many critical success factors that affect directly or indirectly the ERP implementations; according to Dezzar and Ainin (2009) in total 17 CSFs were identified, which is then categorized into five main categories.

1. Organization
2. ERP Project
3. ERP User
4. ERP Technology
5. External Expertise

| No. CSFs |
|--|
| 1 Top management support and commitment |
| 2 Project management and evaluation |
| 3 Business process reengineering and minimum customization |
| 4 ERP team composition, competence, and compensation |
| 5 Change management programme |
| 6 User training and education |
| 7 Business plan and vision |
| 8 Enterprise-wide communication and cooperation |
| 9 Organizational culture |
| 10 Vendor support |
| 11 Software analysis, testing, and troubleshooting |
| 12 Project champion |
| 13 Careful selection of ERP software |
| 14 Use of consultant |
| 15 Appropriate business and IT legacy systems |
| 16 System quality |
| 17 User involvement |

Table 1: Critical Success Factors found in literature

Ke and Wei (2008) explain in their work that, leadership affects ERP implementation by fostering the desired organizational culture. Contend that ERP implementation success is positively related with organizational culture along the dimensions of learning and development, participative decision making, power sharing, support and collaboration, and tolerance for risk and conflicts. In addition, are identified the strategic and tactical actions that the top management can take to influence organizational culture and foster a cultural conducive to ERP implementation. ERP systems have strategic relevance because their integration into core business process or strategies can directly impact firms' performance. One study estimates that between 1.5% and 6% of firms' annual revenues are spent on ERP implementation. But only 10 to 15% survive and achieve expected performance improvement. The fit between the information system and organizational culture is critical for firms to reap potential benefits promised by the system. When the system conflicts with an organization's culture, resistance behavior will result: the system will be rejected, sabotaged or modified to match the existing culture. On the other hand, there are opinions that suggest that culture can be consciously designed and manipulated by leadership.

The two authors (Weiling Ke, Kwok Kee Wei, 2008) defined the relationships between the three terms are explained by prepositions.

ERP implementation and organization's culture:

1. ERP implementation success is positively related with the organization's learning and development culture.
2. ERP implementation success is positively related with the organization's participative decision-making culture.
3. ERP implementation success is positively related with the organization's power sharing culture.
4. ERP implementation success is positively related with the organization's collegial support and collaboration.
5. ERP implementation success is positively related with the organization's tolerance for conflicts and risk.

ERP and leadership:

1. Top management's transform vision of ERP is positively related to ERP implementation success.
2. Top management's transform vision of ERP adoption is positively related to an organizational culture of high tolerance for risk.
3. Top management's active advocacy of ERP adoption is positively related to a culture of learning and development, support and collaboration, and power sharing.
4. Top management's participation in the ERP learning session is positively related to a culture of participative decision making.
5. Top management's citizenship behavior is related to a culture of tolerance for conflicts.
6. Top management's power sharing behavior is positively related to a culture of power sharing.
7. Top management's sharing and inquisitive behavior is positively related to a culture that values knowledge sharing and learning.
8. Top management's setting up a learning structure is positively related to a culture of comprehensive and cross-functional communication.
9. Top management's dispensing appropriate contingent rewards is positively related to a culture of learning and development, risk taking, and support and collaboration.

In their paper they assume that there are some limitations. not supported by empirical data and tests, which are focusing just on the influence of the top management team and ignore peers' influence and social influence, followers' characteristics, which may interact with leadership 's influence on organizational culture in ERP adoption, national culture. (Weiling Ke, Kwok Kee Wei, 2008)

One other factor is the organization size that can be defined in two ways: by number of employees or by revenues. Companies of different sizes approach ERP implementations differently across a range of issues. Also, the benefits differ by company size. Larger companies report improvements in financial measures whereas smaller companies report better performance in manufacturing and logistics. (Vincent A. Mabert, Ashok Soni, M. A. Venkataraman, 2003)

Companies of different sizes tended to do different things in their implementations. In particular, there were distinct differences between small and large companies over a range of issues. These differences included:

1. The motivation to go with an ERP system.
2. The different systems adopted.
3. The implementation strategies.
4. The degree of reengineering and customization of the base system. (2003)

One key difference is that companies of different sizes tend to do different things in their implementations across a range of issues this is mentioned in the article of V.Mabert et al. (2003),. For example, smaller companies are more likely to change their processes to fit the system whereas larger companies are more likely to customize the system. Any changes to the system can have major implications. Generally, modifications lead to higher costs, longer implementation time and more complicated implementations. Other differences across smaller and larger include the motivation to go with an ERP system, the implementation strategies, type of systems adopted, the extent of modifications to the base system, and the benefits the companies get from ERP. (Vincent A. Mabert, Ashok Soni, M. A. Venkataraman, 2003)

Authors N. Morton and Q.Hu (2008) identify using structural contingency theory that, a critical determinant of an information system's success within an organization is the "fit" between the design of the system and the organization.

Accordingly, the internal structure of an ERP system is not necessarily aligned with the implementing organization's existing structure. However, because of the promising strategic and operational benefits that may occur after the implementation of an ERP system, an organization's top management is often tempted to adopt ERP without understanding the consequences of a potential misfit between the system and the organization.

"Contingency" is any variable that moderates the effect of an organizational characteristic on organizational performance, the contingency theory include efficiency, profitability, and worker satisfaction, size, environment, and technology.

Applying the structural contingency theory in the context of ERP implementation, it is possible to see that ERP systems possess characteristics that relate to the task uncertainty and task interdependence contingencies, as well as to the structural dimensions of formalization, structural differentiation and decentralization. Low-levels of business integration and relatively non-standardized work process will encounter high resistance in ERP implementation, like organization that use already a cross-functional structure. Political conflicts and IT projects result as critical success factors in ERP implementation too. The greater the change the system imposes, the greater the resistance; the less chance for implementation success. Organizations implementing ERP must consider the fit with their structure, the consequences of changing their business process, and the potential resistance from within. Such organizations must recognize that the implementation of ERP systems is likely to induce conflicts within their organizations and consequently impose difficulties and even result in failure in the implementation process if an initial misfit exists. Managers must be able to determine if a proposed ERP system is good fit with their organizational structure, or if it may only be a good fit with certain parts of the organization, or if significant customization and process redesigning or reengineering will be required. (Neil A. Morton, Qing Hu, 2008)

Livermore and Rippa (2011) collected the most influential factors in ERP implementation into two categories: Internal and External. Internal variables included (1) Organizational culture, (2) Leadership, (3) Communication, (4) Company size, and (5) Company history while external variables consists of (1) National culture, (2) Industry, (3) Economic conditions, and (4) Political conditions.

Maditinos et al. (2011), in their work, observed that consultancy service during the ERP implementation process is essential; knowledge transfer significantly influence ERP system success; knowledge transfer is more important than effective communication, and resolution among organizational members; top management support is found to be less important users support.

In low income countries, there may be various barriers such as bureaucracy, poor technology infrastructure, and lack of consultancy firms in order to plan, develop and implement an Enterprise Resource Planning project. (Özlen, 2012)

Özlen in his paper mentioned Dimitrijević and Rodić survey from 2011, with which explained the difficult to have and therefore give information about the situation of SMEs in Bosnia and Herzegovina. They signified the problem of unarranged statistics on SME sector in Bosnia and Herzegovina. They also reported that data about SME sector cannot be achieved on EUROSTAT, OECD databases, European Innovation Scoreboard or other statistical databases. Furthermore, they stressed on the importance of Adjustment of statistical system for monitoring of SME sector and its performances for Bosnia and Herzegovina in order to define a better policy making for SMEs in general. MAPEER SME reports that there is also no specific data available for defined sectors of ICT and Environmental technologies.

The empirical findings in Özlen's research, showed that the BiH scene does not present a satisfactory result. There is a need for qualified staff to run ERP-like systems through BiH SMEs. Even the awareness of ERP is not reasonable. Additionally, it is observed that there is not enough number of organizations in BiH to conduct the survey. However, the majority of available companies resist filling out the survey. Furthermore, many organizations among the surveyed SMEs do not want to be in a further research and some of them do not want to get the results of the survey even they have completed the survey. On the other hand, there are some managers who are interested on ERP and other types of high technologies. (Özlen, 2012) „Despite, BiH high-technology enterprises feel the force of outside competitive environment in order to implement ERP; they don't feel political support. Hence, it is necessary for them to inform government about the issue or make strategic decisions in order to overcome this problem. Secondly, this study observed that the enterprises have motivated to implement ERP-like projects and feel the organizational strength to start the implementation. But, they cannot find proper consultation firms in order to adapt the projects to the organizations. Moreover, the surveyed organizations are aware of the possible advantages, disadvantages, difficulties and critical success factors of ERP implementation. Finally, the organizations seemed not to outsource ERP implementation but instead to develop in-house.“ (Özlen, 2012)

In this literature review it is visible that most of them are just theoretical expositions because of lack in empirical research. Second fact that is Critical Success Factors cannot be used just to see the success of an ERP implementation during and after the process but they can be used just before the decision to implement an ERP system in an organization. An organization can make an analysis of internal and external threats and opportunities regarding this factors, using the findings and frameworks presented

in the study like a guide (Bradley, 2008). And because of this fact the only problem, that can be, about ERP implementation, is the differences between organizations in different countries, like it said Asian organization differs from North American and European organizations, that means some critical success factors may differ from country to country and this means new research about critical success factors in different country can be made.

Research methodology and objectives

For this survey it was decided to conduct a primary research and focus on gathering enough information from three respondents. The chosen respondents are three Bosnian company, which they differ in type of their business and organization. They use different ERP systems, and they are very stable and successful in their work for a long term.

Since qualitative research proposes use of hypotheses - generating rather than hypotheses - testing research, it was able to start the research study without having to test these hypotheses and to develop them by listening what our respondents have said.

The main objective in the research is to find out which factors affect ERP implementation in Bosnian companies and, to find this is necessary ask some main questions, that are:

1. "What bring them to purchase an ERP system?"
2. "Which difficulties they had during implementation?"
3. "What bring them to have a successful usage of their ERP system?"

All collected information are obtained in different ways of answering to an identical questionnaire of 30 questions for all respondents; one was an interview face to face, one was a correspondence by e-mails and, the last one, a deputy of the company attended to a presentation, organized by some students, where he explained the ERP implementation in their firm.

Because of ethical issue in the paper the three companies' names will not be known, and they will be named each with a letter of alphabet "A", "B", and "C" company.

The companies, how it is mentioned before, are stable and successful company, they were chosen because of their success in manage and implement an ERP system. And hopefully the findings of this research could help other companies with difficulties in implementing ERP systems in their own.

The reason why ware chosen three different types of companies, with different organizational culture, is because it was necessary to show how a totally domestic big private company differ from a public company and this two differ from a big multinational private company that operates on almost entire Balkans. One more reason is because it is necessary to show that there are successful company that work hard to be first in what they are doing, and to show that "not everything is black as it is thoughts".

Results

Company "A" - The totally domestic big private company - It has around 3000 employees, begin with a small retail and wholesale company that begin his "first step to be big" with acquisitioning another company, and acquisition remain their strategy to conquest market share through years.

Management, after some conflicts about adopting the idea of an ERP system, finally decide to change their existing IT solution for controlling the activities in their company, that become increasingly bigger through years, with Microsoft Dynamics Nav ERP system that is used as a roll out for all the acquired firms-.

They purchase it for about 200.000,00 KM, the decision was a strategic action taken because of financial and organizational aspects. The IT solution that they had before was a good option in the beginning but later became heft and, errors just became too expensive.

The ERP system has almost every function, except the logistic and warehouse because of physical problems.

The problems that they had during the implementation was adaptation to the new ERP system and customization, integration of every department, data cleansing from the seminal system that they had, work on current activities during the preparation phase, unregulated activities process, unrealistic expectations.

Positive aspects of the ERP implementation are: organization as a whole, elimination of dabble data, supports the integrated growth of the company and all its parts, indirect benefits to customers, decreasing costs and time.

Because of the total support, during the implementation process, from the owner of the company and from the top management, which have a good knowledge about ERP systems, they could successfully implement Microsoft Dynamics Nav.

Company "B" – The public company – Is a medium size enterprise, financed with state budget mostly.

In 2004 after the committee chose between three ERP offers, they begin to use, for financial purpose, one ERP system named "Times" that a Croatian firm custom made for them and, which they purchase for about 25.000,00 KM, in that time was the cheapest offer that they had. In 2010 after the same process of choosing between three ERP systems, they purchase another system named "Burial", the same custom made from a domestic company, this one was just for customer relationships.

They didn't had too much problems with the system "Times", just little problems during inserting some data, but not relevant because they could manage it, and they had problem with server because many times shut down.

They had problem with "Burial" because of the data of the customers, factors like changes in demography, migration of the population during and after the war in Bosnia and Hercegovina, natural selection of the payers and handwrite database had a big effect on the implementation. They have problems with technical support, because first full the company that made them the system, closed down and a person which worked on the implementation project, give them technical support but is not

in the country anymore, the company have to pay very high prices for servicing the ERP system.

The positive affect of the ERP system implementation are: promptness, good records and relief for the customer.

A good company organization, a good data base and the software itself are the success factors that affect a successful ERP implementation in this company.

Company "C" - *big multinational private company that operates on almost entire Balkans* – The number of employees of the company in Bosnia and Hercegovina is unknown, because the collected answers were given from an employee from Belgrade that work especially on the implementation of the ERP system in the company that use the roll-out method of implementation through all the companies in Bosnia and Herzegovina and in other Balkans countries.

In this company they use SAP ERP system ECC 6.0, the person which give the answers didn't know the exactly price of the system, but he can tell that is a big investment.

The decision of implementing this ERP system was a strategic decision in front of entire business group. On the proposal of the IT sector, company management has decided to implement a serious ERP solution to enable fast and efficient development of the business system to accompany the dynamic growth of the companies within the group. They implement in all spheres of the business.

In the case of rollout are avoided the classic problems of development functionality, so they challenge the implementation of any adjustment structure and „purity „of data from the old system to the new SAP structure. They just had some difficulties with CRM that includes user's data (mother data, services, equipment ...) that it had to be adapted to the new needs of the SAP system. The solution speeds up the application of information tools

The positive thing about SAP ERP system is that delivers the automation of business processes, their control and feedback, ensures the integrity of the business system, which ensures that the data for export from any part of the business system is immediately and unconditionally available to authorized users of other parts of the business system. A particular benefit of implementation of the SAP ERP system is the safety and security of data for export business system.

The decision and the support of the management in project implementation, the "young" employee structure that has no resistance to information technology and the support staff from companies that are already using the SAP solution are the success factors that affect an excellent ERP implementation in the company.

Discussion

Looking at the literature review and comparing the theoretical findings with the research's findings, is possible to conclude that:

The similarities in all three case are that management had a very important part in successfully implement the chosen ERP systems, giving support in all phases of the implementation and in bringing good decisions. Than the problem which the three company had, was the problem with the data cleansing.

Is possible to see that being a public or private company does not interfere a lot in having a successful implementation, it just decide which ERP system a company can afford because of budget restriction that the state can give.

Another fact is that a custom made ERP system that is sell from a small company can work efficiently like the ones from a famous company like SAP, maybe the only difference in using a custom made system than a standard one is in the organization size and the problem with the technical support.

It is obvious that, depending of the nature of the business, internal and external factors can affect the implementation.

It can be said that the problem for company "A" were mostly organizational because of their business strategy of acquiring other companies.

For company "B" were financial problem because, of the budget restriction. We find sociodemographic problems, but this type are just referred to the nature of the business.

In the "C" company is possible to comment that maybe because of the roll-out methodology of implementation they don't have strategical, organizational neither cultural problem, just technical about data cleansing.

In the result part is not mentioned that all three company during implementation had training periods where the final users are educated and trained to use ERP systems in the best way. It is important that education and implementation trainings are regularly held especially when new innovation for the systems are offered to increase the functionality and efficiency of the system that make the company effective and efficient too.

All three company comment that ERP system is just a tool, and is just to help employees to be efficient and effective.

Conclusion

This study provide just a small piece of new finding about successful ERP system implementation referred to the Bosnian market. How it said in the introduction part is a unexplored field in Bosnia and Herzegovina. More research have to be done to have a clearly picture of the situation in this country. In this work are used just three success companies, but is just a small generalization that has been done to find out what affect ERP implementation.

More education has to be given to the students, entrepreneurs, investors and companies as well and to accomplish this is necessary to have more information. This is possible to figure out if the country's policy join and allow the analysis and researches, because without a clear picture of the situation in the country and without adequate data, investors will bypass this region that has a lot of opportunities.

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BEHAVIORAL FINANCE PERSPECTIVE ON MANAGERIAL DECISION MAKING UNDER RISK IN COMMERCIAL BANKS

Amra Halaba

International Burch University
Bosnia and Herzegovina
amrahalaba@yahoo.com

Ali Coşkun

International Burch University
Bosnia and Herzegovina
ali.coskun@ibu.edu.ba

Abstract: Decision making is the most important and the most difficult task that managers perform. On the other side they are most of the time confronted with risk and uncertainty, especially in banking industry. Objective of this study is to examine how managers of commercial banks performs this task, by putting it in the perspective of the newest findings from Behavioral finance field. Behavioral finance is based on premise that decision makers behave less than fully rational. Due to their deeply rooted human nature managers are prone to make decisions based on subjective evaluation of available options, relative to certain reference point and to current state of wealth, and also according to their personal interests which may contradict banks', industry's and social welfare's. Specifically, this study explores role of heuristics, biases and intuition in decision making, through concise review of existing literature. Importance of the study is in a fact that commercial banks are simultaneously the most important industry for country's economic development and stability and the most submissive industry to the risk. Owing to systematic nature of risk generally in financial markets, any irregularity in one country's banking industry will eventually reflect on other countries and is able to make ground for crisis. Study will contribute to better understanding of managerial perception of risk and their behavior under risk, which is primarily useful for architects of banks' corporate governance and banks' regulative. As we will see, setting identical option in two different frames leads to different decisions, this opens up possibilities to construct an environment in such a manner that decision makers are naturally led to make decisions that are in the best interest of all stakeholders involved.

Keywords: Behavioral Finance, Decision Making, Risk in Banking, Commercial Banking

1. Introduction

While literature is overwhelmed with analysis of risk taking behavior by managers in commercial banking, which mainly look at relationship between risk and some other significant variables such as size or ownership structure (García-Marco & Robles-Fernández, 2008) there lacks analysis that takes into consideration factors of managers' behavior – acting individually and in groups.

Mainstream economists argue that economic agents are rational utility maximizers who hold constant preferences and all together create efficient markets. However, such postulate is invalid, since irrationality of economic agents was recognized a long time ago, even by Adam Smith. (Santos & Chen, 2009)

Not only that this postulate is incorrect in theory, but is troublesome for practitioners, specifically banks` owners and stakeholders, banking regulative bodies, and public in general. So, basic purpose of this research is to expand the view on managerial behavior in commercial banks, especially under risk environment.

Hillson (2014) notes that risk management process which does not cover findings from human behavior sciences, in its foundation is condemned to produce less than optimal outcomes. For banking industry it is a must to include soft behavioral factors in risk management processes, which are at least as relevant as statistics.

Markets and therefore decision making settings are characterized with complexity, uncertainty and risk (Krohling & Souza, 2012), which is especially relevant when it comes to banking industry. Banks act as society`s integrator, since these are institutions that come in relationship with almost all citizens and all businesses (Marous, 2015).

Banks hold highest ratios in market capitalizations of any country, are subject to illiquidity risks, and most importantly the risk they impose is of systematic nature. Turbulences in one bank spread to whole banking industry in the country, therefore weakening its whole financial system. (Shen & Chih, 2005)

Shen and Chih (2005) note also that one of sources of risk in banks is its asset structure, which is difficult to recognize and therefore to prevent.

This risk is, author suggest, imposed by managers, since they are the ones who make final decisions on bank`s asset structure. Therefore, specific field covered by this research is behavioral corporate finance, which aims to provide insights into what drives managers in their decision making processes.

Authors of the research suggest that introduction of behavioral factors in risk management process can seriously improve its efficiency and therefore contribute not only to business success of banks individually, but to increase of the overall social welfare. Research will provide insights into ways that managers make decisions, which is especially important under overwhelming risky settings. It is authors` suggestion that only by better understanding of the true nature and true behavior of managers in real situations, academicians and practitioners can better form bank`s internal structure and hierarchical relationships, as well as banking industry`s regulations. Following this assumption, study contributes to better understanding of bank`s executives, which is beneficial mainly to regulators of bank`s internal organization and regulators of banking industry.

Research provides literature review of previous research on the given topic. Firstly, authors give introduction into field of behavioral corporate finance, which is followed with discussion on decision making processes and risk in banking industry. Third part is dedicated to implications of behavioral finance in decision making processes. Finally, at the very end authors give concluding remarks.

2. Literature Review

1.1 Behavioral Finance

Behavioral finance is a branch of behavioral economics which is based on notion that financial market movements should be studied starting from the assumption of managers` incomplete rationality (Glaser, Noth, & Weber, 2003).

It is a field of research which combines standard finance theory with sciences on human nature - namely psychology, neuroscience, and sociology (Halaba & Ilgun, 2014).

Therefore, behavioral economics in general is an upgrade to mainstream economics, which enables academicians and practitioners to gain better understanding of economic agents' behavior (Rabin, 1998), which is the main purpose of this research. It is important to draw attention to „upgrading“ role of behavioral finance. Aim of behavioral finance studies is not to contradict mainstream studies, rather to enrich them, expand the views and enable more efficient management as well as policy making.

Since the scope of the study is managerial behavior, specifically the study is under the umbrella of corporate behavioral finance.

1.1.1 Behavioral Corporate Finance

Corporate finance examines decision making (where we can consider financing decision, i.e. asset structure) in terms of cooperation and relationship between managers and owners (Baker & Wurgler, 2011). Under the agency theory, corporate finance is explained in terms of influence of capital owners on managers, with purpose of directing managers to behave in the most beneficial manner (Caprio & Levine, 2002).

Caprio and Levine (2002) emphasize the importance of effective corporate governance in banks, since these have influence on “shaping capital allocation at the firm level and at the country level” (p. 2) and Schmidt and Tyrell note that even back in 1997 there was notable increasing interest and recognition of financial markets’ (banking industry included) role in resource allocation. Corporate governance is of systemic nature, meaning that all of its segments are interrelated, so that every incremental change in one segment contributes to the change in other segments as well (Schmidt & Tyrell, 1997).

When it comes to mainstream economics, generally it is based on methodological approach, mathematical expression of assumptions, and analytical evaluation of implications of assumptions and empirical observations (Rabin, 1998). Therefore, intrinsic human attributes of managers which are relevant for decision making, are being neglected or perceived as disturbance to the smooth mainstream approach. The aim of behavioral corporate finance is to account for all these intrinsic attributes of managers and examine what drives their behavior in the real environment. (Berneheim, 2009; Camerer, 2007)

Tirole (2006) in his, in-depth book „The theory of corporate governance“ gives credentials to behavioral finance as a branch that „relaxes the rationality postulate that dominates this book.“ (p. 9). He notes two courses present in behavioral corporate finance. Focus of one course is managerial irrationality, while focus of the other branch is on investors' irrationality. Topic of this research fits in the first course of managerial irrationality. However, Tirole decides not to include detail coverage of behavioral finance in his studies on corporate governance and stick to standard approach given by agency theory for several reasons. He notes that behavioral finance is in its offspring, so he finds it early for a broad theoretical recapitulation of corporate governance from this approach. So, he finds it lacking behind the agency theory.

Authors of this research find his reasons as additional motivation for urging the involvement of behavioral corporate finance in academic studies as soon as possible, in order to raise awareness of its importance and move build up theoretical framework in this regard and break such (mis)perception on the power of insights from behavioral finance.

According to Rabin (1998) the importance of behavioral finance in decision making reflects in findings that managers in real environment are prone to systematically irrational judgments and choices. It is opposite to postulate of mainstream economics that managers follow objective statistical laws of probability while making evaluations that lead their decisions.

Behavioral finance gathers evidences on biased, loss averse, fearful, and in other regards irrational behavior of managers which result in less than optimum efficiency decision making (Halaba & Ilgun, 2014). It contradicts rationality of managers along the main postulates set by standard finance decision making theories. These postulates are:

- manager exerts constant preferences (Abdulnabi, 2014)
- manager chooses the option with the highest expected objective utility (Abdulnabi, 2014)
- manager makes decisions based on logic and controls his emotions (Hadžić, 2015).

While these assumptions to some degree serve well, in that they help to simplify reality and build economic models, it is necessary to recognize what real decision making is actually like. Looking at the real managerial behavior in the actual decision making environment is the core objective of behavioral corporate finance (Halaba & Ilgun, 2014).

In order to understand decision making process in a corporation, it is inevitable to form understanding over beliefs and preferences of managers, owners, as well as interaction of the two (Baker & Wurgler, 2011).

In order to gain this understanding, in the section 2.3 we will look at patterns of judgment and decision making - apparently irrational ones - which managers are prone to. Before looking into these patterns, firstly we will provide overview over risk decision making in general and risk in banking industry.

1.2 Decision Making Under Risk in Commercial Banking

1.2.1 Decision Making

Decision making can be defined as „process of problem identification and the process of solving it“ (Shermerhon, 1996, p. 194).

These are processes that managers are constantly engaged in. Furthermore, decisions are made in groups, rather than individually, which makes decision making environment more complex. (Dervishi & Ibish, 2014)

Hadžić & Ilgun (2015) note that decision making is marked with huge pressure which comes from numerous options and eventually results in sub-optimal decisions.

Korte (2003) introduces results of the study done over 300 managerial decision over 20 years, done by Paul Nutt, published in Nutt's book „Why decisions fail: Avoiding the blunders and traps that lead to debacles“ from 2002. Study revealed that decisions which result in optimum outcomes are characterized by the following:

1. A deliberate and thorough study of the claims by a variety of stakeholders
2. Early attention to social and political interests, and
3. Setting direction based on a cross-section of informed opinion“ (Korte, 2003, p. 446)

2.2.2 Agency Theory

The basic theory of corporate governance in economics is agency theory. It assesses the relationship between principals – owners and agents – managers within an organization, with emphasis on risk perception of both parties.

Owners are assumed to be risk neutral, following the assumption that they do not place entire investing capital in one investment, so only part of their wealth would be placed in individual bank. When their entire capital does not depend on performance of single bank, owners are likely to be less influenced by their emotions and therefore make more deliberate decisions.

Managers are assumed to be more biased in decision making, since their personal incomes depend on the performance of the bank. Income for managers mainly comes from regular salaries, but also from different types of bonuses as well. (Wiseman & Gomez-Mejia, 1998)

Basically, corporate structure should be such that encourages managers to behave in the best interests of owners. However, even despite some clearly established legal rules for owner-manager relationships, still there remains challenge of how to apply those rules in practice, to ensure that managers really do follow them. (Erner, Klos, & Langer, 2013)

So, there are strict rules which direct owner-manager relationship. However, there are also bonus schemes, which are designed to motivate managers to behave in a way that benefits owners the most. However, Chen, Zhang, Xiao, & Li (2011) conducted study on bonus schemes among the five biggest banks in United Kingdom, which shows that incentives paid to managers did not result in favorable outcomes. All of these banks performed poorly with major liquidity problems.

2.2.3 Risk in Commercial Banking

Classic definition of the risk is as follows „Risks are uncertainties resulting in adverse variations of profitability or in losses.“ (Bessis, 2002, p. 11). However, concept of risk is poorly understood (Abdulnabi, 2014) and there are many different definitions out there (Riabacke, 2006).

So, Riabacke (2006) explains risk by putting it in the context of two other terms. These are:

- Certainty, where manager knows for sure what will be outcomes of specific actions
- Uncertainty, where manager does not know at all what could be outcomes of specific actions.

Risk is in between the above two. It implies that manager knows more than one possible outcome for each specific action, where each outcome is expected to occur at certain probability. However, manager cannot know whether:

- All outcomes he accounts for are actually all possible ones
- Probabilities he assigns to each outcome are accurate.

„Banking risks are defined as adverse impacts on profitability of several distinct sources of uncertainty“ (Bessis, 2002, p. 11).

Basic types of banking risks are: credit risk, interest rate risk, market risk, liquidity risk, operational risk, foreign exchange risk, other risks (country risk, settlement risk, performance risk) (Bessis, 2002).

Risk taking in banking industry is specific because of the role which this sector has in one country. Negative effects of the risk behavior in single bank influences other banks and very soon implications spread over to the financial system and complete economy. (García-Marco & Robles-Fernández, 2008)

More complex environment makes it more difficult for managers to evaluate what might be outcomes of different options they can choose among (Erner et al., 2013). Eventually, it amplifies the risk they encounter.

1.3 Implications of Behavioral Corporate Finance for Decision Making Under Risk

1.3.1 Intuition

Intuition can be defined as all those processes which happen in human mind on subconscious level (Isenman, 1997).

Hadžić and Ilgun (2015, p.14) provide another more detailed definition of intuition by Woiceshyn (2014) who says that „Intuition, or the process of intuiting, is described as the inexplicable emergence of a sudden understanding – a “hunch” or a “gut feeling” – seemingly out of nowhere but involving the subconscious and one's previous experience, often described as recognition of familiar patterns from previous experiences“.

According to evidences from neuroscientists, people do not have conscious control of their behavior. They inform us that human brain is influenced by environment in which human operates. (Bloom, 2014)

Therefore, managers cannot make their decisions as dissected from the context in which they operate, or influences of other group members.

Managers are continuously asked to make decisions, which involves solving difficult questions under ambiguity, complexity, uncertainty. Confronted with such pressures, they tend to make the challenge easier, by swapping the actual problem for an easier one. The easier problem is the problem they perceive compatible with the present one, but it does not necessarily has to be true. The essence is that they take to the surface a problem which they are familiar with, their minds know how to solve it. This swap pattern is at fundaments of intuitive judgments and decision making. (Kahneman, 2011)

Intuitive thinking underlies human thinking, judgment, and decision making overall. However in order to be properly utilized in academic circles, its importance has to be acknowledged by leading academicians. (Isenman, 1997)

Intuition underlies the concept of heuristics, which are discussed in the following section.

1.3.2 Heuristics

Heuristics are mental shortcuts which managers use when making difficult decisions in complex settings. They substitute difficult question with an easier one – which might lead decision maker from the essence of the actual problem, or in absence of relevant data they reach for available data – which might or might not be relevant for a problem at hand, but also might mislead decision maker from the actual problem. (Hadžić, 2015)

Following the book „Thinking, Fast and Slow“ by father of behavioral economics Daniel Kahneman, which he wrote with priceless help of his colleague and friend Amos Tversky, authors of this research count four basic types of heuristics. These are: availability, representativeness, anchoring, and affect heuristic. Each of these will be discussed in following paragraphs.

2.3.2.1 Availability Heuristic

Availability heuristic is decision making pattern based on information that is easily obtainable, that is on information that comes to a mind of managers with an ease and effortlessly (Sewell, 2011).

It comes as result of replacing a difficult problem for an easier one and basically solving a problem and making a needed decision based on the information that can be reached the most easily, even though it might not be relevant for the present situation. Such decision making has a power to leave actual problem unresolved, or in the worst case make the problem even the more serious one. (Kahneman, 2011)

One way in which bank managers can hurt bank's asset structure is by following the available data from the news, since there is evidence for example that investments which are the most prompted up on the media platform, perform the poorest among other investments in two years (Sewell, 2011). This example is implicative of how data which is the most easily accessible, can be misleading. Managers should not carelessly follow the news on the macroeconomic situation or industry performances, but rather take an analytical and critical evaluation approach.

2.3.2.2 Representativeness Heuristic

According to Kahneman (2011), people are wired to seek for certain correlation between events and situations to the extent that he refers to human species as to „pattern seekers“. Managers as well have a need to fit in any new circumstance into specific scheme, give it meaning, purpose and justification. It provides sense of control, while loss of control over situation upon which our well-being depends, causes negative feelings.

Instead of objective assessment of events and situations, managers find certain context to put those events and situations in. In that way the actual situation or event loses its true context and of course can be misleading for decision making.

It is troublesome especially when this need implies neglect of actual problem that needs to be solved.

So, people have this tendency to perceive events and things which share certain attributes as the same (Baker & Nofsinger, 2002).

If managers misevaluate potency of certain event's amplitude to disturb their asset positions, it can significantly change their risk attitudes and behaviors.

2.3.2.3 Anchoring Heuristic

Managers tend to evaluate options they have at disposal based on what those options contribute - either positively or negatively to their current level of returns. It harms their choice of options and final decision in a way that they neglect objective final utility expected from each of those options. While anchoring their evaluation to a certain value or a number, they focus on subjective value which those options provide them. (Helson, 1964; Rabin, 1998)

More worrisome fact is that managers have tendency to anchor their evaluations to some values or numbers that are completely unrelated to the prospects they are evaluating, as opposed to their current returns level. Reference value upon which managers compare their options does not have to have any logical correlation to the actual choice they are making. Kahneman (2011)

2.3.2.4 Affect Heuristic

Affect heuristic is based on influence that people's emotions have on their judgments and decision making and according to Kahneman (2011) emotions have the highest power in directing the risk attitudes and preferences of managers. Basically, all decisions that people make are simply manifestation of their feelings towards specific option at certain point in time.

According to Finucane, Alhakami, Slovic and Johnosn (2000) how managers perceive risk and therefore form their risk attitudes which drive their risk behavior is influenced primarily by affect heuristic. Prospects which provoke positive emotions with managers, they are likely to frame as „a low risk and high benefit“, whereas prospects which provoke negative emotions with managers, they are likely to frame as „high risk and low benefit“.

Another leading behavioral economist Dan Ariely (2008), came to a conclusion that people's emotions obscure their deliberate thinking and have potency to drive their behavior.

According to Kahneman (2011), people make deliberate decisions, except in those situations when their emotions take over their deliberate thinking.

2.3.3 Bias

Bias refers to subconscious, faulty and unreasonable judgment and decision making. It fundamentally differs from logical and analytical objective thinking patterns. (Kahneman, Slovic, & Tversky, 1982)

Biased thinking and acting is a path to situations in which the manager believes that he is close to maximizing firm value - and, consequently his incentives - but is in fact deviating from this ideal (Baker & Wurgler, 2011).

Managers, as other humans do not always make judgments logically. Furthermore, once formed judgments do not always lead to final decisions in rational and consistent way. (M. P. Baker & Wurgler, 2011)

However, there is evidence that certain personal abilities of managers are correlated to the performance of the firm (Kaplan, Klebanov, & Sorensen, 2011).

On the other side, Simon (1955) introduced the term bounded rationality, under which he assumes that some type of cognitive or information gathering cost prevents managers from making fully optimal decisions. Bounded rationality allows managers to deal with complex environment by using heuristic. In that manner they manage to obtain satisfying performance. Since such approach to decision making has certain benefits they should strive at least to diminish sensitivity to their own biases.

In following sections, authors discuss several most applicable biases when it comes to corporate behavior of managers individually and in groups.

2.3.3.1 Confidence and Optimism Bias

These two types of biases are related and feed each other, so are discussed jointly.

Managers have tendency to overvalue their capabilities and expertise and to be overly optimistic over future prospects that they personally feel affection for. Additionally, managers tend to put more value on the role that they played in certain achievements and successes, than they actually had. (Jarboui & Boujelbene, 2012)

They are prompted to see their circumstances as more favorable than they really are. Also, managers usually fail at time management by overestimating their abilities and assigning less time for activities than they actually need. (Barberis & Thaler, 2003)

Shiller (2000) notes that people in general have tendency to focus on favorable sides and ignore possible negative effects when a new situation arises.

While over optimism and overconfidence can reflect negatively on corporate behavior, it has positive sides also when experienced moderately. They encourage managers to look for new prospects in environment, increases their self-awareness, and makes them utilize their full capacities. (Jarboui & Boujelbene, 2012)

So, in order to benefit from these characteristics, managers have to control for them. But, along with complexity of environment and decisions that need to be made, managers are additionally burdened with group pressure. Group decision making feeds overconfidence and makes it harder to de-bias. (Gervais, 2010)

2.3.3.2 Confirmation Bias

Once the move is made, no matter what the outcome is, managers put that outcome in the context and seek for proper justification of their previous actions. They seek confirmation for their actions. This is „tendency to interpret evidence as consistent with one's preexisting beliefs“ (Daniel, Hirshleifer, & Teoh, 2002, p. 143)

Beliefs and judgments once formed, is what managers firmly hold unto (Barberis & Thaler, 2003; Rabin, 1998) and are likely to discard any new data that opposes established judgments, however relevant these might be (Baker & Nofsinger, 2002).

2.3.3.3 Herding effect

According to Sewell (2011), herding effect is due to need of people to socialize and make groups in order to survive and improve well-being through evolution. Socializing is crucial for information exchange, which is one of the most important resources.

There is evidence that people are more likely to take higher risks when acting in a group. Being a member of a group reduces feelings of insecurity and anxiety over decisions. Company of other people changes risk behavior of each group member. (Chou & Nordgren, 2016)

According to Shiller (2000) information exchanged between people in face-to-face conversations has higher impact than the same information exchanged in other ways. It is due to capacity of face expressions, or tone of voice to provoke specific emotions with participants of conversation.

Acting in group benefits each member, since his capacity to perform increases. On the other side, it can be harmful since each member is likely to follow explicitly or implicitly implied set of activities. (Shiller, 2000)

3. Conclusion

Effective risk management needs to account for insights from behavioral corporate finance, which are derived from psychology, neuroscience, and sociology. It is deemed necessary to approach risk taking behavior from a broader and more realistic perspective, instead of relying solely on standard risk approaches, which include relationship between risk and return, constant preferences and utility maximization.

Significance of effective risk management increases in domain of banking industry, which serves as an integrator and financier of country's economic system. It is up to academicians and practitioners both to gain more understanding into how human minds work and how managers make decisions. It will empower them to create

environments in which managers are compelled to behave in the best interest of all stakeholders involved.

Managers themselves, should strive to understand and get to know themselves and members of their executive boards better. In that way, they will be better able to control their own decision making and establish better control over themselves.

This study shed a light on the suggested approach to risk management, draw attention to its importance and hopefully developed interest from professionals in academics and real sector. Future research should definitely include development of model of managerial decision making under risk in commercial banking, since it would help standardization of risk management processes.

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THE CHARACTERISTICS AND DYNAMICS OF MANAGEMENT CONTROLS IN SMALL AND MEDIUM ENTERPRISES:

MEASURING PERFORMANCE ACCORDING TO EMPLOYEE STIMULATION

Lejla Huseinbašić

International Burch University

Bosnia and Herzegovina

lejla.huseinbasic@hotmail.com

Abstract: This paper begins with explanation of importance of the control management in organisations and how controlling aspect of organisations plays an important role in achieving organisational's best interests and goals that are strategically planned. Set of controls need to be implemented in order to decrease undesirable behavior and to encourage desirable actions. Individuals don't generally comprehend what is anticipated from them nor how they can best perform their employments, as they might do not have some essential capacity, preparing, or data. Also, individuals have various inalienable perceptual and psychological predispositions, for example, a failure to prepare new data ideally or to settle on reliable choices, and these inclinations can decrease hierarchical viability. This paper suggests that the proper stimulation of employees in terms of different types of rewarding can result in higher achievements, both for the employee and the organisation.

Keywords: Management, Control, SME, Performance, Employee

Introduction

Individuals at work actually have a tendency to receive instinctual methods of conduct that are self-defensive as opposed to open and synergistic. This clarifies why feeling is a solid power in the work environment and why administration frequently responds fiercely to reactions and as a rule looks to control as opposed to go out on a limb. Along these lines, keeping in mind the end goal to dispense with this sort of viewpoint and to build representative inspiration, it is best that you impact conduct as opposed to change identities.

The world of business administration is not all about income, spreadsheets, and advertising, there is the precarious business of human conduct that must be gone to. Most business supervisors who examined administration in school invested significantly more energy in bookkeeping and financial aspects class than they did in psychology class and in some cases human conduct can be a significant riddle. In an organization not just authority, the workforce is likewise an imperative segment. We ought to treat individuals similarly, no preference.

Motivation is a worker's inborn eagerness about and drive to perform exercises identified with work. Motivation is that inner drive that causes a person to choose to make a move. An individual's motivation is impacted by natural, scholarly, social and passionate components. In that capacity, motivation is a complex, not effectively characterized, inborn main impetus that can likewise be impacted by outer components. Each representative has exercises, occasions, individuals, and objectives in his or her life that he or she discovers rousing. In this way, motivation about some part of life exists in every individual's cognizance and activities.

The trap for businesses is to make sense of how to move representative motivation at work. To make a workplace in which a worker is roused about work, includes both inherently fulfilling and extraneously promising components.

Worker motivation is the blend of satisfying the representative's needs and desires from work and the work environment considers that empower worker motivation - or not. These variables make inspiring representatives testing. Businesses comprehend that they have to give a workplace that makes motivation in individuals. Be that as it may, numerous businesses neglect to comprehend the essentialness of motivation in achieving their central goal and vision. Notwithstanding when they comprehend the significance of motivation, they do not have the ability and learning to give a workplace that encourages representative motivation.

Choices to hold, advance, or fire individuals must be made in each association. What is the most exact approach to settle on these choices?

Traditionally, these choices were made through support and nepotism, where individual connections inside the association largy affected advancement and terminating choices. While individual connections are still vital today, numerous commercial enterprises attempt to deliberately survey specialist execution, so as to build efficiency (and at last, benefits).

Productive employees are the soul of each enrolling business, however what method can be used to survey their execution levels? Do they comprehend objectives and desires of the organisation? Is it accurate to say that they are meeting their own destinations? Each organization ought to ceaselessly screen and assess their workers.

Assessing worker execution ought to be completed on an on-going premise and incorporate all zones of their hard working attitude and individual accomplishments. Keeping in mind as well, that poor execution or negative practices can likewise be symptomatic of a basic issue with organisation's way of life, so have an arrangement set up to address any issues that can be find.

Motivation methods

There are the same number of various techniques for spurring workers today as there are organizations working in the worldwide business environment. Still, a few procedures are common over all associations endeavoring to enhance representative motivation. The best worker motivation endeavors will concentrate on what the representatives regard to be critical. It might be that representatives inside the same division of the same association will have distinctive motivation. Numerous associations today find that adaptability in occupation plan and compensate frameworks has brought about representatives' expanded life span with the organization, enhanced efficiency, and better spirit.

Empowerment

Giving workers more obligation and basic leadership power builds their domain of control over the assignments for which they are considered mindful and better prepares them to complete those errands. Subsequently, sentiments of disappointment emerging from being considered responsible for something one doesn't have the assets to do are reduced. Vitality is occupied from self-protection to enhanced assignment achievement.

Creativity and Innovation

At numerous organizations, representatives with imaginative thoughts don't express them to administration for trepidation that their info will be overlooked or criticized. Organization endorsement and toeing the organization line have turned out to be so instilled in some workplaces that both the worker and the association endure. At the point when the ability to make in the association is pushed down from the top to line work force, representatives who know a vocation, item, or administration best are given the chance to utilize their thoughts to enhance it. The ability to make rouses representatives and advantages the association in having a more adaptable work power, utilizing all the more admirably the experience of its workers, and expanding the trading of thoughts and data among representatives and divisions. These upgrades additionally make an openness to change that can give an organization the capacity to react rapidly to market changes and support a first mover advantage in the commercial center.

Learning

On the off chance that representatives are given the apparatuses and the chances to achieve all the more, most will tackle the test. Organizations can propel representatives to accomplish more by focusing on never-ending upgrade of worker aptitudes. Accreditation and authorizing programs for representatives are an undeniably prominent and powerful approach to realize development in worker learning and inspiration. Regularly, these projects enhance representatives' states of mind toward the customer and the organization, while reinforcing self-assurance. Supporting this statement, an examination of components which impact inspiration to-learn found that it is specifically identified with the degree to which preparing members trust that such interest will influence their employment or profession utility. At the end of the day, if the group of information picked up can be connected to the work to be refined, then the procurement of that learning will be a beneficial occasion for the worker and the employer.

Quality of Life

The quantity of hours worked every week is on the ascent, and numerous families have two grown-ups working those expanded hours. Under these circumstances, numerous specialists are left thinking about how to meet the requests of their lives past the work environment. Frequently, this worry happens while at work and may decrease a worker's efficiency and confidence. Organizations that have established adaptable worker game plans have increased spurred representatives whose profitability has expanded. Programs consolidating strategic scheduling, dense work filled weeks, or occupation sharing, for instance, have been fruitful in centering overpowered representatives toward the work to be done and far from the requests of their private lives.

Monetary Incentive

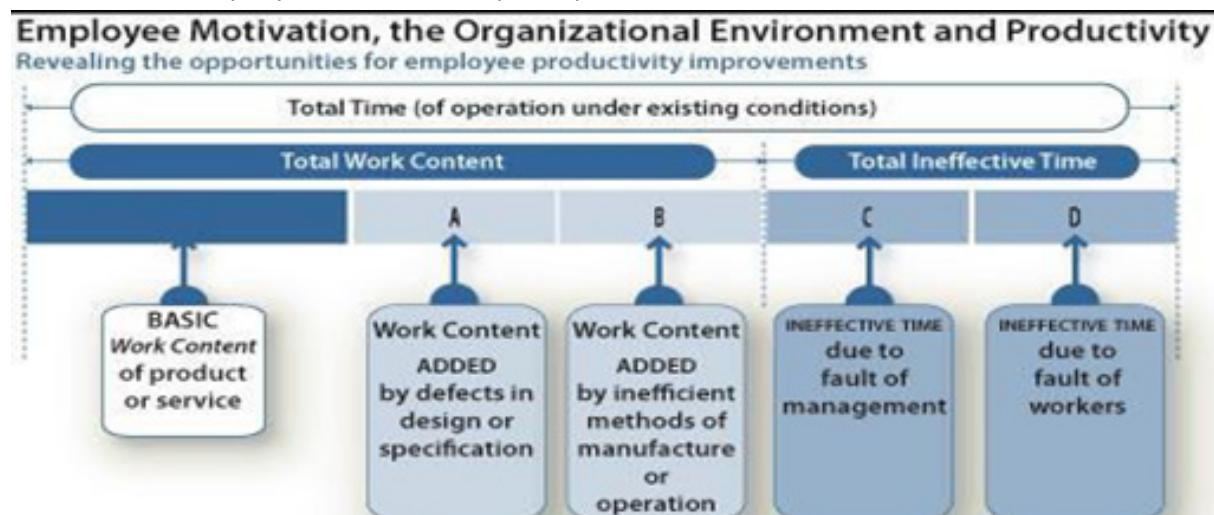
For all the championing of option inspirations, cash still possesses a noteworthy spot in the blend of helpers. The sharing of an organization's benefits offers motivating force to representatives to create a quality item, perform a quality administration, or enhance the nature of a procedure inside the organization. What advantages the organization straightforwardly advantages the representative. Financial and different prizes are being given to representatives for creating cost-investment funds or process-

enhancing thoughts, to support profitability and lessen truancy. Cash is successful when it is specifically fixing to a representative's thoughts or achievements. All things considered, if not combined with other, non-money related inspirations, its spurring impacts are fleeting. Further, fiscal motivations can demonstrate counterproductive if not made accessible to all individuals from the association.

Other Incentives

Study after study has found that the best inspirations of laborers are non-money related. Fiscal frameworks are lacking helpers, to a limited extent since desires frequently surpass results and in light of the fact that uniqueness between salaried people may separate instead of join workers. Demonstrated non-money related positive inspirations foster cooperation and incorporate acknowledgment, obligation, and headway. Administrators who perceive the "little wins" of representatives, advance participatory situations, and treat workers with decency and admiration will observe their representatives to be all the more exceptionally energetic. One organization's administrators conceptualized to think of 30 effective prizes that cost little or nothing to actualize. The best compensates, for example, letters of recognition and time off from work, improved individual satisfaction and sense of pride. Over the more drawn out term, true acclaim and individual signals are much more powerful and more sparing than recompenses of cash alone. At last, a project that consolidates money related prize frameworks and fulfills inherent, self-realizing needs might be the most strong worker spark.

Illustration 1: Employee motivation principles



The ways to employee productivity

- make work easier - make it simpler - make it quicker - make it rewarding - make it safer and - make it fun!

Over time, expect to yield performance improvements in areas A, B, C, and D when optimizing the organizational environment. (Use our supervisory guide to productivity improvement to measure / quantify A, B, C, and D. (Click [HERE](#) for details.))

The importance of the application of ergonomics and effective formal and informal communications is stressed.

- Good ergonomics reduces time and effort.
- Amazing ideas for improvement come from those most undervalued employees—talk and listen to all. Seek and you will find, ask and you will receive.

Entirely separated from the advantage and good estimation of an unselfish way to deal with regarding associates and representatives as individuals and regarding human poise in all its structures , looks into and perception demonstrate that well motivated workers are more gainful and innovative.

What is the stimulation of the employees?

Numerous managers still hold the old feeling that an employee will complete his occupation constrained by good and cash. Obviously, both are viable for pulling the occupation off. Else they could complete it without productivity. It is set to trust that capable work genuinely influence the venture's proficiency. Despite what might be expected, with a higher work excited, individuals can effectively perform work, in order to upgrade the organization in this appreciation advantage. What we ought to do is simply given each representative a chance to be keen on his work and stir his excitement to make the organization's advantages the entire upgrade.

The purported faculty consolation implies the enterprise invigorates from outside to actuate the staff's needs, longings and inspirations. Structure a particular objectives and protect when the representative achieve his objective he remains a high spirits, supportable positive state and discharges the boundless mechanical potential. The mental studies demonstrate that individuals are spurred while they encounter some unsatisfied needs or uncompleted objectives. In this way, the necessities or objectives, can be either physical and material, or mental and otherworldly. As a general rule, individuals' interest is not single.

Workers are "trainable"- at one level, people are just creatures and the practices can be comprehended as a progression of boost and reaction designs. At an extremely fundamental level, we rehash practices that have worked for us in the past and neglect to rehash practices that have not worked for us. This idea is called behaviorism and it says that when representatives are compensated for good conduct, they will rehash the conduct. In an awful occupation, the main compensate a representative gets is a paycheck and he or she will do as meager as could reasonably be expected to continue getting that remunerate.

In a great job, there are steady remunerates; even acclaim can be viewed as a spurring compensate that supports great conduct.

An intriguing thing to note about behaviorism is that discipline is just used to decrease conduct. In the event that you need any kind of conduct to expand, you have to compensate the conduct, not rebuff a man for absence of it. For instance, on the off chance that you need a worker to tidy up their range toward the end of the movement, discipline for not cleaning won't ingrain the conduct (despite the fact that it may work for some time). On the off chance that you really need to change conduct, you have to give a prize for cleaning the region. This doesn't mean you have to chase after your representative's tossing treats throughout the day. The prize can be, "when your zone is cleaned, you can go home". In the event that going home is remunerating, that will soon get to be connected with cleaning the region. You would prefer not to get in the propensity for treating representatives like pets, however it regards comprehend the essential way of human conduct and how support functions.

Employees need to feel engaged enormous conduct issues can come about because of workers feeling weak in their parts. Feeling weak can show itself in various courses with various workers; some will take a uninvolved forceful position, picking up force by what they don't do as opposed to what they do. Different workers may react to sentiments of frailty by more forceful means, such as tattling and abusing the organization. Still others may take out the sentiments on subordinates or even on their clients.

5 ways to encourage employee behaviour through motivation

1. Adjusting individual financial interests to organization execution

It takes more doing at the most elevated administration levels than the rest. In any case, impetus pay programs that give workers at all levels of an association an opportunity to advantage when an organization succeeds can actually support inspiration (accepting strong individual execution with the goal one should partake in money related prizes).

2. Taking a real enthusiasm for the future way of a employee's vocation

It does ponders for a worker's state of mind to trust that a supervisor truly thinks about where his or her profession is going. Tutoring, instructing, proposing extra preparing or coursework

- these can be useful to workers, and very esteemed.

3. Taking a sincere enthusiasm for their work-life equalization

To the degree that administrators can offer some adaptability in timetables and to be understanding about family duties, medical checkups et cetera – such affectability can be enormously refreshing. Little motions regularly have a major effect.

4. Giving a purpose

Managers need to be ready to motivate its workers by giving them a reason. When achieving that, they comprehend the vision better and can execute all the more emphatically. What's more, by comprehension their motivation and the reason for the business, a worker is better ready to see how they fit into the 10,000 foot view.

5. Being Transparent

Trying to be exceptionally open with workers about what's going on at the most abnormal amount so there are no curve balls and everybody has an opportunity to make inquiries and give input. The representatives need to feel incorporated into major choices and focused on the bearing our organization takes. This has managed inspiration and expanded organization faithfulness and pride.

Data

When it comes to demographic data, I found out that the percentage of males and females are almost the same (51,06% of males). From the age point of view, the majority was between 18 and 40 years old (57, 45%). Further on, i found out that the majority have finished high school (34, 04%) and graduated from faculty (34, 75%). Looking at income, the majority have an income between 801 and 1600 KM. (50, 35%). The most

respondents in my research were married (54,61%). At the end, the biggest number of respondents have working experience 10 or more years (35,71%). See Table 1.

Table 1: Demographic profile of respondents

| Demographic profile of respondents | | | |
|------------------------------------|-----------------------------|------------|----------------|
| | Categories | Number (#) | Percentage (%) |
| Gender | Male | 72 | 51,06 |
| | Female | 69 | 48,96 |
| Age | 18-40 | 81 | 57,45 |
| | 41-60 | 57 | 40,34 |
| | 61 or more | 3 | 2,13 |
| Level of education | Elementary school or lower | 2 | 1,42 |
| | 1 - 3 grades of high school | 9 | 6,38 |
| | Finished high school | 48 | 34,04 |
| | 1 - 3 years of faculty | 19 | 13,48 |
| | Graduated | 49 | 34,75 |
| | Master studies | 10 | 7,09 |
| Status | Phd | 4 | 2,84 |
| | Less than 800 KM | 43 | 30,50 |
| | 801 - 1600 KM | 71 | 50,35 |
| | 1601 – 2400 KM | 20 | 14,18 |
| Monthly income | 2400 KM or more | 2 | 1,42 |
| | Single | 25 | 17,73 |
| | In relationship | 30 | 21,28 |
| | Married | 77 | 54,61 |
| Marital status | Divorced | 6 | 4,26 |
| | Widowed | 3 | 2,13 |
| | Working experience | 13 | 9,29 |
| | 1 – 3 years | 34 | 24,29 |
| | 3- 5 years | 20 | 14,29 |
| | 5 – 10 years | 23 | 16,43 |
| | 10 or more years | 50 | 35,71 |

Average satisfaction among respondents is around 3,87 on scale from 1 to 5 and the most frequent grade for satisfaction is 4 (mode). The lower standard deviation is the more data points are centered around the mean, in this case the standard deviation is 1,1 which means that the numbers in the range are clustered near mean. See Table 2.

Table 2: Average job satisfaction

| I am satisfied with status in firm where I work. | | |
|--|-----------------------|--------------|
| N | Valid | 141 |
| | Missing | 0 |
| | Mean | 3.87 |
| | Median | 4.00 |
| | Mode | 4 |
| | Std. Deviation | 1.101 |
| | Minimum | 0 |
| | Maximum | 5 |

Average response in survey which respondents choose when it comes to equal behaviour toward manager and employees processes is 3,82 on scale from 1 to 5 and the most frequent grade for satisfaction is 5 (mode). The standard deviation is 1,29 which means that the numbers in the range are clustered near mean, but less than in previous example. For more details, see Table 3.

Table 3: Fair treatment between manager and employees

| The company where I work treats fairly when it comes to equal behaviour toward manager and employees processes. | | |
|---|-----------------------|--------------|
| N | Valid | 141 |
| | Missing | 0 |
| | Mean | 3.82 |
| | Median | 4.00 |
| | Mode | 5 |
| | Std. Deviation | 1.291 |
| | Minimum | 1 |
| | Maximum | 5 |

From Table 4 it can be seen that 31, 9% agree and 23, 4% of respondents strongly agree that their company is constantly improving in employee motivation in order to gain organisational benefit.

Table 4: Effects of motivation on organisation

| The company where I work is constantly improving in employee motivation in order to gain organisational benefit. | | | | | |
|--|-------------------|-----------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 4 | 2.8 | 2.8 | 2.8 |
| | Disagree | 23 | 16.3 | 16.3 | 19.1 |
| | I don't know | 36 | 25.5 | 25.5 | 44.7 |
| | Agree | 45 | 31.9 | 31.9 | 76.6 |
| | Strongly agree | 33 | 23.4 | 23.4 | 100.0 |
| | Total | 141 | 100.0 | 100.0 | |

From the Table 5. we can see that 35, 5% agree and 17% of respondents strongly agree that their companies are doing the right thing while controlling the environment in which employees operate on a daily basis.

Table 5: Control of the environment

| The company where I work is doing the right thing while controlling the environment in which employees operate on a daily basis. | | | | | |
|--|-------------------|-----------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 6 | 4.3 | 4.3 | 4.3 |
| | Disagree | 19 | 13.5 | 13.5 | 17.7 |
| | I don't know | 42 | 29.8 | 29.8 | 47.5 |
| | Agree | 50 | 35.5 | 35.5 | 83.0 |
| | Strongly agree | 24 | 17.0 | 17.0 | 100.0 |
| | Total | 141 | 100.0 | 100.0 | |

In Table 6. we can see that 37, 6% agree and 27% of respondents strongly agree that their company rationally stimulate and motivate their employees in order to create more productive business environment.

Table 6: Stimulation and motivation of employees

| The company where I work rationally stimulates and motivates their employees in order to create more productive business environment. | | | | | |
|---|--------------------------|-----------|---------|---------------|--------------------|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Strongly disagree | 5 | 3.5 | 3.5 | 3.5 |
| | Disagree | 17 | 12.1 | 12.1 | 15.6 |
| | I don't know | 28 | 19.9 | 19.9 | 35.5 |
| | Agree | 53 | 37.6 | 37.6 | 73.0 |
| | Strongly agree | 38 | 27.0 | 27.0 | 100.0 |
| | Total | 141 | 100.0 | 100.0 | |

Conclusion

Employee engagement is drawing in a lot of enthusiasm from businesses over various areas. In some regards it is an exceptionally old yearning – the craving by businesses to discover approaches to expand representative inspiration and to win more duty to the occupation and the association. In some ways it is “new” in that the connection inside which engagement is being looked for is changed. One part of this distinction is the more prominent punishment to be paid if specialists are less connected with than the representatives of contenders, given the condition of worldwide rivalry and the raising of the bar on productivity measures. A second perspective is that the entire way of the significance of work and the guidelines for vocation relations have moved and there is an open space concerning the character of the relationship to work and to association which managers sense can be loaded with more advanced methodologies.

In any case, there is motivation to stress over the absence of thoroughness that has, to date, frequently portrayed much work in worker engagement. On the off chance that we keep on referring to “engagement” without comprehension the potential antagonistic results, the centre prerequisites of achievement, and the procedures through which it must be executed, and on the off chance that we can’t concur even to a reasonable meaning of what individuals should be occupied with doing any other way at work (the drew ‘in what’ question), then engagement may simply be one more ‘HR thing’ that is here for a brief span. On a positive note, there is presently a more extensive cluster of estimation methods with which to evaluate patterns in engagement and a related exhibit of ways to deal with impact some change. In this manner, goal can all the more plausibly be deciphered enthusiastically.

Making a work environment with brilliant resolve and persuaded representatives is a long haul venture, and should be installed inside the fabric of an organisation’s every day operations. Profoundly energetic and connected with faculty are a colossal advantage for any organisation.

Growing all around spurred employees prompts more fulfilled clients and higher deals; this thus prompts more prominent employee inspiration and makes an idealistic circle. Exceptionally energetic employees are liable to be locked in workers, willing to run the additional mile with clients, and to remunerate their managers with dedication, abnormal amounts of profitability, and more prominent development.

Many economic theories recommend that independent from anyone else proprietorship is unrealistic to enormously influence specialist exertion and execution. Proprietorship must be consolidated with employee association and different approaches that give labourers the ability to follow up on possession motivations and the attitude to oppose the propensity to free ride. My examination of labourer reported exertion crosswise over firms and of specialists inside two firms underpins these contentions. I find critical contrasts in specialist evaluation of work exertion crosswise over ESOP firms, demonstrating that even in firms with significant representative possession, different components impact results. Relating specialist reported results to their feeling of proprietorship and a file of HR arrangements demonstrates that possession and HR approaches are both emphatically connected to worker reports of working environment execution, which is itself identified with organization execution.

My analysis of employee's reaction to colleagues who perform inadequately demonstrates that specialists on employee contribution boards of trustees or who generally report being included in setting objectives for their work gathering will probably talk specifically with non-performing labourers and are less inclined to do nothing. Thoughtfully, a comprehension of how representative proprietorship functions requires a three-pronged examination of: (1) the motivators that possession gives; (2) the participative instruments accessible to specialists to follow up on those impetuses; and (3) motivators/corporate society that balances inclinations to free ride. All organizations, whether representative possessed or not, need to consolidate these three components to inspire labourers to execute admirably well. Representative proprietorship gives an unmistakable answer for the impetus issue, however should at present manage the investment and free-riding issues.

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THE EFFECTS OF FAMILY AND NURSERY COOPERATION IN THE NORTH SANDZAK REGION

Zehra Hasanović

International University of Novi Pazar

Serbia

zehra.hasanovic@live.com

Summary: For normal growth and development of a child, particular, is cooperation of preschool institution (nursery, infant nursery) and family (parents). Better cooperation of these two institutions, the way of harmonization educational influence with individual and group contacts are opened. Objectives of this cooperation is better informing to stay of children in family and preschool institution was more substantial. Results of this research will be support to better solving of these problems, and it will open possibilities for getting acquainted all protagonists of this process with possibilities and perspectives for building strong connections and relations between family (parents) and preschool institutions (preschool teachers). The research on theme "The effects of family and nursery cooperation in the North Sandzak region" ,was realized in preschool institutions on the North Sandzak region (Novi Pazar, Sjenica, Tutin, Prijepolje). In the research participated 140 examinees, 80 parents of the children attending preschool institution and 60 preschool teachers who are employees of preschool institutions.

Key words: cooperation, family, nursery, child, partnership

Introduction

In order to achieve a direct cooperation, special responsibility is on teachers, (but also on preschool teachers, psychologists, social workers and medical personnel). The same responsibility in the process of establishing good cooperation between families and preschools is on parents who are obliged, among other things, to make preschool teachers familiar about the status and activities of the child in the family, about the conditions of child's life and work, the abilities and possibilities of its development in the family. Good and bad opportunities in the family are often the cause of the child's special features in behavior which is a clear sign that the child needs the support and assistance. Parents will provide the necessary information to the preschool teachers in order to avoid the possibility of insincere or imagined children's stories about the real situation in the family. Thus, parents and teachers together are obliged to exchange opinions about the child and his behavior, in order to overcome inappropriate behavior of a child. Parents and teachers will communicate during individual parent-teacher meetings, visits to the parental home, and through adequate educational seminars and forums. The most common form of cooperation of the family (parents) and preschools (nursery schools) is individual informing that takes place during the meetings of preschool teachers and parents when they meet each other in person and exchange the necessary information and agree on methods and contents of the joint work of each of these institutions.

With the cooperation, both sides are getting close to each other, they talk, they learn and create a joint strategy with the aim of better growth and development of the child. The teacher and parents on both sides gain experience based on the experiences of the other. Preschools should work on a constant conversations with the family of a child who goes to preschool, which will mean a lot for a child.

The teacher will look for reasons and initiate a visit to the child's home, during occasions such as illness or family member, the enlargement of the family and so on. When visiting the home of the child, teacher will have the opportunity to get to know the conditions in which the child resides and develops, and finally meet the child's family.

In the overall life and work (content) of the preschools, the relationship (cooperation) between the preschools and schools is significant in order for a child to have less painful transition from preschool to school environment.

The continuous monitoring of the child's vertical development is developing and strengthening cooperation between preschool teachers and teachers of the class teaching school the child will attend after their stay in preschool. It can be direct or indirect.

First, a direct cooperation between preschools and schools needs to be realized, and then the level of cooperation reduces down to preschool teachers and school teachers who will take over the child out of preschool in the next year. The cooperation is achieved in a way that school teachers organize joint visits to old school educational groups and share their experiences about the problems that are common. On the other hand, school teachers can organize visits to preschools (nursery schools) with the aim of exchanging experiences on issues of common interest for children who are students of the school, and previously stayed in the preschool.

With such cooperation, preschool teachers acquire the necessary experience to contribute to their quality of work, and on the other hand, teachers in schools get to know children better, as well as the forms and methods of work in preschools.

Society, community, and especially parents expect from educational institutions for children of preschool age to be open to the educational environment, including in its scope of work of all the factors of society who show interest, and family as well. Therefore, we believe that cooperation (partnership) of the preschools and family is very important in order to achieve, above all, unified educational influence in the way of the planned program content. In the large part of their daily activities, child remains within the family that leaves a strong influence on its development. The influence of the family does not stop regardless of the absence of the family, and its presence remains in the preschool upbringing and educational institutions.

The importance of cooperation between the family and preschool institutions

Society, community, and especially parents, expect from educational institutions for education of children of preschool age to be open to the educational environment, including in its scope of work of all the factors of society who show interest, and family as well. Therefore, we believe that cooperation (partnership) of the preschools and family is very important in order to achieve, above all, unified educational influence in the way of the planned program content. In the large part of their daily activities, child remains within the family that leaves a strong influence on its development. The influence of the family does not stop regardless of the absence of the family, and its

presence remains in the preschool upbringing and educational institutions.

How much success we will have in the upbringing of the child largely depends on the compliance of corrective actions of the families and preschool institutions. Non-compliance and non-cooperation of the two institutions (family and preschools) can result in a lack of proper development of the child and the inability to set the society goals. Only joint action, working together of families and preschools can result in a positive outcome recognized in the substantial achievements of preschool education. Upbringing activity in preschools must not be a substitute for family, but should stand for continuity in the upbringing of the child. Educational work in the family should provide support to the family and the two environments should have unique requirements that will be put in front of a child. In order to prevent the upbringing imbalance, the two institutions must cooperate directly.

Preschool institution is more organized than family, more comprehensive and more professional. Programming work and expertise of educational staff is a characteristic of education of children in preschool institutions. But the family certainly achieves a particular impact on preschool institution. It is therefore important to introduce the family (parents) with the program content, content, goals and objectives and the overall possibilities of educational work in preschool, so that parents can be able to define their goals. Family (parents) in different ways can provide help and support to preschool in the realization of the planned program content. For Stevanovic (2001), this help can be identified in familiarizing teachers with the "basic terms of temperament and habits of the child, interpreting its cultural, civilizational and value judgments that they want to convey to the child, suggest program content, assist in the development of appropriate teaching materials and directly participate in the implementation of certain program content." (Stevanovic, 2001, p. 137)

The ability of teachers to ensure cooperation with parents of the children who go to preschool and to earn the trust of parents as a way of mutual understanding is of a particular importance. Kamenov (1999) considers that "parents have more benefits from cooperation with the preschool institution if they are not prone to get involved in its life and work, and even if they get involved, their presence can create the problem to the preschool teacher, because he\she has to share the attention between the children he\she is primarily responsible for, and parents who need help in order to successfully manage within the terms of preschool institutions "(Woodhead, 1979. According to E. Kamenova 1999)

According to Omerovic, successful cooperation of parents and teachers is "contributed by the human qualities which every preschool teacher should possess, ability to grasp the deeper meaning, empathy and tolerance. Since preschool institution is the first one with which parents establish cooperation to ensure proper upbringing of their child, it is one more reason for its successful functioning".

Research methodology

The base of the realization of the object in this study is the attitudes of parents and preschool teachers regarding the parental cooperation with the preschool in the North Sandzak. Thus, the subject of this study is to research, analyze and to present the following views:

- a) The views of parents about the communication of parents and preschool teachers, about the need to exchange information about the child with respect

to gender, age and place of residence, on the participation of parents at parent-teacher conferences, their participation in deciding important issues of preschool, all in regards of their gender, age and place of residence.

- b) The views of preschool teachers regarding the communication of parents and preschool teachers, about the need to exchange information about the child, on the participation of parents at parent-teacher conferences, their participation in deciding important issues of preschool, all in regards of their gender, age and place of residence.

The main hypothesis: **There is no statistically significant difference in the perception of parents and preschool teachers to parental cooperation with the preschools within the area of the North Sandzak.**

Research Techniques

The techniques used in this research are:

- Analysis of the pedagogical documentation
- Interviewing
- Scaling
- Statistical analysis of the data. The software package SPSS 16.0 (Statiscical Package of Social Sciences-for Windows).

Research Instruments

During this study a questionnaire and Likert five-point scale assessment were used.

The questionnaire contains closed questions with multiple choice, from which we see gender, age, educational background and work experience, and with the scale of assessment we got answers that led us to the factors of cooperation of the family and preschool (nursery schools), communication of parents and preschool teachers, ability to provide good information for parents, participation in parent-teacher conferences, parental participation in the activities of the preschool, as well as issues that are involved because of the insufficient cooperation of teachers and parents.

The sample

The sample comprised 60 teachers from preschools (nursery schools) from the municipalities of Novi Pazar, Sjenica, Tutin, Prijepolje, and 80 parents of children in preschools (nursery schools) from the territory of the same municipalities.

Analysis and interpretation of the research results

Checking the reliability of the scale according to the assessment of parents, from the 7 indicators of communication of the parents with preschool Table 1 Cronbach's coeffici ALPHA = 0.751, indicates a good reliability and internal approval of the scale for this sample of respondents, regardless of measuring gauge having less than 10 items. The average value of the correlation between pairs of the value of the scale is 0.39 (optimum between 0.20 and 0.40).

Table 1: Measures of central tendency, variability and distribution of the frequency features of communication of parents with preschool teacher.

| Indicator | N | M | SD | (%) | (%) | (%) | (%) | (%) |
|-----------|----|------|------|------|-------|-------|-------|-------|
| KRSU1 | 80 | 4,59 | 74, | 2,60 | 0,00 | 0,00 | 31,20 | 66,20 |
| KRSU2 | 80 | 4,46 | 75, | 0,00 | 3,80 | 3,80 | 35,00 | 57,40 |
| KRSU3 | 80 | 4,64 | 51, | 0,00 | 0,00 | 1,20 | 33,80 | 65,00 |
| KRSU4 | 80 | 4,64 | 53, | 0,00 | 0,00 | 2,60 | 31,20 | 66,20 |
| KRSU5 | 80 | 4,58 | 50, | 0,00 | 0,00 | 0,00 | 42,50 | 57,50 |
| KRSU6 | 80 | 3,79 | 1,36 | 8,80 | 13,80 | 10,00 | 25,00 | 42,40 |
| KRSU7 | 80 | 4,02 | 1,07 | 5,00 | 5,00 | 10,00 | 42,50 | 37,50 |

A calculated arithmetic mean (M) of all indicators of 4.39 indicates that the communication of parents with preschool teachers, as assessed by parents, is very important. The value of the standard deviation (SD) of 0.78 indicates that the scattering around the arithmetic mean is very little, as confirmed by the coefficient of variation (CV) of 17.77 and thus confirms a very good homogeneity of the results for this sample of respondents.

With the analysis of the results in Table 1 we can see that parents respond mainly with 4 and 5 (agree and strongly agree), while two parents (2.60%) did not agree with this assertion. Therefore, we conclude that the respondents (parents) in the vast majority believe that the teacher is always ready to listen to parents and that parents can talk openly with a preschool teacher about the child.

The analysis of the results in Table 1 shows that parents mostly responded with the answer given under number 5 (strongly agree -57.40%), therefore most of them are satisfied with informing on the progress of the child by teachers, 35.00% agree, while 3.80 % of parents had no opinion (neutral), and 3.80% of parents do not agree with this assertion. Therefore, we conclude that respondents (parents) mostly believe that parents are kept continually informed of the progress of their child.

The analysis of the results in Table 1 shows that parents mostly gave an answer under number 5 (strongly agree) (65.00%), 33.80% of parents agree with this assertion, a small number of parents (1.20%) is neutral (no opinion) on topics related to their child. Therefore, we conclude that parents respect the opinion of teachers on topics related to their child.

The analysis of the results in Table 1 shows that most of the parents answered with number 5 (66.20%), 31.20% of them agree, 2.60% is neutral. Therefore, we conclude that parents mostly believe that the teacher is ready to listen to parents and to talk to them openly.

The analysis of the results in Table 1 shows that most parents answered with number 5 (57.50%), 42.50% of them agree with this assertion. Therefore, we conclude that parents mostly believe that the teacher respects the opinion of the parents of the child.

The analysis of the results in Table 1 shows that the majority of parents (42.40%) totally agree that they preschool teacher calls them only when a problem arises, 25.00% of them agree, 10.00% is neutral, 13.80% disagree and 8.80% of them do not at all agree that the preschool teacher contacts them only when a problem occurs. Therefore, we conclude that the majority of respondents believe that the preschool teacher contacts them only when a problem occurs.

The analysis of the results in Table 1 shows that the majority of parents (42.50%) agree that preschool teacher sees them as partners, 37.50% fully agree, 10.00% of the parents is neutral (no opinion), 5.00% disagrees and 5.00% do not at all agree that the preschool teacher sees them as partners. Therefore, we conclude that the majority of respondents believe that the preschool teacher sees parents as partners.

T-test

Table 2: Communication of the parents with the preschool teacher

| Parameters | gender | N | M | SD | Razl. M | | .t-value | .Sig |
|------------|--------|----|------|-----|---------|-------|----------|------|
| | | | | | M | KRSUZ | | |
| | | 23 | 4,31 | 50, | | -,11 | ,156 | ,694 |
| | | 57 | 4,42 | 54, | | | -,826 | ,411 |

The value of $t = -,826$ and its significance $Sig. = .411$ show that there is no statistically significant difference between the attitudes of parents in regards to their gender in the perceptions of communication of the parents and preschool teachers. So, based on the results we conclude that the sub-hypotheses confirms that *there is no statistically significant difference, as estimated by the parents, regarding the communication of parents and teachers in regards to gender, age and education level.*

ANOVA

Table 3: The views of parents about the communication with the preschool teacher –F-test

| Parameter | N | df | F | .Sig |
|---------------|----|----|-------|------|
| Communication | 80 | 3 | 2,646 | ,055 |

The value of F-test and its significance (.Sig.) show that there is no statistically significant difference between the parents in terms of age.

Table 4: The views of parents on communicating with the preschool teacher - comparing significance

| | AGE | MD | SE | .SIG |
|--------|-------|--------|------|------|
| 26-35 | 18-25 | -,756* | ,370 | ,045 |
| 36-45 | | -,958* | ,376 | ,013 |
| 46-55 | | -,905* | ,418 | ,034 |
| 18-25 | 26-35 | ,756* | ,370 | ,045 |
| 36-45 | | -,202 | ,125 | ,109 |
| 46-55 | | -,149 | ,223 | ,505 |
| 18-25 | 36-45 | ,958* | ,376 | ,013 |
| 35-26- | | ,202 | ,125 | ,109 |
| 46-55 | | ,053 | ,231 | ,820 |
| 18-25 | 46-55 | ,905* | ,418 | ,034 |
| 26-35 | | ,149 | ,223 | ,505 |
| 36-45 | | -,053 | ,231 | ,820 |

Note: The level of significance from 0,05

* - there is a statistically significant difference at the level of $p < 0,05$

Based on the results from the Table 4 we can see that there are significant differences between the age groups of 18-25 years and 26-35 years, between 18-25 and 36-45 years, and between 18-25 and 46-55 years when it comes to communication of parents with the preschool teacher. The difference between the other age groups was not statistically significant. Thus, we can conclude that sub-hypotheses is partially confirmed, saying that *there is no statistically significant difference, as estimated by the parents, in the communication of parents and teachers with respect to gender, age and education level*

Table 5: F-test in regards to the level of education

| Parameter | N | Df | F | .Sig |
|---------------|----|----|------|------|
| Communication | 80 | 4 | ,704 | ,592 |

With the analysis of Table 5 we can see that there is no statistically significant difference between respondents according to education level when it comes to the first sub-hypotheses.

Table 6: Comparing the significance in regards to the level of education

| LEVEL OF EDUCATION | | MD | SE | .SIG |
|--------------------|-----------|-------|------|------|
| Primary | Secondary | ,146 | ,176 | ,410 |
| Higher | | ,007 | ,283 | ,980 |
| Faculty | | -,023 | ,191 | ,906 |
| MA and PHD | | ,464 | ,407 | ,257 |
| Secondary | Primary | -,146 | ,176 | ,410 |
| Higher | | -,138 | ,253 | ,586 |
| Faculty | | -,168 | ,142 | ,239 |
| MA and PHD | | ,319 | ,386 | ,412 |
| Higher | Primary | -,007 | ,283 | ,980 |
| Secondary | | ,138 | ,253 | ,586 |
| Higher | | -,030 | ,264 | ,910 |
| MA and PHD | | ,457 | ,445 | ,308 |
| Faculty | Primary | ,023 | ,191 | ,906 |
| Secondary | | ,168 | ,142 | ,239 |
| Higher | | ,030 | ,264 | ,910 |
| MA and PHD | | ,487 | ,393 | ,219 |
| MA and PHD | Primary | -,464 | ,407 | ,257 |
| Secondary | | -,319 | ,386 | ,412 |
| Higher | | -,457 | ,445 | ,308 |
| Faculty | | -,487 | ,393 | ,219 |

Note: The level of significance from 0,05

On the basis of the results obtained, we can conclude that there is no statistically significant difference between the examinees in regards to the level of education when it comes to communication of parents with the preschool teachers and thus confirmed the third part of the first sub-hypotheses that there is no statistically significant difference, as estimated by the parents, about the communication between parents and teachers with regard to gender, age and place of residence.

Based on the results of research, we can conclude that the **sub-hypotheses is confirmed** that there is no statistically significant difference, as estimated by the parents, about the communication of parents and teachers with respect to gender, age and education level.

Conclusion

Cooperation and communication of the family (parents) and preschool institutions is very important. This opens the way of harmonizing the educational impact of individual and group contacts. Preschool teachers have a big responsibility in performing a direct cooperation with parents. There are, of course, preschool teachers, psychologists, social workers and doctors. Preschool teachers and school departments inform parents (family) on special preferences (and talents) of their children, as well as about the unexpected change of behavior because of the known or unknown causes. Events in the family are often the cause of the child's special features in behavior which is a clear sign that the child needs the support and assistance.

Parents will provide the necessary information to preschool teachers in order to avoid the possibility of insincere or imagined children's stories about the real situation in the family.

So on the basis of the results we can conclude that the main hypothesis of this research is partly confirmed and it says: **There is no statistically significant difference in the perception of parents and preschool teachers to parental cooperation with the preschools in the North Sandzak.**

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TURNING THE CRISIS INTO OPPORTUNITY: CASE OF BANVİT

Mustafa Tok

Suleyman Sah University

Turkey

110201049@st.ssu.edu.tr

Erhan Atay

Suleyman Sah University

Turkey

eatay@ssu.edu.tr

Abstract: Uncertainty is rapidly increasing in fast-changing world. With each moment we are faced with various crisis and uncertainties. Today, crises have become an important part of our lives. It is same for the organizations. That is why preventing the crisis before it starts, exiting from the crisis with minimum damage and effectively managing crisis has become a main object of the organizations.

In this research firstly; crisis, its reasons and effects are tried to be explained and identified. After that crisis management and its processes are examined and tried to be identified.

In second part of this study we are going to examine Banvit Bandırma Vitaminli Yem Sanayi Ticaret A.Ş. Şirket. We will try to examine and understand the organization's reaction to crisis (avian influenza), how they handle it and how a crisis can be turn into an opportunity.

1. Introduction

Crisis is the most important factor that affects the production and marketing strategies of organizations. Production and demand drops significantly during the crisis time. In global world; political instability, wars, technological innovations, socio-cultural and political changes effect the organizations anywhere in the world.

Although some researchers say that the biggest features of the crisis are emerging suddenly and occur an unexpected time, some crisis can be recognized, but if organizations cannot foresee upcoming events and improvements or cannot manage the situation, they will face crisis a lot. In order to prevent crisis, organizations need to develop strong crisis management procedures and make preparation for possible crisis.

2. Scope and Methods of the Study

This case study was made on Banvit (Bandırma Vitaminli Yem Sanayi Ticaret A.Ş. Şirket). Data were obtained for 2005. Secondary data is used. Main information source is the data from the company and it is also used newspapers' articles and corporate's website.

3. Purpose of the Study

Purpose of the study is to understand how crisis begins, develop and what should organizations do in order to stop and turn the crisis into an opportunity or avoid crisis with minimum damage. Banvit has been selected as example organization in order to understand the process of crisis and its management. Banvit is a feed and poultry producer that founded in Bandırma, western Turkey. They started as a feed producer in 1968 and moved into the production of broiler chickens in 1985. Today Banvit is the largest single broiler producer in Turkey.

4. LITERATURE REVIEW

4.1. Crisis

Today, there are lots of definitions for crisis. The word crisis means 'extraordinary and adverse event', 'difficult situation that undesirable and hard to avoid', 'complex phase of a work or an event' 'suddenly emerged deterioration and dangerous moment' (Tutar, 2011: 13).

In Oxford dictionary, definition of crisis is "*time of intense difficult or danger*". (<http://www.oxforddictionaries.com/>). In Turkish Language Society defines crisis as 'it is hard time, depression, of society or organization's life in a country or between the countries' (<http://tdk.gov.tr/>). Organizational sense, crisis threatens the existence and purpose of the organization (Sezgin, 181). In this respect, there were made some definition about what crisis means for organizations.

According to Tağraf, 'Crisis is unexpected and unforeseen situation which threatens the current value and purposes of the organization' (Tağraf & Arslan, 2003: 150). Güler defines crisis as; 'Crisis is an unexpected situation that can occur at anytime and it limits the organization's way of doing business' (Güler & Yılmaz, 2009: 88). Coombs's definition is "*Crisis is the perception of an unpredictable event that threatens important expectancies of stockholders related to health, safety, environmental and economic issues and can seriously impact an organization's performance and generate negative outcomes*" (Coombs, 2014: 3). In systematic approach "*Crisis is seen as critical change in important variables that endanger or destroy either part of or the entire system*" (Glasser, 2006: 11), and Devlin describes it as, "*Crisis is unstable time for an organization, with a distinct possibility for an undesirable outcome*" (Devlin, 2006: 5). Another definition is, 'Crisis is the situation of tension which is not expected and predicted, and which threatens the prevention and adoption mechanisms of the organization' (Baran, 2001: 26).

So, by looking at these definitions we can say that, crisis is a crucial situation that has to be handled quickly and in proper way before it turns into disaster or catastrophe for the organization.

4.2. Causes of Crisis

Many factors may bring out crisis in the organizations, but we can address them in two topics, one is internal factors, second one is external factors.

4.2.1. External Factors

The most important reason why organization is in the crisis is external environmental factors. External factors are the uncontrollable changes that occur outside of the organizations(Aymankuy, 2001: 107). "The external environment includes a wide variety of needs and influences that can affect the organization, but which the organization cannot directly control"(McNamara, 2006: 143). These uncountable factors are; natural environmental factors such as earthquakes, fire, and flood. Socio-cultural factors like change of values in society, social turmoil and reduction of customer's interest. Political factors, technological innovations and strong competition.

4.2.2. Internal Factors

Internal factors are related to external factors. These problems occurs when organizations cannot adapt and response to the changing external environment(Eerten, 2011: 8).

Incompetent Top Managers; Incapable senior executives have weak estimation and intuition about organization's future. Because of inability to understand differences of new problems and tendency to solve them in old way, denial of crisis(Baran, 2001: 29) and unqualified managers led organization to crisis(Yavaş, 2014: 16).

Data Collection and Lack of Experience; Crisis situation is not always occur surprisingly, sometimes unqualified managers cannot see the early warning signals of upcoming threat. This situation may become a crisis in the future and it prevents the organization from taking precautions(Yavaş, 2014: 16). To prevent this situation, organization should gather information and evaluate them. These information needs to be; accurate, received in exact time, full (all data that the manager needs), short (for making fast decision) and relevant (information should reach the required place or manager(Akçe, 2005: 22).

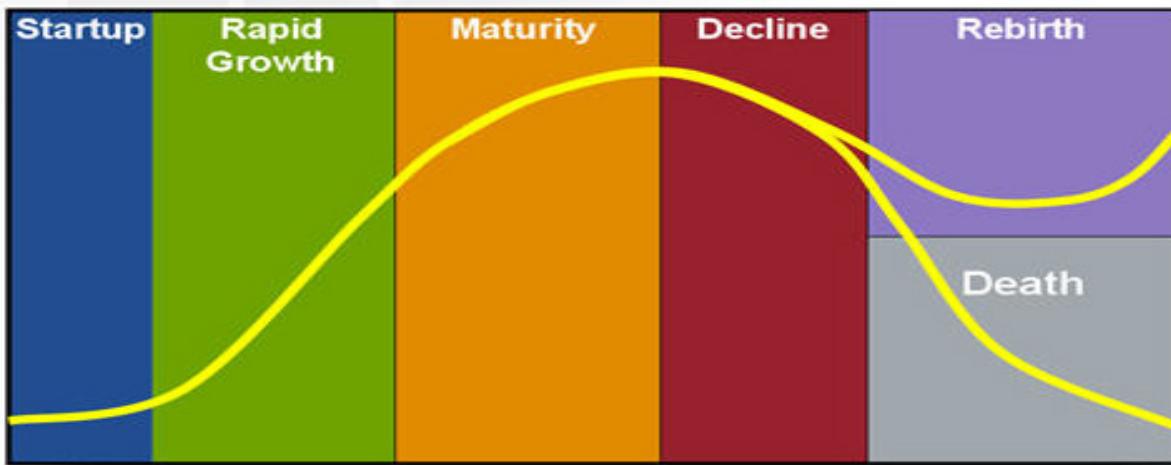
Organization's Experience; Organizations can benefit from their past experiences in order to solve the crisis they are in(Yavaş, 2014: 17), but generally, old experience is not suitable for new crisis and it requires new solutions(Baran, 2001: 29), so organizations should always consider new solutions for every possible threat that may occur in the future.

Management's Values, Benefits and Attitudes; Values and assumptions of the managers may in conflict with changing environment. This conflict may led organization to crisis(Yavaş, 2014: 17).

The life Stage of Organization; Organization may be in any phase in its life (birth, growth, maturity, regress, collapse). In first three phase, organization face only predictable problems and in last two stage, mostly faces with fear of loss and it usually threatens the organization's life span(Baran, 2001: 29). According to Greiner; organizations face leadership crisis in birth, devolution crisis at growth, bureaucracy crisis at maturity and need for resurgence at regress. If organization cannot overcome the regress it will collapse(Uzun, 2001: 38 in Şen, 2011: 20).

Life Cycle of Business

Lifecycle of a Business



Source: <http://thepresidentscouncil.org/are-you-sure-of-which-business-life-cycle-stage-youre-in/>

4.3. Types of Crisis

Origin of all type of crisis comes from technical, economic, social, legal, administrative, anthropogenic and communicative problems. Environmental and organizational factors are categorized as (Baran, 2001: 28):

| | |
|-----------------------|--------------------------------|
| -Industrial Accidents | -Environmental Problems |
| -Financial Problems | -Shareholder Problems |
| -Hand over | -Strike |
| -Recalled products | -Failure of Information System |
| -Natural Disasters | -Bankruptcy |
| -Service Disruptions | |

4.4. Formation Process of Crisis

Generally, crisis is defined as unexpected situation and it may occur anytime without giving a sign but it actually has a process. It is important the identification these processes to managing crisis effectively.

4.4.1. Inability to Recognize Interior and Exterior Signs (Blindness)

At this stage, there are signals about the situation that threatens the organization's aim and existence. Because of insufficient information flow in the organization (Demirtaş, 2000:361) managers cannot get enough information to take precaution. Taking the good results for granted, managers do not care the possible incoming crisis during pre-crisis period (Tağraf & Aslan, 2003: 151). However, when the severity of crisis increases, managerial and organizational problems become more obvious, and it may cause panic in management.

4.4.2. Failing to Take Action and Unresponsiveness Phase

In this phase, managers think that, danger or opportunity that emerged is temporary or cost of changing the current practice will be high(Baran, 2001: 31). Because of these thought, managers expect crisis to recover by itself or it is believed that the current situation can be resolved over time with temporary measures and standards(Tağraf & Arslan, 2003: 151).

4.4.3. Wrong Decisions and Activities

In this stage, management recognizes that, there is a crisis in the organization. At this rate some problems occur in the organization such as lack of capital, decline in the market share and profitability, reduction of qualified staff and increasing centralization etc. this make uncertainty for the future and it prevents common views in the management(Akçe, 2005: 37).

4.4.4. Crisis Stage

In this phase, if an organization fails to pass through first three stages and cannot adopt the changes, then crisis revealed and anger and bustle occurs in the management (Baran, 2001: 32).

At crisis stage, organization may have not passed all of these processes (4.1, 4.2, and 4.3). At this stage, management should change organization's purposes, strategies, structure, functions and personnel. However, if organization pass all of these process (4.1, 4.2, 4.3) then management should be changed(Sucu, 2000: 65).

4.4.5. Solution or Bankruptcy of the Organization

Exit from the crisis, but if intervention is insufficient then it will decrease the chance of survival of the organization(Sucu, 2000: 66).

4.5. Result of the Crisis

There will be two outcomes after the crisis. First one is negative results, second one is positive results.

4.5.1. Negative Effects of the Crisis

Tendency of Centralization in Decisions: In crisis time, quick decision must be made by the managers. In order to make quick decision, power of authority must gather in the center(Şen, 2011: 31). The reason of gathering authority in the center is that crisis is corrupting the normal decision-making process in the lower management and top management wants to be informed all of the process(Özdevecioğlu, 2002: 99). That is why organizations are centralized in the time of crisis.

Organizational Communication Corruption; In crisis situation, because of lack of time, and information, there will be tension in the whole organization from lower level to top management. The reason is that this information from outside of the organization is insufficient and because of insufficient information, there will be deficiency and disconnections within the organization. In time of crisis, information from outside of the organization might be inadequate or none. In that case, there might be a problem among decision makers, personnel and information processing in the

organization(Özdevecioğlu, 2002: 99).

Deterioration of the Quality of Decisions; Making quick decisions only in head office impair the quality of decision. Because for quick responding, manager will decide by asking few managers or bosses. This cause poor communication and lack of information. So in this situation, manager cannot make good decision(Özdevecioğlu, 2002: 99).

Psychological And Physiological Depression; Even crisis is abolished; still some members of the organization may not escape from effect of the crisis. Because even minor problems are perceived as a harbinger of the crisis during that time and it cause a feeling of shyness about making new ideas(Özdevecioğlu, 2002: 101).

Increase in Self-Defense; In crisis time, all energy and attention focused on solution to overcome the crisis(Şen, 35 :2011), but after overcoming crisis, worker will begin to fear for the future because working at an organization in crisis is risky(Özdevecioğlu, 2002: 101).

The Decline of Confidence between Employees and Top Management; Due to the centralization, number of empowered personnel will be decreased, so participation of employees will be reduced. Because of these reasons, there will be strong resistance to change among the employees (Şen, 35 :2011).

4.5.2. Positive Effects of the Crisis

Emerging Of the Weaknesses of The Organization; Organizations usually do not revision their daily activities when everything is alright. They cannot see the problems or ignore the problems they discovered and they get used to it(Akçe, 2005: 28). However in the time of crisis, these problems attract the attentions. That is why we can say that, it is the positive effect of the crisis(Şen, 2011: 36).

Development of Effective Strategies; Crisis must be recognized as soon as possible in order to minimize its effects. But to do so, it is not enough to use conventional methods(Akçe, 2005: 29). They need to develop new strategies. Otherwise, organizations cannot keep up with changes and cannot compete with competitors(Şen, 2005: 36).

Establishing Teamwork and Discovery Of New Talents; If crisis handled with care, teams are created and some talented personnel might be found after the crisis, because in the time of crisis, management will create teams and some extra work will be given to lower and middle class managers by the top management. This extra works will improve the managers' talents(Akçe, 2005: 28-29).

Developing Effective Strategies; By establishing early warning system, organization can recognize exterior threats and opportunities. Organization can develop new strategies by looking at these threats and opportunities(Şen, 2005: 36).

4.6. Crisis Management

The meaning of the crisis management in the Turkish Language Society (TDK) is, 'it is a way of management in a troubled time (because of faulty production, raw material shortage, low quality, marketing, etc.) by the managers.' (<http://tdk.gov.tr/>). Every crisis requires immediate response. As in the definition of crisis, there are lots of definitions about crisis management. According to Tutar's definition of crisis management,

'Instead of detecting problems early or taking steps for limiting the results of these problems, it is a reaction to problems after it occurs' (Tutar, 2011: 69). Akdağ defines crisis management as, 'Crisis management is a public relation studies which is done in order to avoid damage to communicate with target audience and to prevent injuries to organization's image' (Akdağ, 2005: 3). In a different definition, "Crisis management is a changing tasks and processes of the organization during the crisis time" (Glasser, 2006: 22). Coombs describe it as, "Crisis management represents set of factors designed to combat crisis and to lessen the actual damage inflicted." (Coombs, 2014: 5). According to Devlin, "Crisis management was designed as special measures taken to solve problems caused by a crisis to confine or minimize any damage to the organization's reputation or image." (Devlin, 2006: 1).

4.6.1. Pre-Crisis Management

Pre-Crisis phase is one of the periods of crisis. For the organizations, primarily important thing is not to overcome the crisis (Ofluoğlu, 2001: 3). Pre-crisis management should make accurate forecast, necessary strategies and preparation before the crisis moment by noticing the early warnings and signs of incoming crisis (Demir, 2011: 31). Basic studies are required by the pre-crisis management:

- Creating Strategies
- Establishing an early-warning system
- Making Crisis Management plan
- Establishing Crisis Management team

4.6.2. Crisis Moment Management

Approaches for management during crisis and post-crisis period are very different from the pre-crisis stage (Babüroğlu, 1999: 6). During the crisis time, trying to solve the problem as if the organization is in under normal conditions will fail. (Ofluoğlu, 2001: 15). During this period, the decision taken should be more consistent and also should serve post-crisis period (Demir, 2011: 31).

Crisis management during the crisis consist three phases (Demir, 2011: 32):

- Crisis should be identified, emergency detection should be done.
- Organization should determine what kind of measures to be taken and related decision should be taken.
- The decision taken must be implemented, the process of implementation should be monitored and the results should be evaluated.

4.6.3. Post-Crisis Management

The end of the crisis period is the period after the crisis, but the effects continue. The purpose of post-crisis management is to eliminate the behavior of feeling of insecurity, fear, fatigue and excessive reaction to even small problems (Erten, 2011: 32).

Management prepares for the recurrence of the crisis. Organization tries to prevent crisis as much as possible but if occurs again, management determines urgent applications (Ofluoğlu, 2001: 24).

4.7. Approaches

There are 2 basic approaches which is the subject of crisis management (Dinçer, Ön.Ver. s.328 in Aymantkuy, 2001: 108);

Avoiding Crisis; the main purpose here is to prevent organization go into crisis. In order to prevent and effectively manage the crisis, organizations should create mechanisms that collect and evaluate the crisis and make plans by evaluating the result of crisis signals(Erten, 2011: 23-24).

Crisis Solving Approach; in case of facing possible crisis, it is a process of recognizing and evaluating early signals of crisis and taking necessary precautions and practice them at the right time in order to overcome the crisis with minimal losses(Baran, 2001: 32).

We saw the simple three-stage approach above (6.1, 6.2, 6.3), but in order to better understand stages of crisis it is tried to be explained Pearson and Mitroff's five stage framework of crisis management at below(Pearson and Mitroff(1993) in Crandall & Spillan, 2009: 9-10);



Source:<http://www.slideshare.net/AnishaDahiya/understanding-crisis-management-30380919>

Signal Detection; sometimes crisis warns the organization before it occurs. By capturing these signals, organization can make preparation for the impending crisis.

Preparation/Prevention; in this stage crisis management team make plan by looking the data obtained from phase of the crisis signal and attack the crisis that may occur. The purpose is preventing as many crises as possible and manage crisis that appear.

Containment/Damage Limitation; the goal is to mitigate the effect of the crisis and kept damage minimum to organization and stakeholder.

Recovery; the intention is to continue the activities of organization as normal as possible. Short-term recovery aims to get operations back to acceptable level. In long-term, it is expected that operational activities will be restored to their pre-crisis level or better.

Learning; in this stage, organizations should not seek scapegoat or blame another party for the crisis. Instead of this, organizations should take lesson from the crisis and use this information to improve current operational problems and preventing future ones.

"An open system is a system that regularly exchanges feedback with its external environment. Open systems are systems, of course, so inputs, processes, outputs, goals, assessment and evaluation, and learning are all important" (McNamara, 2006: 143). Organizations are constantly interacting with the environment. This interaction is very important for the organizations. In the absence of inputs, there will be no output (Yalçınkaya, 2002: 105) so it means organizations cannot survive if they cannot sell outputs.

Avian Influenza was a big environmental problem for white meat producers. One of the white meat producers Banvit is an open system organization and it was affected from that problematic environment.

5. Banvit Case Study

Avian Influenza (bird flu) began to be seen in Far-East countries in 2003 and it spread to other countries by migratory birds¹. This disease was seen in lots of countries including Europe and it affects the economies of these countries. Avian influenza emerged in October 5, 2005 for the first time in Turkey, it transmitted to 12 people and killed 4 of them and also it downsized Turkish poultry sector². Banvit was one of the companies that were affected from this chaotic environment. Their sales came to a standstill and their stock prices declined.

1:http://www.mfa.gov.tr/avian-influenza_kus-gribi_hastaliginin-turk-ekonomisi-uzerindeki-etkileri_.tr.mfa

2:<http://www.kusgribi.gov.tr/TR/Genel/BelgeGoster.aspx?F6E10F8892433CFFAAF6AA849816B2EF3F93D97214554F97>

5.1. Pre-crisis Period

There had been many signals to be noticed before the crisis of avian influenza broke out. First of all, the occurrence of a disease in Far-East and the developments related to the risk that the disease might be spread by migratory birds were amongst these signals. This case put Turkey in potentially risky position. In this step, their priority was preventing crisis or managing the crisis with minimum damage by evaluating the early signals of crisis. With this respect, the works of Banvit in Pre-Crisis period were:

Company Meetings

Executive committee, in which also the directors of corporate development and communications are included, met in stated meeting every Friday. There had been exchange of information, situation assessment and risk analyses in these meetings. Developments related to the avian influenza in Far-East countries have been followed and the studies of World Health Organization have been examined.

Informing the employees

Live Production Director, who manages the core of production (breeding farms), and veterinary surgeon and breeders came together at educational meetings. People at the meeting were informed about avian influenza, bio-security measures and disinfection system in case the virus spread to poultry. There has been information sharing about the crisis that the disease may bear, and also in monthly personnel meetings where administrative departments and production departments have

participated; the CEO, Ömer Görener, shared information with employees about the disease.

Avian Influenza Seminar and Demonstration Works

In case that avian influenza occurs in Turkey, Avian Influenza emergency action plan was addressed through seminar and demonstration in Balıkesir 5-9th September. This study was undertaken by the officials from Ministry of Agriculture and Rural Affairs, Ministry of Health, Banvit, other sectoral firms, local administrations, and TAIEX (European Commission Technical Assistance and Information Exchange). In this seminar, there was presentation on "Avian Influenza Emergency Action Plan". In virtual demonstration, an emergency action practice was made against a possible avian influenza incident close by Manyas Bird Paradise.

The Creation of a Crisis Management Team

Crisis management team was formed to manage the crisis that may occur in the pre-crisis period. This team determined the crisis communication and management policies. After that, spokesman was selected in order to provide information to the media and target audience. CEO of the company was decided to be crisis spokesman.

Management team

- CEO
- Institutional development and communication director
- Business director
- Communication agency representative

5.2. Crisis Period

News and Interview Studies

The first week of the outbreak of the crisis, CEO's interview has been published in all national newspapers. Company's CEO has attended 4 times live broadcast in TRT HABER and other programs and in these interviews, images that related to safety and hygiene conditions of production facilities were shown very often.

Newspapers and Advertising Activities

In the first campaign, 6 different printed advertising was published on newspapers. Advertisements were published 5 days after the outbreak of the crisis. These advertisements were published 40 times in 22 national newspapers and 2 magazines in 13 October- 22 November. We can see the advertisement and given message below:

| Ads | Messages |
|----------------------|---|
| Her Kuşun Eti Yenmez | Questions was answered ('What is bird flu?', 'How does it infect?', 'Does it pass from human to human?', 'What are the symptoms?', 'What are the ways of protection and treatment') |

| | |
|-------------|--|
| Kuşkusuz | It has been given 'no doubt the Banvit' message to the consumer who already knows what bird flu is |
| Uygunuz | 'Message was given 'use packaged products' |
| Uyanık Olun | Real danger comes from poultry that grown in the open. Do not buy unpacked products |
| Emin Olun | It is continuation ads of 'Uyanık Olun'. Message was 'Choose brands that have quality 'assurance practices' |
| Ürün Takip | .It was given info how to reach information about products through website |

Advertisorial Campaigns

First TV advertorial campaign was broadcasted in all national channels in October 19-31, 2005. In this period, 2 short videos were shown, first one was 70 seconds. It was explained that the virus came to our country through migratory birds in the first 20 seconds of first video. Through the last 50 seconds, Banvit's hygiene and quality assurance standards were introduced. Second video was 60 seconds. Through the second video; technology, production standards, bio-security practices, and hygiene procedures were shown. Both videos have been published 200 times in 14 channels in the 12-day period.

Second advertorial campaign was published in January 26- February 5, 2006. In this period, second video in the first campaign was changed visually and textually and published as a third video and it has been published 221 times in 15 national channels in 15-days period. In March 29-April 4, 2006, fourth advertorial video was published and its main theme was 'izlenebilirlik' (traceability). That movie was shown 68 times in 4 channels in 6-days period.

Web Communication

Banvit began to publish information about avian influenza, the dangers, way of protection and treatment in Banvit's website.(www.banvit.com.). Banvit sent mails to 575.000 people with attached information. We can see the studies below:

| Web Communication |
|--|
| By making question-response part in the website, questions were answered as quickly as possible |
| 'izlenebilirlik' (traceability) work started by the company transferred to the web' |
| Consumer can watch their product on the website by entering the barcode number of their products |
| By informing 19 e-groups (internet groups), accurate information and answers were provided |

Outdoor and Alternative Environment Studies

| Outdoor and Alternative Environment Studies | |
|--|--|
| Advertising -Metro | This advertisings was displayed in the billboard at the Istanbul subway |
| Movies-Metro | First advertorial movie was shown in Istanbul, third movie was shown in Ankara metro and stations |
| Movies-Cinema | 'Traceability' movie was shown in Izmir, Ankara and Istanbul cinemas' |
| Banners | For 'Traceability' (tracking products) campaign, banners were given to websites. (mynet.com, msn messenger, bebek.com, yemeksepeti.com, ailem.com, milliyet.com) |

STBP Studies

CEO of Banvit Ömer Görener, serving as executive board member in Sağlıklı Tavuk Bilgi Platformu (STBP), he played an active role in all communication activities carried out by STBP. Various advertising campaigns were made in collaboration with STBP such as; giving accurate information about avian influenza, the ways of protection, and importance of consuming branded and packaged products.

Brochures Works

774.000 brochures were printed to be given to consumers and customers. Through these brochures, cases of avian influenza and issues that are wondered by consumers, clarifications of ministry of agriculture informed. Also, it was reminded that branded and packed products should be consumed and the message 'Banvit's products can be consumed without doubt' was given.

Internal Communication

The staff meeting which CEO included were continued during crisis. Recent developments about crisis and its effects on private sector and Banvit, were discussed in these meetings. In addition, CEO and Corporate Development and Communications Director sent mail to staff for informing the employees about avian influenza. In order to keep staff's morale high, some support messages from educational institutions, partner companies and consumers were shared with employees. Proficiency test which is to detect administrative staff's knowledge about production process was done. Personnel that could not show adequate performance, sent to orientation program to update their knowledges.

5.3. Post-Crisis Period

Project 'İyiliğiniz İçin, Sağlığınız İçin'

It was seen that, society who do not have sufficient information about avian influenza, caused emergence of speculation and panic. The probability of facing a similar event such as avian influenza, Banvit launched social responsibility project to be implemented in the Aegean and Marmara region. This project was performed in 68 districts and 88 villages from İzmir, Bursa, Balıkesir and Çanakkale. This project was performed by 27 veterinaries and professionals educators in May, June, July, 2006.

Village Education

Educations were centered on raising awareness about the disease and it was given to villagers living in rural areas. These educations basically explain;

- What avian influenza is and its dangers
- How this disease spread and what are the symptoms
- How to approach the sick animals
- Measures to be taken against the disease.

Public Education Centers (HEM) Education

Purpose of this education is to inform housewives about avian influenza, food safety and hygiene rules to be followed at home.

Primary School Education

These events showed that, children especially living in rural region are more vulnerable to disease. With this respect, some information was given to children to understand;

- What is microbe and what does it like?
- When do they and why and how should they wash their hands?
- Which animals they can play

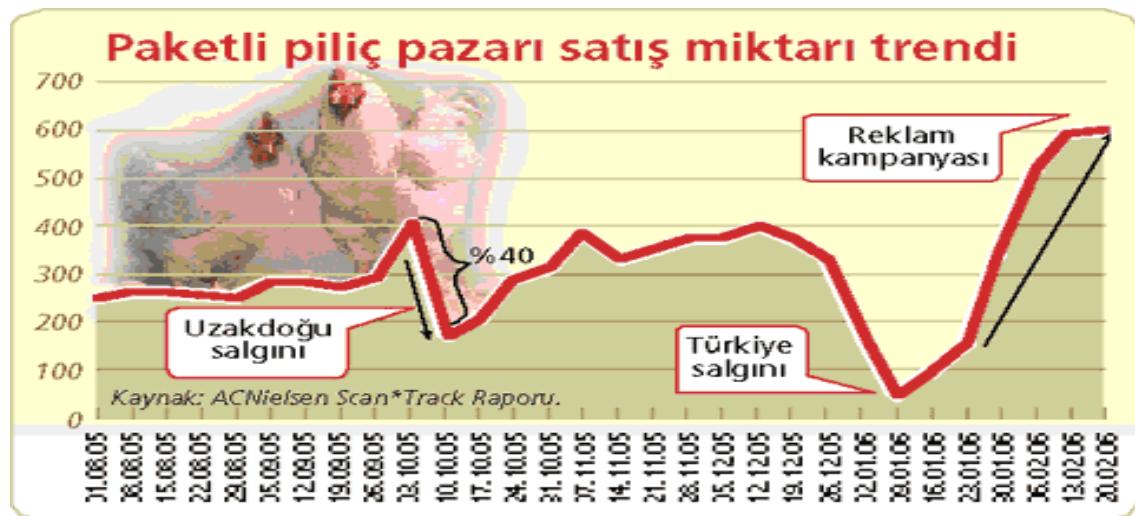
At the end of the education, letters were given to the children to pass on to their parents. These letters included same information and it was also explained why poultry should be fed in the coops. With this practice, Banvit aimed that to strengthen the basic awareness about ways of protection from avian influenza.

Avian Influenza Fast Testing Procedure

Although the virus is seen in free-roaming poultry, there are risks spread to coops of the companies. To eliminate this risk, Banvit made test that detect virus. It allows the virus to be controlled and this early diagnosis resetting the risks.

6. Conclusions and Recommendations

When crisis arise, it is mentioned as a condition which entails losses and occur suddenly in organizations. However, crises usually send signals before it happens but generally, managers pay no attentions.(Tağraf&Arslan, 2003: 158) That is why organizations face crises a lot. In pre-crisis period, Banvit was able to notice the threat and soon they made preparation for incoming crisis. We can say that they could recognize the early signals of upcoming crisis and make preparation for it. However, although it was foreseen upcoming crisis, Banvit and other organizations could not prevent the crisis and poultry sector were damaged in Turkey.

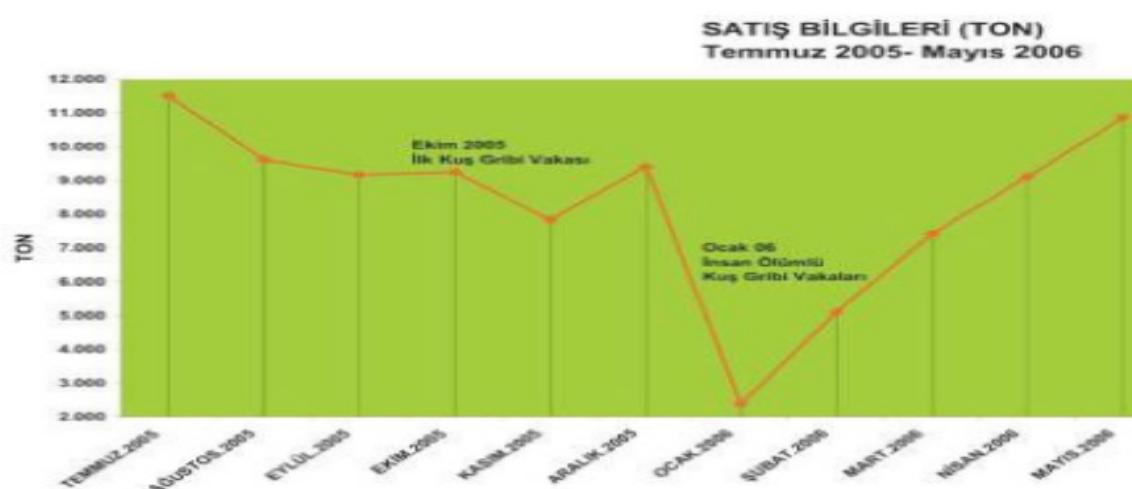


| Poşette bütün tavuğu ortalama perakende fiyatı (kg/YTL) | Tarih | Fiyatı | Tarih | Fiyatı |
|---|-----------|--------|---------|--------|
| tavuğu | 5 Ağustos | 4.74 | 6 Ocak | 2.46 |
| ortalama | 5 Eylül | 3.67 | 6 Şubat | 3.29 |
| perakende | 5 Ekim | 2.36 | 6 Mart | 4.05 |
| fiyatı (kg/YTL) | 5 Kasım | 2.21 | 30 Mart | 4.40 |
| | 5 Aralık | 3.14 | | |

Source: <http://www.milliyet.com.tr/2006/03/31/ekonomi/resim/axeko02.gif>

As we can see there is a decrease in sales of white meat about 60-70% in October 2006 because of detection of avian influenza and deaths due to illness.

In crisis period, cooperate with STBP, newspaper and TV commercial studies that provide detailed information about avian influenza made packed chicken sales have become better than pre-crisis period. Consumer awareness was increased by right information that provided by the organization. At the end of the crisis, Banvit started to recover its wound and turn to crisis into opportunity. In this stage, Banvit limited the damage of the crisis, recover its wounds and they could turn the crisis into an opportunity. They could achieve the high sales rate after the crisis by directing people to buy packed products.



According to household consumption panel survey that made by Banvit, packed white meat consumption increased %168 in general, packed white meat consumption of Banvit increased %179.

Managerial implication

In summary, there is no exact method to completely prevent the crisis in advance. Organizations that having continues interaction with their environment are very vulnerable about change in their environment, but organization can see the incoming crisis by watching their environment by creating right early warning system.

So, instead of dealing crisis after it happens, organizations should try to eliminate or reduce effect of crisis before it occurs. To do so, organizations should restructure their approach to crisis and make plans and studies for pre-crisis to post-crisis period. However if organizations go into crisis, someone should take command but he/she should not take all authority because if he/she gather all authority on himself/herself, he/she will prevent new ideas and opinion.

7. Attachments

All documents below are taken from Banvit Bandırma Vitaminli Yem Sanayi Ticaret A.Ş. Şirket.

Newspaper and Interview Samples



Media Plan Summary

| Advert | Date | Repetition | Publication |
|----------------------|--------------------|------------|--|
| Her Kuşun Efi Yenmez | October 2005 13-16 | 20 | Akşam, Hürriyet, Sabah, Dünya, Posta, Referans, Takvim, Yenişafak, Milliyet, Tercuman, Türkiye, Vatan, Zaman, Cumhuriyet, D.B., Gözcü, Güneş, Radikal, Star, Yeni Asır |

| | | | |
|----------|---|----|---|
| Uygunsuz | October 2005 29-31 | 10 | Vatan, Akşam, Milliyet, Posta, Zaman, Radical, Hürriyet, Sabah, Sonar, Cumhuriyet |
| Kuşkusuz | November 2005 18-22 November-December 2005 | 10 | Fanatik Basket Newspaper, Lezzet Güneşi, Çocuğum ve Ben Magazines |

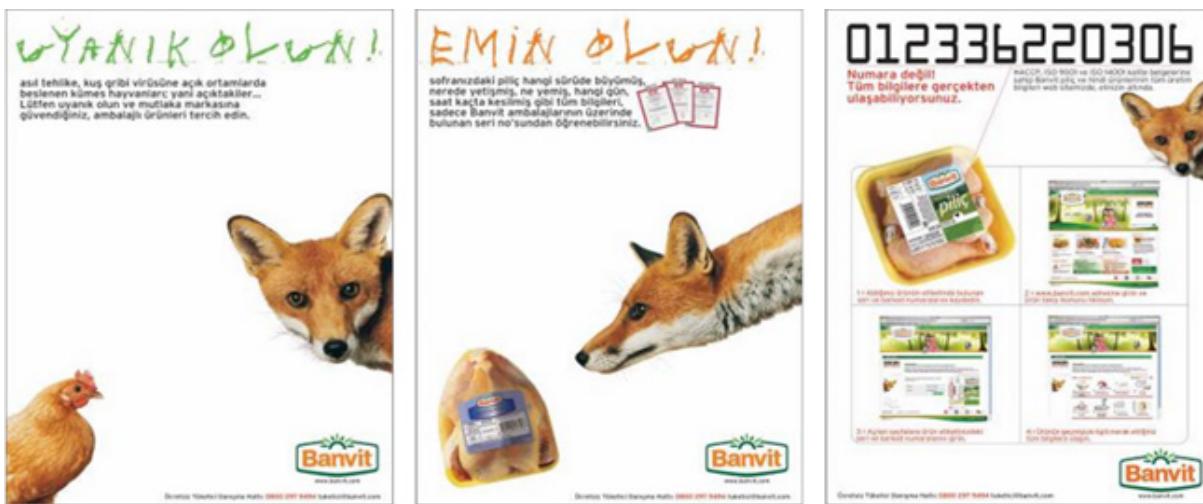
| Advert | Date | Repetition | Publications |
|---------------------------------------|--|------------|--|
| Emin olun ve uyanık olun Emin Olun | January 2006 22-29 January 2006 29-31 | 24 | Hürriyet, Sabah, Milliyet, Posta, Radical, Akşam, Takvim, Yeni Asır, Vatan, Zaman, Türkiye, Gözlem |
| İzlenebilirlik | March 2006 15-26 | 6 | Hürriyet, Sabah, Posta, Takvim, Yeni Asır, Gözlem |

Advertisorial

| Campaign | Date | (Time (second | Channels |
|-----------------|---|---------------|--|
| 1. and 2. movie | October 2005 19-31 | 'and 60 '70 | Show TV, Kanal D, Atv, Kanal 7, Star, STV, TGRT, NTV, Cnbc-e, CnnTürk, SkyTürk, TV8, Ege TV, Olay TV, Sky TV, Haber Türk |
| 3. movie | January 2005 22-27 January- 5 February 27 2005 | '60 '55 | Atv, Cnbc-e, CnnTürk, Ege TV, HaberTürk, Kanal 7, Kanal D, NTV, Olay TV, Show TV, SkyTürk, Star, STV, TGRT, TV8 |
| 4. movie | March 2006 29-31 April 2006 1-4 | '20 '20 | Atv, Kanal D, Show TV, Star |

Advertisement Samples





Website and Mailing Samples



Outdoor and Alternative Environment Samples



STBP Advertisement Samples

% 100 güvenli

Uluslararası hijyen standartlarına uygun olarak entegre tesislerde üretilen markalı* tavuk ürünlerini güvenle yiyebilirsiniz

Brochure Samples

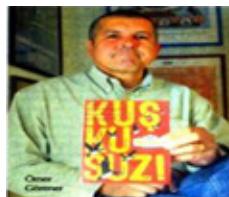
The image displays two promotional items for Banvit. On the left is a green plastic bag containing a single piece of Banvit bread. The bag has a yellow label with the brand name 'Banvit' and a small image of the bread. On the right is a red cardboard box with a yellow lid. The lid features a large image of a sandwich made with Banvit bread, along with the text 'ET VE VE UYULMASI GEREKEN KURALLAR.' (Et ve ve uylmasi gereken kurallar) and a smaller section about food safety rules.

An advertisement for Banvit featuring a white certificate on the left and a large graphic of a bird with the text 'HER KUSUN ETİ YENMEZ!' on the right.

The image shows a promotional poster for Banvit's 'Kusuz!' (Bird-Free) campaign. The top half features a green background with a white document containing text and signatures. Below this is a red section with a large yellow 'KUSUZ!' logo where the letters are partially obscured by silhouettes of various birds in flight. The word 'Banvit' is written in a smaller font above the 'KUSUZ!' logo. The bottom half has a yellow background with more bird silhouettes at the bottom. It contains several columns of text in Turkish, each starting with a bold heading like 'SİZ İÇİN KÜŞÜZ!', 'KÜŞÜZ GÖRÜŞÜ', 'NEDEN KÜŞÜZ?', 'KÜŞÜZ İÇİNDİRİMLİ', 'KÜŞÜZ İÇİNDİRİMLİ', and 'GÜZEL BİR KÜŞÜZ İÇİNDİRİMLİ'. A small 'Banvit' logo is in the bottom right corner.

The image shows the Banvit logo at the top right, featuring a green stylized mountain peak above the word "Banvit". Below it is a white envelope containing a formal letter. The letterhead on the envelope includes the company name "Banvit" and "BANVIT İNŞAAT HİZMETLERİ A.Ş." followed by a PTT logo and the address "BANVİT İNŞAAT HİZMETLERİ A.Ş. 34345, İSTANBUL / TURKEY". The letter is dated "15.01.2008" and addressed to "BİLGİLENDİRME BÖLÜMÜ" with the subject "BİLGİLENDİRME İHTİYACI". The body of the letter discusses the need for information regarding the construction of a bridge over the Dardanelles strait. At the bottom of the page, there are five small logos for different companies: Banvit, Kepco, Bosphorus, and two others whose names are partially visible.

Banners of Social Projects and News Samples



Bugün-17.08.2006



Akşam-28.12.2006

Kuş gribi için eğitim şart

vaparı, 25 milyar dolar boyutundur. Bu kattan sonraki yenilenme yüzünden varsağın, daima müstakil bir geleceğin varlığından söz edilecektir. **MÜGДЕСИЕВСКИЙ:** Sektorde mevcut sancakları hedef eden Sagitli Tavşık Platforması'na önem veriyorum. "Sagitli Tavşık" adı ertesi gün de kullanılmıştır. Bu tür hizmetlerdeki bilgiye sahip olanlar, sektördeki varlıklarının sınırlarını çöptür. Bu sayede bu türden işlerin yanı sıra, teknolojiyi, bilgiyi, teknolojik yenilikleri, teknolojik gelişmeleri, teknolojik adamları ve varlıklarını da ortaya koymayı düşü-



**Banvit 72.850 kişiye
kuş gribi eğitimi verdi**

KURŞ grubuna karşı eğitimi sefakarlığı bağlayan Bursut, dört ikinci eğitimlerde kadın ve çocukların öncelik verdi.



Vatan-17.08.2006

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TURKİSH AUTOMOBİLE MARKET ANALYSİS

Fatih Muratoğlu

Suleyman Sah University

Turkey

fatihmuratoglu2029@hotmail.com

Erhan Atay

Suleyman Sah University

Turkey

eatay@ssu.edu.tr

Abstract: It is obvious that the automotive industry provides an supplementary wellness and comfort to our daily life. Besides the giant western producers, the Far East and Asian countries who had participated into the market, have later received a good share of the pie. Western manufacturers have new technology, long achieved brand value and also production costs advantages. Turkey has been trying to manufacture its own brand more than 50 years. It has gained experience through foreign brands assembly process and also have cheap labor advantage. This paper analyzes the Turkey's current position in automobile industry to understand whether it has a potential to produce its own brand or not. Competitors positions, rivalry among main car brands in Turkish market, sub-industry infrastructure and other related topics is discussed through Porter's five power framework.

Key Words: "Turkish Automotive Industry", "The World Automotive Industry", "

Introduction

In this thesis we will observe and explain the importance of the domestic automobile production and also this process in the frame of Porter's 5 power models accordingly. Turkey has a significant share which approximately 1 per cent in the automotive industry of the world market having a total amount of 1.8 trillion euros. However, Turkey is currently manufacturing cars and automotive peripherals under the license of world giant brands. Due to this situation it can not provide a high rate of additions to the national income and thus to economy aimed to be fulfilled.

Native automotive companies have reached to a potential of manufacturing domestic cars and motor vehicles with a rate of 80-90 per cent of the whole components of the mentioned vehicle in the present time. (2014 otomotiv raporu, 2014)

Automobile industry is directly linked to many businesses. The Domestic cars to be produced in Turkey will support the economy and social welfare in large scale and also help the neighboring sectors grow simultaneously.

It is also essential to analyze thoroughly the rules of Porter's five power competitive advantage. In this thesis, the world automotive sector has been examined and also the Turkish automotive sector has been evaluated with the current status in parallel with it. Also, for providing extra share and the developing of the Turkish automotive industry Porter's five forces analysis were examined.

Purpose of this Study

Our goal in this study is to produce 100% domestic automobile brands, in the manufacturing procedures which are free from the foreign license and other foreign obligations in our region and to enable have a greater share and a strong position with its proper production rules and strategies of the brands, to take an important role in the global automotive market competition.

In Turkey, Turkish automotive sector has strong sub-industry and others factors. So, sub industry allows to produce a rate of %80-90 domestic car, but up to this day, we could not produce our own car. This was our main problem for decades. With domestic automobile project to be produced, Turkey will enter into competition with other world famous brands in the domestic market. The Turkish automobile owners will also receive great benefits and profits thanks to this competition.

In addition, our goal together with Porter's five forces model are to allow the domestic automotive enterprises take essential measures to show potential competitive challenges and persistence. However, although the East and Far East countries have later entered the automotive market, They started to rule and dominate the market, and saved the global sector from the domination of Western countries. We also notice that we can obtain great advantages of an experience over 60 years in this market in this battle of giant manufacturers.

Importance of the study

Today when compared side by side with the countries that are considered as developed countries, large-scale automotive industry in this country seems to have an important amount of volume in the economical structure. Technological know-how and strong infrastructure were owned by these countries, while continuing the development of the automotive industry, the automotive industry has always been one of the major secret weapon of the economical development of any producer country in the world (Karabulut, 2002: 1).

The world automobile industry has reached to a very high production volume with an annual trade volume of 1.8 trillion euros. Automotive industry provides employment for almost 50 million people in all over the world and also derives the global automotive industry to achieve 500 billion euros of tax revenue. (Bayrakçeken, 2005/2)

This is quite a big scene and serious scale of economical circulation across national and international markets.

According to 2011 data statistics, the Turkish automotive industry production value is 58 billion Turkish Liras. If we evaluate the same year total industrial production value as considered to be £ 703 billion, it can be seen that 8.3 per cent of the automotive manufacturing industry takes an important place in terms of the production value. (otomotiv sektörü raporu ,2014/1)

Also, 50000 people are employed in the automotive industry. Moreover, 400.000 people are working together in the related industry and other fields. (Türkiye otomotiv sektörü strateji belgesi ve eylem planı, 2014)

These data consider that, rates will move upwards with domestic car brands which will be produced in the future. In the automotive sector as well as the interaction itself, it should ensure greater employment opportunities with other neighboring side sectors. Domestic car project is also great importance in terms of employment and great opportunity to make way to new manufacturing areas and economical trends.

The method to be followed in the study

This study examined the automotive world, the Turkish automotive sector has been identified in the world of automotive industry.

In addition, major western automotive manufacturers compete together with the inclusion markets in the eastern and far eastern countries. We can see that the western producers lose power and reputation in the automobile sector. For this purpose, Turkish and world automotive sectors are examined in details. The Turkish automobile industry is located in this context properly. Also, our sample here is the Turkish automotive sector. Graphics and numerical data in some parts of the study are shown with references. Secondary data were also generated using the method of this thesis.

Secondary data, is data collected by someone other than the user. Common sources of secondary data for social science include censuses, organisational records and data collected through qualitative methodologies or qualitative research. Primary data, by contrast, are collected by the investigator conducting the research. Secondary data analysis saves time that would otherwise be spent collecting data and, particularly in the case of quantitative data, provides larger and higher-quality databases that would be unfeasible for any individual researcher to collect on their own. In addition, analysts of social and economic change consider secondary data essential, since it is impossible to conduct a new survey that can adequately capture past change and/or developments. Swot analysis is used applied. A SWOT analysis (alternatively SWOT matrix) is a structured planning method used to evaluate the strengths, weaknesses, opportunities and threats involved in a Project or in a business venture. A SWOT analysis can be carried out for a product, place, industry or person. It involves specifying the objective of the business venture or project and identifying the internal and external factors that are favorable and unfavorable to achieve that objective(Bishop,2007)

For this thesis, more than 30 articles, automotive reports and web-based resources were evaluated and examined. References are listed thereon. Also, 100% domestic automotive production is limited by the idea of Porter's five forces competitive analysis theory.

Description of the Basic Concepts

Michael Porter 's 5 power Model

Most people engaged in the competition are one of the most effective power as the human force to achieve the best outcome. Competition exists everywhere where there is trade. The challenges in this area are discussed in the framework of competition. However, 5 power sector model for understanding the competitiveness and profitability should be handled significantly.

As known, Airbus vs Boeing are in a big competition. These are the best aircraft producers all over the world. There is no alternative for airplane purchasing companies. So, for airplane companies the threat of new entrants, threat of substitutes

are negligible .When we look at the automotive producer,competition depends on many automobile producer ,these power dissipation is more homogenius . We will now examine in details the 5 power model of competition affecting directly.(Porter,2008)

Threat of new entrants

New entrepreneurs create stress and pressure in the sector in determining the prices,cost and the rate of investment which are necessary to compete with others. So,entrepreneurs are creating new threats as they put a upper limit on the potential profit sector.If threat is high , resident companies should keep their prices low and they should increase their investment to discourage new entrepreneurs off .(Porter,2008) At this point,investment cost is important for competing.If sector available to enter with low capital, new entrepreneurs threat will increase.On the other hand,if sectors require to enter with high capital ,new entrepreneurs threat will be decreased.So, entering to the automotive industry that requires high cost is not same as to enter a simple low budget sector that requires lower cost. At the same time, barriers to entry feature that increase the input cost structure of the industry. Barriers to entry should be explained briefly as follows.(Karacaoğlu,2009;s:168)

Inability to have the distribution channels and inability to use existing channels.

The high capital requirements

Economics scale

Dependencies on established brands and products existing in the industry, the difficulty of creating differences and public awareness.

Cost advantages of existing businesses in the industry

Product differentiation

Supplier /product high replacement costs.

Threat of substitute products or services

Porter's threat of substitute producy or services defination is the availability of a product that the consumer can purchase instead of the industries product. For example, video conferencing is a substitute for the travel. Plastic is a substition for the aluminum .Also email is a substition for the Express mail. Since replaced travel websites instead of travel agencies, software sold to agencies came under threat.

As you can see, replacement products don't effect only the primary sector also directly affects the sub-sectors.For example,for fathers days , tie could be analternative gift to again electronic gifts. For a person who wants to buy a Ford brand car Toyata can be alternative car. Substitutionand alternatives , the existing price handicap for sellers is also an advantage for buyers.(Porter,2008)

Bargaining power of customers(Buyers)

Strong customers are putting pressure to reduce prices. For this purpose they benefit from competition between the companies. Large volume of buyers make pressure on

firm prices and they try to reduce the profitability of the company.

Also buyers can change sellers , when they find an equivalent product. Buyers are faced with very little changing cost when they change their supplier .On the other hand buyers make a hard bargain with sellers.But also , In cases where buyers usually do not look to influence the quality of industry products prices. For example, Apple and Ferrari. Buyers always use their bargaining power and alternative-product companies, they are threatening. In addition, brokerage firms have a large impact on the price because of they are ordered in large quantities.(Porter,2008)

Power of suppliers

Powerful suppliers may increase the service costs in parallel to increasing high price tags on sector participants. Suppliers can sometimes be more powerful than the manufacturer to who they sell their product.As we know, the most important criteria in determining the price of the PC manufacturers, depends on monopoly system we can see in Microsoft operating systems as a typical example.Sectors depend on input achieved from each other on a wide range of different suppliers group. Prices can be determined by suppliers directly on the completed products.

Suppliers are not dependent on directly on the profits of the sector. Many industry suppliers that directly serve in sector target the maximum profit from each area. At the same time, the industry must be careful when changing suppliers. Sometimes in this case ,while being an advantage, can also be a disadvantage , if there are no alternative suppliers for sector It can increase the cost of this sector. However, the price advantage among suppliers will be returned to this company if they have competition.(Porter ,2008)

Intensity of competitive rivalry

Rivalry among existing competitors oblige elements such as price reduction of campaigns, service improvements and advertising campaigns. High competition limits the profitability of the sector. If a large number of competitors and market is growing up slowly , competition can be at a larger scale.

Competition from competitors can usually be seen in the industry is not on high barriers to the entry. Different methods are followed to ensure benefits again competitors. Also automobile companies follow different ways to attract customer because of many other competitors' existance in the sector. Althought competition among rival companies provide price advantege for buyers,competition profit is limited because of amount of rivalry.(Porter ,2008)

The Automotive Industry in the World

The definition of the Automotive Industry

Automotive industry compromises tractor trucks, trailers, busses, vans, cars, buses, trailers, including two and three-wheel vehicles and aftermarket products. It is also called manufacturing industry as road vehicles or motor vehicle manufacturing Automotive industry; the volume of production, which directly and indirectly provides employment and creating demand in several sectors,

in a close relationship among the leading sector, to be seen as key to development because of structural features. (Devlet Planlama Teşkilatı , 2007).

Today when we look at the countries to be considered as developed countries, large-scale automotive industry in this country can be seen to have an important role in the economical structure. Technological know-how and strong infrastructure owned by these countries, while continuing the development of the automotive industry, the automotive industry are also inclines to the export potential line of these countries and it is an economical element that shape up the industry. (Karabulut, 2002: 1).

In addition, the automotive sector has largely completed the process of global integration of production and marketing. This feature of the sector of foreign investment to developing countries, offers great opportunities to support the national economy . In the process , modern cars having more than 100,000 patents are formed up.(DPT, 2007).

The automotive industry, with hand craftsmanship of the period in which the car is produced in small workshops, to large-scale production network that today has become one of the world's largest industrial development. With the development of the automobile industry it seems to lead other industries to bring technological innovation . (Bedir, 2002).

Until the 2000s, the United States and Europe were the major automobile manufacturers in the world. , it is seen that after 2003 it is passed the leadership of Asian countries now.

it is observed that automotive industry contains the different dimensions of the competition in the past. In the past, while competition only depends on sales price,recently competition depends on product diversification, the ability to create a model environment-friendly production and concept models and investment in the future.

Today, due to global-scale operations in 50 countries, have about 20 automotive manufacturers. A significant portion of world automotive production makes these companies. When the distribution of certain products manufactured motor vehicles, about 90% consists of cars and light commercial vehicles.After 2000s the automotive industry in the properties after major mergers took place, 90% of the worldwide production is carried out by only around 20 companies.Today the world's five largest companies in the automotive industry is , respectively, Toyota, Volkswagen, General Motors, Daimler and Ford , these companies are performing 45% of the total production world-wide(Görener ve Görener, 2008).

Automotive Manufacturing in The World

In 2012 the world's total motor vehicle output was realized in 86.5 million. China is the leading country in automotive production in recent years. According to the figures in 2012, China has 19.8 Total automobile production.This production equal to total production of ABD and Japan. (OSD, 2013a).

In recent years, the indicators clearly the center of gravity of the automotive manufacture and market shows a shift towards the east, including China. According to the figures of 2012, China's share of world automotive market rose to 24%. While the

estimates made for the future, 28% of China's market share in 2028 , Indian production will be from %14 to %18 in 2028. (TEPAV, 2013).

Also it is seen that ,while BRIC Countries 's productions are increasing , developed west countries productions are decreasing. (OSD, 2013 a).

While the share of total production in the Asia-Pacific region was 31.9% in 2001, this rate increased to 52.7% level in 2010. (Başkol,2011)

While the share of total production in the Asia-Pacific region was 31.9% in 2001, this rate increased to 52.7% level in 2010.(Tablo 1) The most important countries in the Asia-Pacific automotive manufacturers in Japan, China, South Korea and India are to meet the 87.3% of the total automobile production in 2010.

If we look at the world as a whole in automotive production , leading automotive manufacturers in China, Japan, USA, Germany, South Korea, Brazil, India, Spain, Mexico and France are carrying out of the total automotive production % 77.3 .

Contribution to Economy

The world automobile industry has reached a high production volume.Annual trade volume is 1.9 trillion euros. Automotive industry employs 50 million people in all over the world also The global automotive industry is to achieve 500 billion euros of tax revenue. (Bayrakçeken,2005/2)

Automotive industry; the volume of production, the value added, which directly and indirectly provides employment and creating demand in several sectors, in close relationship among the leading sector, seen as key to development because of structural features(Devlet Planlama Teşkilatı (DPT, 2007)).

Considered the imports of countries,we can see that, Japan has foreign trade surplus in otomative sector. On the other hand. US makes its import more than export for otomative sector.So United State gives foreign trade deficit . The situation is different in the EU from the United States. Germany, France, Britain, Italy while developed countries such as the automotive industry exports a significant amount, they also do a large amount of imports. In the past years, while Germany exports more than 50 percent of motor vehicle production, the import market share was over 30%.These ratios is % 50 for Italy.Also, Looking at South Korea has remained low rate of imports compared to exports. (Bedir, 1999; CCFA, 2006).

Increased demand, especially in developing countries, will prove to be a driving force in the market and production dynamics in the future. While The global economy's center of gravity shifted from west to east, automotive production and the market is observed in a similar geographic variations.

A substantial increase in automotive demand in these countries as a result of the increase in revenue gain and speed of urbanization in China and India has experienced and continues to increase.While China's share of world automotive market in 2012 24% ,and share of India %4.On the other hand , Estimates for 2028, Chinese's share will increase %28 and Indian's Share will increase % 15 .(**Dünya ve Türkiye Otomotiv Sektorü , 2013**)

Automotive Industry in Turkey

The development of the automotive industry in Turkey

Production under the automotive sector in Turkey started in the mid-1950s and has accelerated since the mid-1960s. After some prototypes of vehicles produced in 1950 the first jeep assembly line in 1954 and the armed forces has been established to supply truck. Assembling has started as truck in 1955 and busses in 1963. After three years, passenger car factory has been in operation in turkey under licenses (Tofaş-Fiat, Oyak-Renault, Otosan-Ford). In 1966 the automotive industry has begun the assembly of model cars of his own design and by that time Anadol Otosan produced. Two major auto manufacturer Tofas and Oyak-Renault; They set up their manufacturing lines in 1971 with the Italian and French license. (Vakiflar Bankası Sektör Araştırmaları,2003).

The European and American markets outside of Japan's automotive giants from the Far East have entered in Turkey automotive markets(. In 1987, Mitsubishi, 1994 Toyota, Honda and Hyundai from South Korean firms in 1997.) (OSD,2007).

| Manufacturers | Production place | Production Date | Start Lisance | Foreign Capital Ratio (%) |
|----------------|-------------------|-----------------|-----------------------------------|---------------------------|
| A.I.O.S | Kocaeli | 1966 | ISUZU | 29,74 |
| ASKAM | Kocaeli | 1964 | DAIMLER-CHRYSLER/HINO | 0 |
| .B.M.C | İzmir | 1964 | - | 0 |
| FORD OTOSAN | Eskişehir Kocaeli | 1983-2001 | FORD | 41 |
| HONDA TÜRKİYE | Kocaeli | 1997 | HONDA MOTOR | 100 |
| HYUNDAI ASSAN | Kocaeli | 1997 | HYUNDAI MOTOR | 70 |
| KARSAN | Bursa | 1966 | PEUGEOT | 0 |
| M.A.N. TÜRKİYE | Ankara | 1966 | MAN | 99,9 |
| M.BENZ TÜRK | İstanbul Aksaray | 1968-1985 | MERCEDES BENZ | 85 |
| OTOKAR | Sakarya | 1966 | DEUTZ/L.ROVER/FRUEHAUF/AM GENERAL | 0 |
| OTOYOL | Sakarya | 1963 | IVECO | 27 |
| O.RENAULT | Bursa | 1971 | RENAULT | 51 |
| TEMSA | Adana | 1987 | MITSUBISHI | 0 |
| TOFAŞ | Bursa | 1971 | FIAT | 37,8 |
| TOYOTA | Sakarya | 1994 | TOYOTA | 100 |
| T.TRAKTÖR | Ankara | 1954 | - | 37,5 |

(Automotive companies in Turkey Tablo2 (OSD,2006)

Automotive industry in Turkey, with trained manpower, depending on where research and development (R & D) has significantly increased its work and has achieved great success, especially in international compliance point. As the main industry in the design and suppliers of increasing responsibility in product development; technology, human resources, their relationships with their suppliers, knowledge and have begun to pay more attention to quality. The automotive sector to be recorded, the tax is a definitive source of reliable and due to production and commercial activity. However, the unstable domestic market conditions, excessive imports, overcapacity, problems arising from the high number of companies, especially the lack of funding for tools

to support the industry, administrative issues and tax system, which appears to be concrete obstacles to the development of the automotive industry. .(Kılıçkaplan, 2006).

Taxes and fees paid by companies in the automotive industry in our country in 2005, shows that a total of 1,760,480,224.63 TL this figure is examined. This figure of 716,354,672.89 TL pay and bonuses, creating other forms of payment such as the tax and social insurance premiums. (Görener ve Görener ,2008)

| | 2009 | 2010 | 2011 | 2012 | 2013 |
|----|----------|------------|----------|------------|----------|
| 1 | China | 13.790.994 | China | 18.264.667 | China |
| 2 | Japan | 7.934.516 | Japan | 9.625.940 | ABD |
| 3 | ABD | 5.708.852 | ABD | 7.761.440 | Japan |
| 4 | Germany | 5.209.857 | Germany | 5.905.985 | Germany |
| 5 | S.Korea | 3.512.926 | S.Korea | 4.271.941 | S.Korea |
| 6 | Brazil | 3.182.617 | Brazil | 3.648.358 | India |
| 7 | India | 2.632.694 | India | 3.536.783 | Brazil |
| 8 | Spain | 2.170.078 | Spain | 2.387.900 | Mexico |
| 9 | France | 2.047.658 | Mexico | 2.345.124 | Spain |
| 10 | Mexico | 1.561.052 | France | 2.229.421 | France |
| 11 | Canada | 1.490.632 | Canada | 2.071.026 | Canada |
| 12 | Iran | 1.395.421 | Thailand | 1.644.513 | Russia |
| 13 | UK | 1.090.139 | Iran | 1.599.454 | Iran |
| 14 | Thailand | 999.378 | Russia | 1.403.244 | Thailand |
| 15 | .Czech R | 974.569 | UK | 1.393.463 | UK |
| 16 | Poland | 884.133 | Turkey | 1.094.557 | .Czech R |
| 17 | Turkey | 869.605 | .Czech R | 1.076.385 | Turkey |
| 18 | Italy | 843.239 | Poland | 869.376 | Poland |
| | | | | 837.948 | Iran |
| | | | | | 989.110 |
| | | | | | Slovakia |
| | | | | | 975.000 |

(Bilim sanayi bakanlığı otomotiv sektörü raporu, 2014)

Automotive sector in Turkey has made significant progress since the 1960s. Sector, some of them by gaining an important position along with winning a competitive quality for export in the 1990s and accurately Turkey in the late 1990s, the world's leading automotive companies of the facilities they have established with Turkish partner has become the export base of foreign automotive companies to be partners.

Automotive sector in Turkey has made significant progress since the establishment in 1960. . This stage can be grouped into five main groups essentially:

In the 1960s for "Import Substitution" tractor production and assembly of commercial vehicles

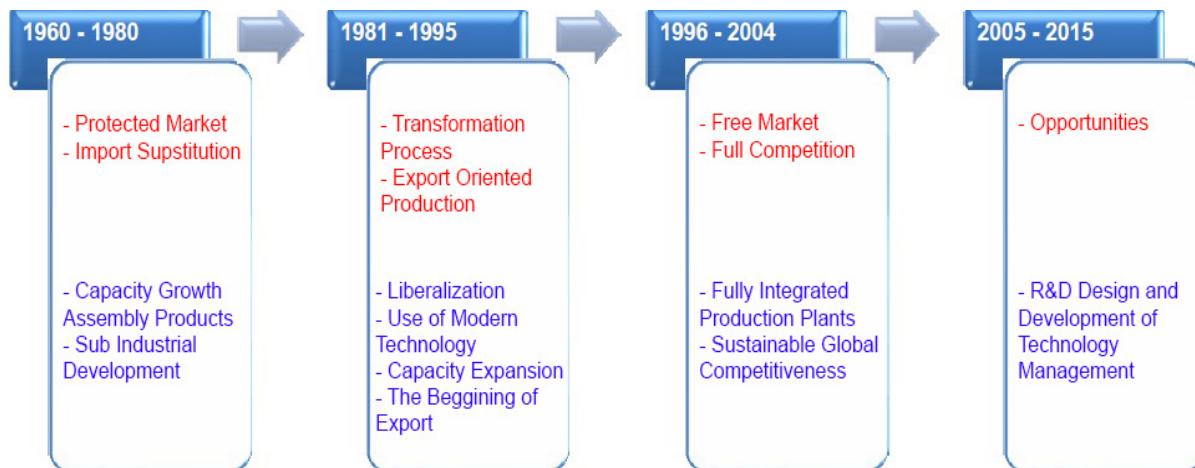
For the component part production in the 1970s, "Localization" and "Automobile Production"

In the 1980s "Capacity and Technology Investments"

In the 1990s, for the "Global Competitiveness" restructuring and integration with the global industry

in the 2000s creating higher value added to design and produce for the world market "Sustainable Global Competition Process" inputs.(Otep,2014,s42)

The development of the automotive sector in Turkey



(Bilim sanayi bakanlığı otomotiv sektörü raporu, 2014)

Turkey's Automotive Supply Industry Status

This growth in exports, a leading manufacturer of plant in Turkey has emerged with plans to incorporate global production. Passing day in order to model a large number of global and regional sales produced in Turkey and other tools that are not produced in Turkey are imported. Also, it has been possible with the EU and the Customs Union, in force since 1996. At this point, it is largely completed global integration of production and marketing. Teaching methods and technologies applied in the automotive sector in Turkey is equivalent to the methods and technologies used by the parent company at the international level. Automotive industry companies, including all components outside the range of some products, diversity will allow our country to manufacture local rate of 80-90 per cent of manufactured vehicles. All of it can be classified as follows major product groups manufactured for companies engaged in production for motor vehicles manufacturing industry:

- Complete engines and engine parts
- Driveline
- Braking systems and components
- Hydraulic and pneumatic components
- Suspension parts
- Safety Components
- Rubber and rubber parts
- Chassis components and parts
- Forging and casting parts
- Electrical equipment and lighting systems
- battery
- Auto glass
- Seats

(Otomotiv sektörü raporu, 2014/12)

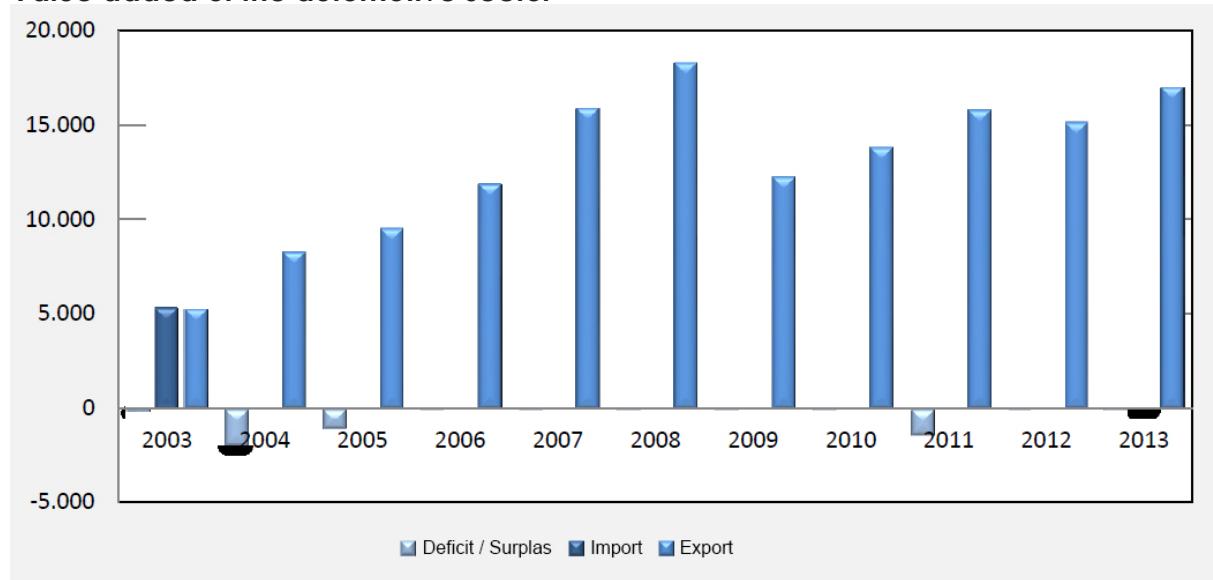
Turkish automotive industry need quality as well as quantity of production in the domestic market as well as to impose himself has reached its competitiveness in international markets. The sector itself has developed technologically, has made a major step forward in terms of production capacity and efficiency.

The majority of firms in the sector have received the ISO quality certificates and have increased their production to foreign markets. Also in the automotive sector it is concentrated in the eastern Marmara region in Turkey settlement.

The production value of the automotive sector

According to 2011 data, the Turkish automotive industry production value is 58 billion tl. If the same year the total industrial production value considered to be £ 703 billion, it is seen that 8.3 per cent of the automotive manufacturing industry in terms of production value. (Türkiye otomotiv sektörü strateji belgesi ve eylem planı ,2011)

Value added of the automotive sector



(Bilim sanayi bakanlığı otomotiv sektörü raporu, 2014)

Employment opportunities

50000 people are employed in the automotive industry. Also, This figure is well over 400000 working together with industry and other fields. (Türkiye otomotiv sektörü strateji belgesi ve eylem planı ,2011,s.13)

Domestic Car Production Project In The Framework Of The 5 Forces Model E.Porter

Automotive sector is the leading sector in Turkey as providing employment forces and commercial activities. As you know, our country has made automobile production under a foreign license. It is called a section of the public between the domestic automakers. For example, Renault and Fiat. But in this case the domestic production is different. Automobiles are manufactured under license of different foreign companies, although produced in Turkey. This situation has led to the emergence of money in overseas countries.

Turkey is a strategic location between Asia and Europe. Many famous automobile brand has also established its manufacturing plants in Turkey. Produced automobiles are exported to many countries. Turkey also sees the vehicles in the domestic market in great demand.

As is known, our Revolution first domestic car that it is called Devrim produced in the 1960s but the project was ended before series production started. This information clearly shows that we can produce our own car. The main problem is the next size vehicle being produced. Before starting this Project , these questions should be answered:

Who is "Target Costumer" ?

Can Domestic cars compete with the world famous car brands ?

Should domestic cars be produced as an internal combustion engine driven or electric motor driven vehicle?

What are the positive and negative effects on the economies of the domestic automobile projects and what will probably happen in their future?

Are our domestic investors taking part on this project available?

What is the status of sub-industries in Turkey ?

Are necessary infrastructures available?

What are the importance of government policy in domestic automobile production?

We will answer the above mentioned questions in the "recommendation section".

Before the search for answers to these questions , SWOT analysis of the automotive sector in Turkey should be carried out properly. (Atig,2014)

STRENGTHS OF THE SECTOR

- 1) New investment plans for the sector in Turkey
- 2) Easiness of Turkey's strategic position to gain an advantage in the import-export market
- 3) Strengthening of demand expectations in the sector due to the population density
- 4)The expansion of the transport network in Turkey

WEAKNESSES OF THE SECTOR

- 1) Weak domestic demand due to high interest rates in Turkey
- 2) High tax rates in Automotive
- 3) High production costs
- 4) Lack of capital
- 5) Being close to European market and competition
- 6) Foreign currency risk

OPPORTUNITIES IN THE SECTOR

- 1) The new investment plans
- 2) Expectations for growth in the medium and long term

THREATS IN THE SECTOR

- 1) High tax rates
- 2) High level of interest rates and credit restrictions in Turkey
- 3) the current account deficit
- 4) Contraction Growth

When SWOT analysis is observed as our strengths outweigh our weaknesses rates. This situation is an indication that we can produce a domestic car. The important point is our strength to compete with famous brands. We also should assess our manufacturing capabilities, Porter's five force analysis of the theory and we will take the steps we need to determine well in advance. Because these 5 criteria and solutions to project problems faced by entrepreneurs is essential for development.(Porter,2008)

Threat of new entrants

As the automotive industry require large capital remained largely doesn't faced with the threat of new entrants. The emergence of the modern automobile is thought to occur as a result of the purchase of about 100,000 patents.

100% of cars will be produced in Turkey will pose a threat to fomuos automobile manufacturers and will lead to escalation competition. Turkish Automobile drivers provide more benefits from this competition. The threat of new entrants who dont look in short term, Threat of new entrants will be everytime. The Turkish automobile manufacturers for this reason should not ignore this threat.

Threat of substitute products or services

The threat of substitutes in the automotive sector is among the brands. The preference of car buyers may change depending on price, what brand , comfort and prestige. Ford's car may substitute vehicle for Toyota. The most important substitution threat of sovereign automobile manufacturers is using instead of internal combustion engines foreseen ,domestic car should be electiricity.

If we evaluate consampion of oil in terms of Turkish automobile manufacturers, domestic electric car that will be produced will reduce our dependence on foreign oil and domestic car will be best substitution again most famous car producer. The threat of substitutes in the automotive sector is one of the problems faced by domestic producers of all time. Threat substituted therefore should not be ignored.

Bargaining power of customers(Buyers)

Turkey in terms of the number of cars per person is ranked 82nd in the world. The number of cars per 1,000 people in the United States 965 and for Turkey number of cars per 1000 people is 146 .On the other hand, the world average is around 140. (Pektaş,2013)

In the light of these figures, we can see that Turkey is suitable for the development of the automobile market. High Ötv tax,as well as lack of high national income per person are the biggest problem in car purchases. in Turkey. At the same time, the lack of oil resources in Turkey and the high cost of fuel is another problem.%100 Domastic car will be produced in Turkey can easily goes into the market but our domestic car can be faced lack of brand prestige when it will export. Buyers will use the bargaining

power of other prestigious brands. at the same time, domestic automakers must also enter into price competition with giant brands.

Power of suppliers

Many industry suppliers that directly serving in sector aim up the maximum profit from each area. At the same time, the industry must be careful when changing suppliers. Sometimes this event while being advantage, in some cases, being one of the main reasons for increasing costs. If there are no more alternative suppliers for sector It will be increasing the cost of this sector. However, the price advantage among suppliers will be returned to this company if they have competition.(Porter ,2008)

Passing day in order to model a large number of global and regional sales produced in Turkey and other tools that are not produced in Turkey are imported.Also, it has been possible with the EU and the Customs Union, in force since 1996. At this point, it is largely completed global integration of production and marketing. Teaching methods and technologies applied in the automotive sector in Turkey is equivalent to the methods and technologies used by the parent company at the international level. Automotive industry companies, including all components outside the range of some products, diversity will allow our country to manufacture local rate of 85-90 per cent of manufactured vehicles. can be classified as follows major product groups manufactured for companies engaged in production for motor vehicles manufacturing industry as,Complete engines and engine parts,Driveline, Braking systems and components, Braking systems and components, Braking systems and components, Hydraulic and pneumatic components, Suspension parts , Safety Components, Rubber and rubber parts , Chassis components and parts and Forging and casting parts , Electrical equipment and lighting systems , battery, Auto glass and Seats . (Otomotiv sektörü raporu, 2014/12)

The the automotive supplier industry is one of the fastest developed the technology industries. To follow the rapid changes in the world markets and maintain the competitive level for a process must be continuous investment in the sector.Although the company operates over 1,000 in the Automotive Industry, with acceptable standards of production, vehicles manufacturing industry that manufactures directly to the original piece, the number of exporting firms to compete in international markets is around 300 -350.(Otomotiv Yan Sanayi 2023 Vizyonu,2015,s3)

Turkey is the only country that has established an advanced geography of the automotive supplier industry. Therefore both the the automotive supplier industry in Turkey has strategic importance in terms of both firms to invest in Turkey. Automotive Industry, which started exporting purpose vehicle manufacturing technology as the contribution our country has become very advanced.

As you can see automotive supplier industry status is available to produce a domestic car in Turkey. Therefore, domestic car brand success is inevitable, especially if investors focus on the electric motor development.

Intensity of competitive rivalry

As of 2013, Turkey has 63 units brands in the automotive market, in last years, what might be called luxury brands, with price competition with prominent Asian origin brand is seen in his introduction to the market. Motor vehicles are understood to be the market leader since the market sales volume of some a while as a whole, handled

both passenger cars and light and heavy commercial vehicle manufacturer and distributor of Ford in 2003 with a market share of 15%. Renault is in second place with a market share of 12-14% level until 2008, the order is seen as losing Fiat in 2009. 4th 5th and 6th series of markets has changed according to action of Opel, Volkswagen, Hyundai. (Gündüz,2014)

In passenger car market in the top 10 (%)

| 2003 | | 2004 | | 2005 | | 2006 | | 2007 | | 2008 | | 2009 | | 2010 | | 2011 | | 2012 | | | |
|---------|-------|-----------|-------|---------|-------|---------|-------|---------|-------|---------|-------|-----------|-------|-----------|-------|-----------|-------|-----------|-------|---------|-------|
| Brand | % | Brand | % | Brand | % | Brand | % | Brand | % | Brand | % | Brand | % | Brand | % | Brand | % | Brand | % | | |
| RENAULT | 19,67 | RENAULT | 18,76 | RENAULT | 17,41 | RENAULT | 15,92 | RENAULT | 16,76 | RENAULT | 15,03 | HYUNDAI | 16,40 | RENAULT | 14,88 | RENAULT | 16,08 | RENAULT | 13,10 | RENAULT | 14,56 |
| OPEL | 11,63 | OPEL | 11,46 | FORD | 10,54 | FORD | 10,23 | FIAT | 10,22 | HYUNDAI | 9,35 | RENAULT | 15,36 | FORD | 10,83 | FORD | 10,15 | VW | 12,01 | VW | 13,29 |
| FIAT | 10,74 | FORD | 10,02 | HYUNDAI | 10,05 | HYUNDAI | 9,12 | FORD | 9,16 | FIAT | 8,69 | FORD | 9,05 | HYUNDAI | 9,33 | FIAT | 9,86 | OPEL | 8,83 | FORD | 8,79 |
| VW | 8,70 | HYUNDAI | 8,88 | OPEL | 8,51 | FIAT | 8,77 | TOYOTA | 8,28 | FORD | 8,46 | FIAT | 8,00 | FIAT | 8,87 | VW | 9,45 | FORD | 8,45 | OPEL | 8,38 |
| FORD | 7,96 | FIAT | 8,69 | FIAT | 9,04 | TOYOTA | 7,99 | OPEL | 7,77 | TOYOTA | 8,13 | VW | 7,23 | VW | 7,81 | OPEL | 8,64 | FIAT | 7,96 | FIAT | 7,56 |
| PEUGEOT | 7,91 | VW | 7,43 | VW | 7,18 | OPEL | 7,55 | VW | 7,48 | OPEL | 8,11 | TOYOTA | 6,43 | OPEL | 7,80 | HYUNDAI | 7,77 | HYUNDAI | 7,85 | HYUNDAI | 7,24 |
| TOYOTA | 6,41 | TOYOTA | 6,41 | TOYOTA | 5,66 | VW | 7,40 | HYUNDAI | 7,37 | VW | 6,91 | OPEL | 6,14 | TOYOTA | 7,56 | TOYOTA | 6,08 | TOYOTA | 5,75 | TOYOTA | 5,42 |
| HONDA | 4,57 | PEUGEOT | 5,96 | PEUGEOT | 5,11 | HONDA | 5,06 | HONDA | 6,18 | HONDA | 6,81 | HONDA | 4,38 | PEUGEOT | 3,70 | CHEVROLET | 3,77 | DACIA | 4,97 | DACIA | 4,35 |
| HYUNDAI | 4,26 | HONDA | 4,69 | HONDA | 4,15 | PEUGEOT | 4,71 | PEUGEOT | 3,75 | PEUGEOT | 3,84 | PEUGEOT | 3,73 | CHEVROLET | 3,54 | NISSAN | 3,06 | NISSAN | 3,39 | PEUGEOT | 3,47 |
| SKODA | 2,12 | CHEVROLET | 2,17 | KIA | 2,62 | KIA | 3,13 | KIA | 2,89 | KIA | 2,30 | CHEVROLET | 2,81 | HONDA | 3,19 | DACIA | 2,84 | CHEVROLET | 3,32 | BMW | 3,12 |

In motor vehicle market the top 10 (%)

| 2003 | | 2004 | | 2005 | | 2006 | | 2007 | | 2008 | | 2009 | | 2010 | | 2011 | |
|---------------|-------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|
| Brand | % | Brand | % | Brand | % | Brand | % | Brand | % | Brand | % | Brand | % | Brand | % | Brand | % |
| FORD | 15,63 | FORD | 15,79 | FORD | 16,97 | FORD | 17,09 | FORD | 16,73 | FORD | 14,60 | FORD | 14,95 | FORD | 15,47 | FORD | 15,06 |
| RENAULT | 14,79 | RENAULT | 15,52 | RENAULT | 14,06 | RENAULT | 12,76 | RENAULT | 13,05 | RENAULT | 12,14 | FIAT | 14,61 | FIAT | 13,73 | FIAT | 13,82 |
| FIAT | 11,56 | FIAT | 10,49 | FIAT | 10,37 | FIAT | 10,87 | FIAT | 12,17 | FIAT | 11,57 | RENAULT | 12,48 | RENAULT | 11,86 | RENAULT | 12,92 |
| OPEL | 8,78 | HYUNDAI | 8,86 | HYUNDAI | 9,28 | VW | 8,89 | VW | 8,68 | VW | 7,63 | HYUNDAI | 11,08 | VW | 7,97 | VW | 8,93 |
| PEUGEOT | 8,04 | VW | 8,28 | VW | 8,38 | HYUNDAI | 8,03 | HYUNDAI | 6,11 | HYUNDAI | 6,48 | VW | 6,43 | HYUNDAI | 6,23 | OPEL | 5,67 |
| VW | 7,80 | OPEL | 7,99 | OPEL | 6,06 | OPEL | 5,25 | OPEL | 5,24 | OPEL | 5,57 | PEUGEOT | 5,24 | PEUGEOT | 5,42 | MERCEDES-BENZ | 5,20 |
| HYUNDAI | 5,51 | PEUGEOT | 5,23 | PEUGEOT | 4,96 | TOYOTA | 4,74 | TOYOTA | 5,00 | TOYOTA | 5,04 | TOYOTA | 4,30 | OPEL | 5,19 | HYUNDAI | 5,19 |
| TOYOTA | 4,07 | TOYOTA | 4,21 | TOYOTA | 4,05 | PEUGEOT | 4,20 | HONDA | 3,49 | PEUGEOT | 4,19 | OPEL | 4,26 | TOYOTA | 5,00 | TOYOTA | 3,96 |
| MERCEDES-BENZ | 2,89 | HONDA | 2,92 | MERCEDES-BENZ | 2,40 | MERCEDES-BENZ | 3,10 | PEUGEOT | 3,28 | HONDA | 3,95 | MERCEDES-BENZ | 3,33 | MERCEDES-BENZ | 4,02 | PEUGEOT | 3,84 |
| HONDA | 2,70 | MERCEDES-BENZ | 2,64 | HONDA | 2,37 | HONDA | 2,84 | MERCEDES-BENZ | 3,27 | MERCEDES-BENZ | 3,56 | HONDA | 2,79 | CITROEN | 3,61 | CITROEN | 3,35 |

(Rekabet Kurumu Motorlu Taşıtlar Sektör Araştırması Raporu)

As you can see, automotive sector is in high competition in Turkey market. So that, Domestic car producer have to do best as R&D, advertising, promotions and effective factors. Because they have to compete with them to be successful. More information will give in recommendation part to be best in market.

CONCLUSION AND RECOMMENDATIONS

Conclusion

As you can see, the automotive industry is the one of the leading sectors of the economy for many countries. The automotive industry has a share of about \$ 2 trillion in annual global commerce and also a serious source of employment in a country.

When we examine the automotive industry in the world, we can see that leadership is between European and Asian countries. Furthermore, important developments have been experienced in the automotive sector in Turkey. Famous automotive

manufacturers have established factories in Turkey to demonstrate the business activity. This situation plays an important role in gaining experience in the Turkish automotive industry. Manufacturing firms act under foreign license, they play an important role for providing an employment outcome for almost 400,000 people.

In this thesis, the idea of local automotive production in the framework of Porter's five forces model and the strengths and weaknesses of the Turkish automotive industry have been determined by using SWOT analysis method . When we interpret the findings, it is apparent that 100% of the domestic automobile can be manufactured. Competitiveness is analyzed with Porter's five forces analysis, the competitive power of the domestic automobile is not impossible and also competition is not easy. Therefore Turkey is a bridge between Asia and Europe and has a key role geographically. Besides, Turkey has a long experience period of over 50 years in the automotive industry.

Within the framework of Porter's five forces model, the threat of new entrants has not great importance for the Turkish automotive manufacturers. The real threat is that Turkish automotive manufacturers's entering into the automotive market. The automotive industry requires high input costs the threat is not expected in the short term. When the supply industry and its suppliers are analyzed in Turkey, Turkey's domestic automotive supply industry is convenient to produce a rate of %90. It can be also increased the budget allocated to R & D activities. About the threat of substitute products, prestige brand preference is the most important substitute for Turkish brand. Because car customers will return back to prestigious automobile brands as a choice .Domestic automotive production with electric car can be substituted again with a very prestigious brand by providing the fuel savings especially in the domestic market. Bargaining power of buyers can be analyzed in two ways. First one is in domestic market. The tax exemption will be provided in the domestic market and fuel savings considered Turkish domestic car to be produced is in the advantageous position in the domestic market. On the other hand , when we examine the international market export, car buyers can use as a bargaining chip of prestigious brands and they will obtain bargaining power. Therefore, domestic automotive production prices must offer certain advantages for the buyers. The most important issue of domestic automotive manufacturers will be forced to be involved in a competition among the existing brands. They are necessary to provide some tax exemptions. Turkish car drivers should be encouraged to buy local automotive cars. Also, the second-hand market of domestic car should be kept under control. Domestic automakers should give importance to aesthetics and safety. Campaigns and advertising efforts should be made properly and in an appropriate strategy. For export, foreign feasibility studies should be performed well. Brand prestige should be increased with some programmes. As mentioned, all ideas are examined by depending on Porter's 5 power model. To understand competitive advantage well,Porter's 5 power model should be analayzed very carefully. In this context, it is hard for domestic car to cope with the odds and negative conditions in the market but it is not impossible. So , we need many more courageous Turkish investors. Turkey has shown that it can produce its own automotive in 1960s. At the same time 100% domestic automotive brand "B.M.C." can be shown as a good example. However, Turkey has the high standart labor and the technology in automotive production. And the most important thing that, if we don't produce our first domestic car, we can not understand that we are not successful or will never be successful ever . Therefore , we have to start from somewhere logic and a truely intelligent as a starting point.

Also, a register Program of has to be encouraged on the investors.If goverment can exercise a proper supporting policy on investors,the investors can well compete with the international market.

On the other hand,air pollution is the one of the biggest and threatening problems for our world. Cars may produce a lot of carbon emmission that are submitted into our natural atmosphere, and environment leaving us vulnerable to things like pollution and greenhouse gases.In order to help positively the enviroment we live in,an electric car that we produce is great step forward.By using a electiric car ,you can also recieve government subsidies being environmently conscious.There are some advantages and disadvantages of using our electric car which we have produced at many extents.Some advantages of using electric car are no gas required,savings,no emmission,popularity, safe to drive,cost effective, low maintenance and reduced noise pollution.Besides ,disadvantages of driving electric car are the recharging availability problem,electricity cost,short driving range, speed and longer recharging time.

As a summary,Turkey has to locally sourced spare parts for electric vehicles.Also, to keep up with the international level of technology regarding electric car is the main concern . Another important point is to invest on R&D with the aim of commercialising electric vehicles.If we focus on our R&D programs ,we can be easily less dependent on the import of competents.Although there is not enough knowledge about the critical components and there is not enough infrastructure in Turkey ,we can improve ourselves with Professional trainings and seminars .As we save our money for importing car components,we can direct our financial power to invest on our R&D programs with the money saved.Also,we can get help from devoloped car brand succes stories as well as their long term experiences.

As we can see, our power of producing domestic car is suitable in a rate of 80%. But we have to focus on devoloping electric motor.Also,we need to set enough infrastructure.Besides ,we should educate our tech personnel and adaptate them on high technology of international standarts.When we evaluate our status in frame of Porter's 5 power model,we can easily see that producing our domestic car is not as easy as it seems but not necessarily impossible. Firstly,we need to focus on domestic market than we have to integrate to international market for competing.

Recommendations

In Japan, 75-80%, 55-60% in the EU, the rate of obtaining the necessary parts for the aftermarket installation tool in the 35-40% level in the United States are reported to be at around 70-80% in Turkey.(Arer,2010,s98)

Turkey is conveniently located for the domestic automotive industry vehicle production by 80%. Therefore, the possibility should be evaluated well and our rate of domestic vehicle production must be increased to a level of 100%.

Turkey petroleum resources are limited. So , Turkey based products are relevant to high level petroleum importation. After China, natural gas and electricity demand of Turkey takes the second row in foreign dependability across the world . Our country provides only about 25% of domestic sources of energy needed for the production line. As most types of imported energy comes petroleum and natural gas. In 2011, USD 54 billion has been made on energy imports. This figure is equal about 70% of the current account deficit in 2011. (Otep,2014)

For this reason, manufacturers should focus on domestic automotive with electric motors. With over 50 years experience in Turkey, it produces cars under foreign license and has been exporting these cars. Despite our car exports holds an important place in total exports rates. At the same time the direct-indirect employment amounts are 400,000 person. With domestic car production project, these rate will be increased.

Domestic car to be produced will compete with other brands in the domestic market and car buyers will be profitable from this competition. Subsidiary industries and indirect businesses will be positively affected with this project. The export-based manufacturing will contribute to the national economy. Also, unemployment rate will decline. However, domestic automobile project should be placed on a certain basic to be successful and should be supported by governmental policies.

Domestic car will be produced, it should be addressed to the central part. Domestic automakers should prefer internal combustion engines to electric motors and they should give importance R & D activities of the evolution of electric motors. Investors that they will take on this project are available, but investors should be supported by government policy. On the other hand supply industry is in good condition in Turkey but it must be developed.

Government policies are important for the domestic automobile project. Government must provide certain privileges to investors. Also, government should provide free land to investors in Anatolia's certain points. This event will reduce unemployment rate in the region and stop the westward migration. On the other hand, it will contribute to the region's development. In addition, the infrastructure must be improved. In particular, vehicle charging stations in a multicast should be established all over the Turkey. Certain tax privileges should be provided. To encourage domestic car should not be taken by ÖTV taxes and KDV reductions should be applied. Also, international agreements should be made to compete in foreign markets.

On the other hand, Service network should be created required for domestic automakers. Design, security and economy consideration should be given. After-sales service should be developed accordingly and advertising and promotional campaigns should be maintained in high sensitivity and care.

To sum up, the domestic automotive production will establish a positive impact on the employment and improvements on economies. The competition will consist to compete with foreign car manufacturers. For this reason, the Turkish car buyers will provide the greatest benefit out of this competition. Besides, production-based related sub-industries will develop and spread through a wider area.

As we can see, the Turkish automotive industry is capable of manufacturing its proper cars. Therefore, it should be achieved in a sustainable growth where the domestic and foreign markets and Turkish investors should be encouraged and supported by the government policies. This is the key to success in the upcoming years of Turkish Automotive Industry.

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SECURITY SYSTEMS AT THE AIRPORT WITH ACCENT ON DATA LAYER SECURITY

Amila Jasari

International Burch University
Bosnia and Herzegovina
amilajasari1@gmail.com

Abstract: Great number of population use air terminals consistently. This presents potential attraction for terrorism and different types of wrongdoing. Correspondingly, the high convergence of individuals on huge carriers, the potential high passing rate with assaults on flying machine, and the capacity to utilize a seized plane as a deadly weapon might give a charming focus to terrorism.

In this paper we will investigate air terminal security. It alludes to the systems and strategies which are utilized as a part of ensuring travelers, staff and flying machine which utilize the air terminals. Airplane terminal security incorporates assurance from inadvertent/vindictive damage, wrongdoing and other dangers. Airplane terminal security endeavors to keep any dangers or conceivably perilous circumstances from emerging or entering the nation. All things considered, airplane terminal security fills a few needs: To shield the air terminal and nation from any undermining occasions, to console the voyaging open that they are sheltered and to ensure the people using them.

It is necessary to comprehend the significance of security in each part of airplane terminal operations. It is entwined into the design fabric of airplane terminal operations - securing travelers, workers, data and base.

Convenient and precise database and programming upgrades are vital to guarantee operational proficiency.

Keywords: airport, security, databases, security systems, security operations.

Purpose and objective of research

Air transport is the transport sector, which is rapidly beginning to develop in the 20th century. Due to the specifics of the traffic branch, great attention is paid to safety. However, due to deregulation and liberalization of the market of air traffic safety aspects are becoming more complex, and represent a contradiction in relation to the economic aspects. The aim of any aviation organization, including the organization of air navigation is to provide services for which the organization was originally created.

The development of air transport, particularly with international character, has started to develop and regulations which are primarily based on safety. The regulation has been developed together with the technical development of aviation, and the rules were brought on the basis of analyzed accidents happened in the past.

The main purpose of this work is to study the safety management system at the international and national level. We will also consider the Research and development methodology that is based on security management. The impact of new technology is

to create a system that can perform quality control of security, but also the awareness of all employees to the implementation of high standards of safety in accordance with the characteristics of a safety culture.

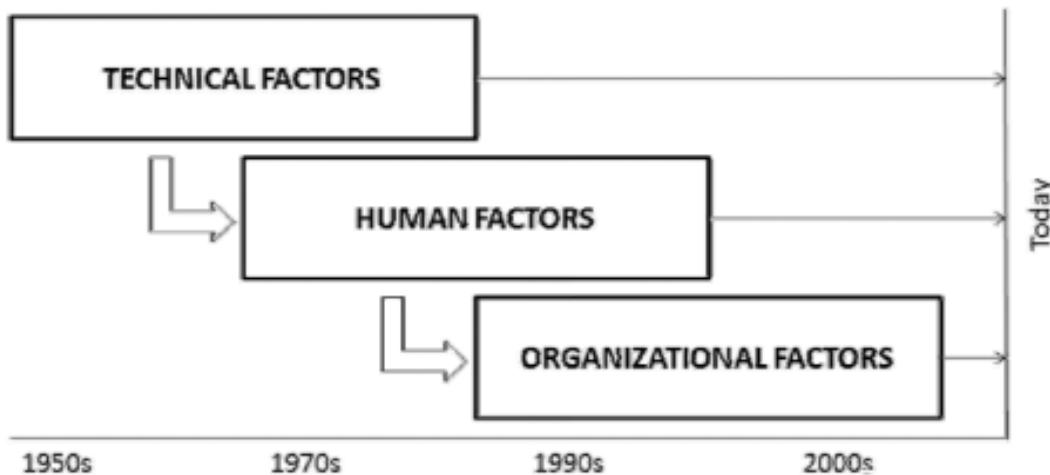
The aim of this paper is to investigate the level of implementation of International Safety Management in air traffic control, and identify possible technological, operational and economic solutions to improve the safety management system.

1. ICAO

This topic is an important area of research for all experts dealing with safety of air traffic. The International Civil Aviation Organization (ICAO) defines the regulations, standards and guidelines for security management, as well as other relevant factors affecting the operation of the air traffic control. Also in the world there are a large number of non-governmental organizations dealing with the study of the problem of air traffic safety.

This includes relations between the security management system and quality management system, as well as the policy and objectives of security and methods of risk management security. Guarantee the security is intended to ensure a balance between meeting the goals of safety standards and goals of satisfying user to maintain an effective and efficient business organization.

Figure 1: The evolution of safety thinking (James Reason; ICAO 2009)



Also disclosed are methods of promoting safety achieved by training, i.e. High-quality and effective training and education which aims to develop professional and adequate staff in this business segment. For successful security management is of great importance and communication of safety among employees and beyond. We also researched and implementation process safety management system that takes place in four phases.

ICAO's summary explanation of safety:

"Safety is the state in which the possibility of harm to persons or of property damage is reduced to, and maintained at or below, an acceptable level through a continuing process of hazard identification and safety risk management." (ICAO 2009, Chapter 2.2.4).

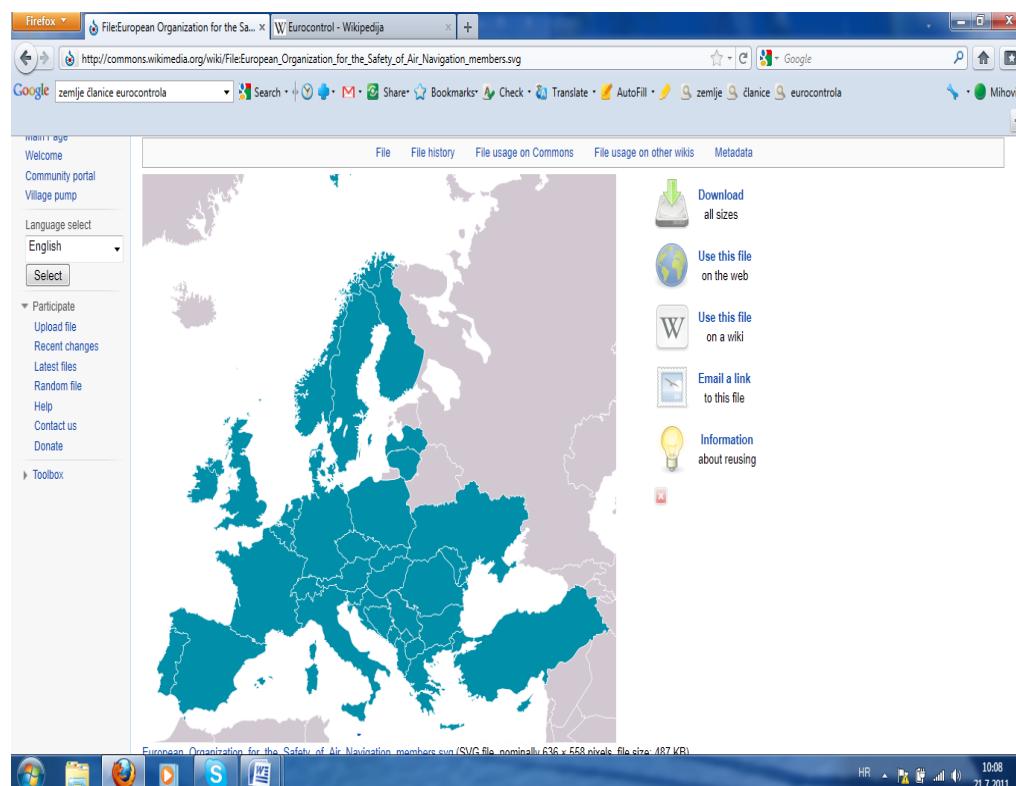
The Parties to the Chicago Convention have pledged to implement the common accepted standards and recommended practices developed by ICAO, covering all aspects of aviation, including security. Standards and Recommended Practices have been developed in accordance to Article 37 of the Chicago Convention, to ensure the highest degree of equality regulations, standards, procedures and organization that regards the aircraft, personnel, airways and auxiliary services in cases that will improve aircraft navigation.

2. EUROCONTROL

With regard to air safety is also an important European Organization for the Safety of Air Navigation shortly called EUROCONTROL. This is an organization established in 1960 to integrate and uniform administration of air traffic control in the upper airspace, and participates in the standardization of equipment and systems for controlling the air space, a unique education and training of staff of air traffic control.

The multilateral air movement administrations organizer, which executes much of the European Commission's strategy, is Eurocontrol. It is formally known as the European Organization for the Safety of Air Navigation. Eurocontrol is an global association, and started from the same hypothetical roots as much of Europe's multilateral air regulation (Balfour & Chataway, 2005).

Picture 1: EUROCONTROL Member States



Also at the European level there are a number of organizations that participate and assist in the development and implementation of safety requirements and standards of civil aviation.

3. Heinrich's pyramid concept

The first scientific papers related to the resolution of the problems of industrial safety can be attributed to H. W. Heinrich. In the book "Industrial accident prevention: Scientific Approach" (1931), it is explained the concepts of the triangle events. The concept known as "pyramid security" or "Heinrich pyramid". This concept is today used to illustrate the theory of causality by Heinrich. Unsafe practices can lead to minor incidents, and so far as they do not pay attention, they eventually can lead to serious incidents or accidents.

Picture 2: Heinrich, H.W. Industrial Accident Prevention – A Scientific Approach, 3rd Edition, 1950.



Heinrich pyramid security shows that the 300 accidents in which there had been no injuries nor damage following 29 accidents and one accident, as shown in Picture 2. According to the statistics, it can be concluded that these events preceded this remarkable situation with hundreds where there has been a reduction in safety, but because of their failure to log nothing done to avoid future events off the charts. Modern methodology required by operational staff and management to recognize conceivably threatening situations before they evolve into an accident.

4. Human factor

A broad assortment of examination on human watchfulness has prompted the unavoidable conclusion that people are poor screens and that an assortment of intercessions and countermeasures coordinated toward enhancing observing execution in various settings and undertakings have shown little advantage (Davies and Parasuraman, 1982; Mackie, 1987).

The human factor in aviation is the most flexible, the most flexible and the most valuable element of aviation systems, but also the most vulnerable to external factors that can hinder the performance of duties. Human error is impossible to completely exclude, because man is found in all stages of the design, development, deployment, and therefore the work in the ATM system, which consists of human resources, available tools and procedures.

A significant collection of confirmation recommends that any linkage in the middle of pay and execution is shaky, best case scenario and is presumably immaterial notwithstanding substantially more capable determinants of administrator execution, for example, work plan, execution estimation and criticism, and the match between administrator aptitudes and undertakings (Filipczak, 1996; Guzzo, 1988).

The text in itself human error no decisive importance, but are crucial factors that led up to it, with that, all the investigations focus on how equipment and procedures. The text in itself human error no decisive importance, but are crucial factors that led up to it, with that, all the investigations focus on how equipment and procedures can help, that is, to reduce the "imperfections" of man.

Technological progress has greatly facilitated and contributed to the construction and management of systems of air traffic control, more accurate weather forecasting, aircraft and airports, but still the final decision made by the people (especially the pilots and the air traffic control service providers), and therefore great attention during the selection and training of adequate staff.

5. **SHELL**

SHELL model was developed to assist investigators in the expansion of the investigation with the traditional system. It describes the interference between man, machine and its working environment. SHELL model devised by Elwyn Edwards in 1972 and modified by Franz Hawkins in 1987.

There are a few ways to deal with investigate mishaps and occurrences. SHELL model, goes for gathering in a proficient way security data highlighted amid the examination process and at controlling the agent into the investigation of the event. The objective is then to have the capacity to disperse this data through information trade, security studies or measurements, chiefly centered around human components and to recognize mischance antecedents. (Hawkins, 1987)

SHELL model was named after the initial letters of four elements:

- S (Software) - regulatory support, which includes: procedures, training, computer programs, rules, etc.
- H (Hardware) - machinery and equipment
- E (Environment) - environment, can refer to the physical working environment, but also on economic, social and cultural environment.
- L (Liveware 1) - the man in the workplace (operator)
- L (Liveware 2) - Man at work (all other relevant for a particular case)

6. **Information processing**

Although technological advances allow greater efficiency and safety, when air traffic management, however, the same technology still relies primarily on a man who works within the system. People process information in a quick and complex manner, and have the versatility and flexibility to address the dynamic and difficult problems. It can be concluded that human information process in many ways superior to the most powerful computers.

A system of perusers set along transport lines could read the labels' steering data and give input to a framework that could then direct the sacks onto the right way (Nath; Reynolds; Want, 2006).

So that decision could properly make and implement extremely important awareness of the situation. Awareness of the situation is the product of short-term and long-term memory. Information coming from long-term memory has acquired knowledge, procedures and methods, as long as those of short-term memory connected to the perception of the current circumstances, understanding and projecting the same for the future.

One of the greatest difficulties for an aeronautical association is to make and keep up a positive well-being of society. Dr. Robert Helmreich, an authoritative clinician, portrays three critical social situations: national society includes the worth arrangement of specific countries, authoritative/corporate society separates the conduct found in different associations, and expert execution separates the conduct found in various expert gatherings (Helmreich, 1998).

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COMPARISON OF MACHINE LEARNING TECHNIQUES IN PHISHING WEBSITE CLASSIFICATION

Adnan Hodžić

International Burch University
Bosnia and Herzegovina
adnan.hodzic@ibu.edu.ba

Jasmin Kevrić

International Burch University
Bosnia and Herzegovina
jasmin.kevric@ibu.edu.ba

Adem Karadag

Turkey
nuhadem@gmail.com

Abstract: Phishing is one among the luring strategies utilized by phishing artist in the aim of abusing the personal details of unsuspected clients. Phishing website is a counterfeit website with similar appearance, but changed destination. The unsuspected client post their information thinking that these websites originate from trusted financial institutions. New antiphishing techniques rise continuously, yet phishers come with new strategy by breaking all the antiphishing mechanisms. Hence there is a need for productive mechanism for the prediction of phishing website. This paper described comparison in classification of phishing websites using different Machinelearning algorithms. Random Forest (RF), C4.5, REP Tree, Decision Stump, Hoeffding Tree, Rotation Forest and MLP were used to determine which method provides the best results in phishing websites classification. All instances are categorized as 1 for "Legitimate", 0 for "Suspicious" and 1 for "Phishy". Results show that RF with REP Tree show the best performance on this dataset for classification of phishing websites.

Keywords: Machine Learning, Phishing Websites

Introduction

Internet is not only significant for individual users but also for online business organizations. These organizations usually offer online trading(Liu & Ye, 2003). Nevertheless, Internet-users can be prone to different types of webthreats that can make financial damages, identity theft, loss of private information, brand reputation damage and loss of client's trust in ecommerce and online banking. Therefore, Internet appropriateness for commercial sales becomes doubtful.

Phishing websites is a semantic intrusion which targets the user instead of computer. It is a fairly new Internet crime when compared to other forms, such as virus and hacking. The phishing problem is a tough problem due to the fact that it is extremely easy for an attacker to make a replica of a good website, which looks very authentic to users.

Phishing attacks usually aim to acquire confidential information like usernames, passwords and financial IDs by tricking users. Phishing attacks typically start by sending an email that appears to come from authentic company to victims requesting them to update or validate their information by visiting a link within the email.

The idea is that bait is dropped out hoping that a user will take it and bite into it just like the fish. Usually, bait is an instant messaging website or an email, which will take the user to hostile phishing websites(James, 2005).

The motivation behind this study is to make a strong and effective technique which uses Data Mining algorithms and mechanisms to detect phishing websites. Associative and classification algorithms can be very helpful in identifying Phishing websites. It can give us answers about what the most important phishing website features and indicators are and how they link to each other. Comparing between various Data Mining classification and association systems and techniques is also a goal of this study since there are only few investigations that compares different data mining methods in predicting phishing websites.

Literature Review

Numerous methodologies are being implemented at present to classify phishing websites.(Aburrous, Alamgir, Keshav, & Fadi, 2009) suggests a method for intelligent phishing detection using fuzzy data mining. In this study, ebanking phishing website detection degree is achieved based on six attributes: URL & Domain Identity, Security and Encryption, Source Code and Java script, Page Style and Contents, Web Address Bar, and Social Human Factor. Fuzzy logic and data mining algorithms are applied to classify ebanking phishing websites.

(Basnet, Ram, Srinivas, & Sung, 2008) adopts machine learning way for identifying phishing attacks. Support vector machine, biased support vector machine and neural network are used for the effective prediction of phishing emails. The objective of this study is to classify phishing emails by combining basic features in phishing emails and utilizing several machine learning algorithms for the classification process.

(Mohammad, Fadi, & Lee, 2013) suggested an intelligent prototype for predicting phishing attacks based on Artificial Neural Network. Same authors shed light on the key features that classify phishing websites from real ones and evaluate how good rulebased data mining classification methods are in detecting phishing websites and which classification approach is proven to be more reliable (Mohammad, Lee, & Fadi, 2014).

Methodology

• Dataset

Dataset used for the research is "Phishing Websites Data Set" ("UCI Machine Learning Repository: Phishing Websites Data Set," 2016). This dataset was gathered mainly from: PhishTank archive, MillerSmiles archive, Google's searching operators.

The authors shed light on the key features that have been proven to be solid and efficient in predicting phishing websites while proposing some new features, experimentally assigning new rules to some wellknown features and updating some other features.

The dataset is divided into 3 parts, training set and 2 test sets. The training set has 11055 and test sets have 2456 and 2670 instances. All instances are categorized as 1 for "Legitimate", 0 for "Suspicious" and 1 for "Phishy".

Dataset phishing criteria is divided into 4 sections (Address Bar based Features, Abnormal Based Features, HTML and JavaScript based Features and Domain based Features) and it has 30 attributes.

Table 1: Phishing features

| Features group | Features Factor Indicator |
|------------------------------------|--|
| Address Bar based Features | Using the IP Address |
| | Long URL to Hide the Suspicious Part |
| | Using URL Shortening Services "TinyURL" |
| | URL's having "@" Symbol |
| | Redirecting using "//" |
| | Adding Prefix or Suffix Separated by () to the Domain |
| | Sub Domain and Multi Sub Domains |
| | HTTPS (Hyper Text Transfer Protocol with Secure Sockets Layer) |
| | Domain Registration Length |
| | Favicon |
| | Using NonStandard Port |
| | The Existence of "HTTPS" Token in the Domain Part of the URL |
| | Request URL |
| Abnormal Based Features | URL of Anchor |
| | Links in <Meta>, <Script> and <Link> tags |
| | Server Form Handler (SFH) |
| | Submitting Information to Email |
| | Abnormal URL |
| | Website Forwarding |
| HTML and JavaScript based Features | Status Bar Customization |
| | Disabling Right Click |
| | Using Popup Window |
| | Iframe Redirection |
| | Age of Domain |
| Domain based Features | DNS Record |
| | Website Traffic |
| | PageRank |
| | Google Index |
| | Number of Links Pointing to Page |
| | StatisticalReports Based Feature |

- **Algorithms**

Several different machine learning algorithms were used for experiments.

1. Multilayer Perceptron (MLP)

Multilayer Perceptron is the most frequently used neural network classifier. MLP is a neural network and a neural network can be described as an artificial neural network which consists of a huge number of interconnected processing components known as neurons that act as a microprocessor. It is a mathematical model for classification of nonlinear data into distinct classes. Multilayer Perceptron is the most popular and frequently used neural network design (Bishop, 1995). The MLP is feedforward network architecture which involves two layers with one or more than one hidden layers; the layers are named as the input layer, hidden layer, the output layer.

2. Random Forest

Random forests are a mixture of tree predictors where each tree depends on the values of an arbitrary vector sampled individually and with the same allocation for all trees in the forest. The generalization error for forests converges a.s. to a limit as the amount of trees in the forest becomes great. The generalization error of a forest of tree classifiers hangs on the strength of the individual trees in the forest and the relationship between them (Breiman, 2001).

3. Decision Trees

Decision Tree Classification produces the output as a binary tree like construction called a decision tree. A Decision Tree model includes rules to predict the target variable. This algorithm scales well, even where there are changing numbers of training examples and significant numbers of attributes in big databases.

a) J48

J48 algorithm is an implementation of the C4.5 decision tree algorithm. J48 uses the greedy technique to induce decision trees for classification (Chen, Zheng, Lloyd, Jordan, & Brewer, 2004). A decisiontree model is built by examining training data and the model is used to classify hidden data

b) ReducedError Pruning (REPTree)

REPTree is a quick decision tree learner. Constructs a decision/regression tree utilizing data gain/variance and prunes it adopting reducederror pruning (with backfitting). REPTree only sorts values for numeric features once. Missing values are dealt with by splitting the related instances into pieces (i.e. as in C4.5).

c) Decision Stump

Decision stump is an algorithm for building and using a decision stump. It is typically used in combination with a boosting algorithm. Decision stump algorithm does regression (meansquared error) or classification (entropy). Missing is handled as a separate value ("DecisionStump", 2016).

d) Hoeffding Tree

A Hoeffding tree (VFDT) is an incremental, anytime decision tree induction algorithm that can learn from great data streams, supposing that the distribution generating examples does not vary over time. Hoeffding trees uses the fact that a small sample can often be adequate to choose a best splitting attribute. This idea is supported by the Hoeffding bound, which quantifies the number of observations (Hulten, Geoff, Laurie, & Pedro, 2001).

4. Rotation Forest

Rotation Forest is an ensemble technique which trains L decision trees separately, using a different set of obtained features for each tree. Rotation Forest (Rodriguez, Kuncheva, & Alonso, 2006) draws upon the Random Forest idea. The base classifiers are also separately built decision trees, but in Rotation Forest every tree is trained on the whole data set in a rotated feature space. While the tree learning algorithm constructs the classification regions using hyperplanes parallel to the feature axes, a small rotation of the axes may guide to a very different tree.

- **Feature Ranking**

Feature ranking was applied through WEKA software using Correlation Attribute Evaluation("CorrelationAttributeEval," 2016). It evaluates the value of an attribute by measuring the correlation (Pearson's) between it and the class. Nominal attributes are measured on a value by value basis by regarding each value as an indicator. A general correlation for a nominal attribute is reached at via a weighted average.

We selected all attributes whose weight is above 0.1. Those are:

- HTTPS
- URL of Anchor
- Adding Prefix or Suffix Separated by () to the Domain
- DNS Record
- Sub Domain and Multi Sub Domains
- Request URL
- Domain Registration Length
- Server Form Handler (SFH)
- Links in <Meta>, <Script> and <Link> tags
- Google Index
- Age of Domain
- PageRank

Experiments and Results

All experiments were conducted in WEKA tool ("Weka 3 Data Mining with Open Source Machine Learning Software in Java," 2016) which is an open source data mining application created in JAVA at Waikato University.

Table 2: Full training set results

| Classifier | Test 1 | Test 2 |
|---|--------------|--------------|
| MLP | 85.5% | 85% |
| Random Forest | 85.7% | 84.5% |
| C4.5 | 74.6% | 73% |
| REPTree | 88.4% | 88% |
| Decision Stump | 86.1% | 87% |
| Hoeffding Tree | 87.3% | 88.4% |
| Rotation Forest (REP Tree) | 89.1% | 88.5% |
| Rotation Forest (Hoeffding Tree) | 88% | 84.6% |

The results show that Rotation Forest algorithm with REP Tree as a classifier give the best results for both test sets with 89.1% and 88.5% accuracy respectively. Other classifiers were not far behind, except C4.5 with 74.6% and 73% for two test sets.

After doing the ranking features with Correlation Attribute Evaluation, we applied the same classifiers. The results are very close to the ones with full training set. Surprisingly, MLP results improved for both test sets to 89% and 86.4%. MLP is also the best classifier for first test set with just 0.1% drop in comparison to Rotation Forest with REP Tree results with the full training set. REP Tree was the best classifier for test set 2 with 87.6% correct classification.

The drop in correct classification after feature reduction is applied is 1.17%.

Table 3: Reduced training set results

| Classifier | Test 1 | Test 2 |
|---|------------|--------------|
| MLP | 89% | 86.4% |
| Random Forest | 81.8% | 80.2% |
| C4.5 | 73.9% | 73% |
| REPTree | 87.1% | 87.6% |
| Decision Stump | 86.1% | 87% |
| Hoeffding Tree | 82.1% | 83.4% |
| Rotation Forest (REP Tree) | 88.9% | 87% |
| Rotation Forest (Hoeffding Tree) | 87.5% | 84% |

If we compare two result tables, we can see that Rotation Forest with REP Tree as a classifier gives the overall best results with 88.37% correct classification, while MLP outshines all other classifiers when feature reduction is applied.

Discussion

(Mohammad et al., 2014) conducted the similar feature selection where they selected nine features (Request URL, Age of Domain, HTTPS and SSL, Website Traffic, Long URL, Sub Domain and Multi Sub Domain, Adding prefix or Suffix Separated by (-) to Domain, URL of Anchor and Using the IP Address). If we compare their selected attributes with ours, we can see that we share 6 same features: Request URL, Age of Domain, HTTPS and SSL, Sub Domain and Multi Sub Domain, Adding prefix or Suffix Separated by (-) to Domain and URL of Anchor).

Moreover, all of the 30 features fall within 4 different feature groups: Address Bar based Features, Abnormal Based Features, HTML and JavaScript based Features, and Domain based Features. However, none of the 12 selected feature falls within "HTML and JavaScript" based Features. This raises the question whether this group of features is relevant in classification of phishing websites.

Conclusion

Phishing websites detection has gotten a colossal consideration by greater part of the individuals as it serves to recognize the undesirable data and dangers. Hence, the greater part of the analysts focuses in discovering the best classifier for recognizing phishing websites.

This work models the phishing website prediction as a classification task and presents the machine learning approach for predicting whether the given website is legitimate website or phishing. Multilayer perceptron, Decision tree classifiers, and Rotation Forest have been applied for training the prediction model. Training set of 11055 and two test sets of 2456 and 2670 instances with 30 attributes have been

prepared in order to facilitate training and implementation.

From the results it has been found that the Rotation Forest algorithm with REP Tree as a classifier and MLP performs the best on a full training and on reduced set, respectively. When training set was reduced from 30 attributes to 12, the overall results for all classifiers dropped for 1.17%. In the meantime, MLP's overall results increased from 85.5% to 87.7%.

It is hoped that more interesting results will follow on further exploration of data.

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TAX EVASION IN ALBANIAN ECONOMY AFTER '90

Viola Tanto

European University of Tirana
Albania
viola.tanto@gmail.com

Abstract: Albanian economy has gone through some difficult processes during different periods. For 45 years, it was a centrally planned economy, because of the dictatorial system. Albanian economy suffered a defeat during its adoption from centralized economy to a liberal economy. The main difficulty was the concentration of the Albanian economy in the cooperative system. In this type of system, all properties were owned by the state, there was no right of privatization. After '90 the identity of properties was returned. The banking sector, as one of the most important sectors of economy, was not having an appropriate development. Not only inflation would be the problem of the economy, but also the loss of trust for the deposit of money in the second level banks that could be opened, which would lead to the failure of the financial sector. An important factor which characterize the economy is the informality. This article seeks to explain the factors that influenced informality in economy, in specific, tax evasion. Tax evasion is an illegal action as it constitutes a deed where the person is breaching the provisions found in the Tax Procedures Law and Penal Code. This paper shall discuss such provisions in the Albanian legislation.

Keywords: tax evasion, legislation, liberal economy, informality, economic growth

JEL Classification: K4

Introduction

Recently, we have been witnesses to a significant increase in the quantitative and qualitative level of tax evasion and tax avoidance. Often, the "battle" between fiscal system and contributors in bad faith (or suspected as such) is made on the basis of power of probation (burden of proof) regarding the elements of the transaction that must be verified by the tax administration. Nowadays, tax evasion is leaving more and more space to avoid refined, in contrast to what might generally be thought, it is not only the prerogative of big companies, corporations or powerful groups of business, but it's become a common management tool for small and medium enterprises and in some cases for natural persons.

Economy evolved with the same steps with the evolution of mankind. The need for economic change and the adoption of economic was the result of evolution of the society. Application of transition in Albania was very difficult, because Albania was one of the poorest country of Europe. It was a communist country with similar features with other socialist countries but with a centralized economy, in other words Albanian people did not have the right to have a property.

Structural changes in the banking system started since 1992 with the economic reforms, which began with the change of legal basis. The structure changed with the adoption of the law on 'Bank of Albania' and the approval of the law "On the banking system in the Republic of Albania". The banking system with its inefficiency as a financial intermediary created spaces for pyramids (in 1997) to absorb the growing

savings, especially savings of immigrants. Interest rates on deposits offered by these companies were too high and ranged from 6-8% per month. Main causes of pyramid schemes were lack of appropriate legal framework and political factor.

The developments in the real sector, during '92-96' were characterized by a sensitive economic increase of 9 % per year, a decline in the average level of inflation of 17.5 % , and a sensitive improvement of current account and budget deficit. Progress in the macroeconomic stabilization was based on the design and implementation of strong monetary and fiscal policies and also on rapid privatization in agriculture, retails, wholesales, small and medium enterprises which helped economic growth of the country. The desire and effort to fill the budget theoretically one side and ignorance of the Albanian reality, made to fixed quotas excise arbitrary values, provoked by withholding production firms or tax evasion.

Referring to the Working Document of the Secretariat of the Investment Council (SIC): *Informality, A Common Government-Business Challenge, December 2015*, since the 1st of September 2015, the Government officially initiated an extensive campaign against informality in the country. This campaign was preceded by public statements during July–August 2015 on the necessity to fully establish rule of law in the economic and commercial sphere of the country. The campaign was also preceded by a series of concrete, but not published, steps by the Government, including the establishment of a working group within the Council of Ministers, discussions in the Inter-ministerial Strategic Planning Committee (SPC), and the presentation of the campaign to the National Economic Council (NEC).

The process was accompanied by a large number of on-site tax inspections (fiscal visits) aimed at scanning the informality situation, numerous media statements by all stakeholders, followed by a series of legal initiatives. A "unique" intensity of debate and reaction was observed concerning this campaign, involving the Government, the business and its representative associations, as well as international institutions.

Informality and the tax system

The informality in Albania is identified mainly in the form of unregistered businesses, fiscal evasion, and informal employment.

An important aspect of "informal economy" is "criminal economy," the kind of economy resulting from the illegal production of products and services and activities forbidden by the law. The difference between the two is that in *criminal economy*, what is forbidden is the activity itself, but in *informal economy*, the activity itself is legal, but the income is concealed and avoided through illegal means.

Tax evasion, as a phenomenon of corruption overall economy of our country, in this extended period of transition, tends not only by moral anti-law to benefit, above all, the adoption of the law, not in the real conditions of development our economic, mentality, transitions and versatile infrastructure fiscal.

Albania, with the entry into the market economy felt a duty to adopt Western laws in various sectors of the economy, and specifically, in the fiscal sector. Western Europe, in reality it enforced these laws for a long period, subject to supply and demand. This resulted in the harmonization of the price upon request. Due to the low level of life and fiscal mentality, excises were put under a strict technical control, not produced rampant evasion. They defined levels of tax payable and especially, excise duties to

achieve the objective of their optimum absorption by the state, to realize not only the budget revenues (out lower).

In order to create an anti-evasion atmosphere because populations larger than our country and not only that, but the state tradition most part, these countries rushed to recognize capitalists young and teach the masses, with the tradition of the new tax reduction tax evasion by using tax policy carefully.

The tax system represents one of the main pillars that facilitates or impedes the formalization of economy, also making the business climate more attractive or not. Regarding the tax system, businesses have identified the following concerns: tax burden, fragmentation of the tax system, tax administration, and tax procedures.

The administration of taxes is mentioned as an issue in different recent reports of international organizations on the business climate of Albania. As it's stated in the Working Document of SIC, businesses have continuously emphasized and made different comments, generally negative ones, over the capacities of the administration, interpretation of the legislation, and frequent tax inspections.

Tax avoidance is one of the most difficult issues with which they are confronted tax authorities, courts and legislation throughout the world, especially in places where it is hard to believe or doubt that the tax system is the main instrument to increase revenues that support government investment (Orow, 2000). Tax avoidance and other forms that deviate from the failure of taxes or reduce them can be called without hesitation more widespread phenomenon in recent centuries.

Tax avoidance involves arranging a transaction or a series of transactions, as to obtain a tax advantage, distinguishing the tax planning, which is lawful and tax evasion, as the incidence of serious violations of tax rates.

Increasing cases of avoidance must be given a choice and must take immediate and concrete measures. This poses a serious challenge against the effectiveness of the tax laws.

In all the multitude of books, articles or reports on this subject are noticed contradictions and different currents of thought on the nature and causes of tax evasion, ways of responding to it or address it, citing the fact that some perpetrators tax avoidance is a problem which requires a response by the legislation.

The divergence in the views of different groups of researchers, doctrine or jurisprudence come as a consequence of the legal traditions of the countries that belong or individual rights and obligations in tax law.

The main issues and the most vulnerable areas (Palumbo, 2011) which have been and continue to be problematic for Albania, as well as for other countries include:

- The lack of a clear and coherent policy to tackle the structural choices provided by tax legislation;
- The fact that the tax system exists as an economic reality in the business world and as a real and substantial cost affects the shape of the majority of transactions;
- The existence and application of formal principles characterizing many of the transactions and creating differences which are more formal than substantive;
- Different taxes for different businesses and the lack of a coherent framework of income tax on investment.

Ways that are followed to address tax avoidance have been different. Abuse of the law doctrine is used in all areas of law, including the right to tax. The European Court of Justice (De La Feria & Vogenauer, 2011) alluded to more than thirty years connected with the terms "abuse or abusive practices", but for a long time the meaning of these references has been unclear. Recent years there has been a radical change in attitude, mainly due to the development by the Court of a test for finding of abuse and its application in the field of taxation. The European Court of Justice has formulated a principle of general anti-avoidance according to this doctrine. The principle of prohibition of abuse of rights can be used as an effective basis for addressing tax avoidance, which is a manifestation of abuse of the right of the taxpayer.

The principles that govern tax avoidance and evasion are provisions that prohibit the performance of complex structured transactions intentionally by the taxpayer, to divert from paying the tax.

Before determining these principles, we need to make the difference of the behaviors of the taxpayer, in order to better understand the link between the illegal conduct and general principles.

One of the manners of tax benefit, which is in any case illegal is tax evasion.

Tax evasion is the taxpayer's behavior (Galdieri, 2009), that consists in a direct violation of tax liabilities as a result of existence of some elements related to the birth of the tax. In practice, the taxpayer avoids the payment, wholly or partially, of the tax liability using tools / illegal ways to hide all or part of the taxable base.

These behaviors of taxpayers, which are illegal, can come as a result of gross negligence or intent on committing acts or omissions e.g failure of invoices or lack of billing transactions (such as omission of the taxpayer), or may result in active actions as fulfillment of invoices for transactions that are really nonexistent (Caraccioli, 2009). In this way the definition of conduct for tax purposes is very simple: there is tax liability specified in the relevant rules, the person/business is not aimed at changing the legal structure, but illegally, evading this obligation.

Usually these situations occur in the case of creating models or transactions, for e.g corporate mergers, divisions, transformations, created as entities without a "valid reason economic", but to take an advantage of tax. Ratio (reason) is a savings/ evasion of taxes (Terracina, 2012).

Tax avoidance and tax planning

Tax avoidance should not be confused either with tax evasion (as discussed above), which is in breach of a legal obligation to pay taxes, nor with tax saving. The taxpayer can make the choice among of the various options offered by the legal system to minimize the tax burden.

The concept of tax saving is broader and more general than that tax avoidance. Well, we can say that the tax saving is a grouping that includes all sub-groups considered. Methods, tools, techniques of conducting tax avoidance are different from those of the realization of tax planning.

In fact, there is absolutely nothing wrong in choosing between two or more different transactions that lead to the same result, where the choice of one leads to lower taxes, reduction or elimination of the tax burden.

The possibility for taxpayers realizing a savings (Pistone, 1995) allowed by the legal system (the so-called tax-free zone) is characteristic of capitalist economic systems. It is symbolic that such opportunity was given without hesitation the former communist countries after leaving the planned economy system.

The benefit of tax savings by planning when there is no exceed of the limits of legality, can be very useful and socially. It was argued that the specific weight of the tax burden is an instrument to stimulate (or discourage) a certain kind of social or economic choices of taxpayers.

Meanwhile, the essential features of tax avoidance is avoidance or deviation from the definition of tax rates or the use of legal space for the performance of certain transactions. The tax burden is not mitigated by falsifying the facts of tax relevant (as in the case of tax evasion), or through simulation of certain transactions (as in the case of fraud), but through careful use of tax rates existing gaps (Palumbo, 2011).

Often, (Galdieri, 2009) taxpayers willing to avoid taxes, create more complex schemes with the sole purpose to avoid the law. Tax avoidance, in other words, consists in acquiring a particular economic outcome, using the not the normal procedure provided for by the legal system. The main problem lies in the fact that how far can go the taxpayer, choosing less heavy taxation without avoiding the law.

Conclusions

This paper has explored a number of issues regarding shadow economy and fiscal evasion. Although in different levels and ways, shadow economy is present in every country. Tax evasion is an important and significant phenomenon that affects both developed and developing economies. Size of the informal economy and fiscal evasion associated with it should be clearly understood, in order to forecast the appropriate policies to deal with these issues.

Generally countries with low tax rate, tend to have less fiscal evasion. However, Albania is an exception, since it has or had a low tax rate, but fiscal evasion is still a major problem. As the tax rate increase, the probability of evading taxes increases, too. Tax payers lack trust on governmental institution, so they evade taxes or pay only the amount they believe they can be caught.

In order to reduce tax evasion, Tax Administration should increase the quality of audits and controls. This can be done through an improvement in tax audit methodologies and existing topics, creating a unique database with the results of inspections made on businesses and individuals. Strengthening of financial control may also help in the reduction in the size of informal economy.

Government should develop business management tools for a more precise control or a database including taxpayer's taxpaying habits. Fiscal evasion can be reduced also by the improvement of enforcement procedures. In order to control tax evasion government should:

- a)Build business- friendly policies abolish repressive practices against business and fiscal arbitrariness,
- b)Increase cooperation between different state agencies
- c)Increase the capacity and professionalism of customs and tax administration, in order to improve the control of fiscal evasion in the labor market it is required the education of both employees and employers;
- d)Strengthening the legal and financial penalties for individuals and companies who manipulate company balance sheets.

International experiences suggest that stronger penalties function better when adequate incentives have been created preliminarily for formalization purposes and when informal companies have a more successful transition towards formalization.

On the other side there are many question marks on the efficiency of the complaint system, including tax appeal procedures and complaints procedures through the judicial system.

The formalization reform must also have a goal to relieve the administrative burden for taxpayers, by promoting compliance with the tax system and the regulatory system as well as a higher standard of the final goods and services in the following aspects: For e.g. Improvement of public institutions' infrastructure in relation to application of online systems and enhancing the exchange of information in real time. More concretely, the online coordination of State Inspectors and online exchange of information on Inspections as well as coordinated registration of private entities, with institutions such as the NRC, Tax Office, Employment Office and other Inspectorates (e.g. NFA, the Environment Inspectorate, etc.) or the General Directorate of Customs for imports of raw materials (necessary for agro-business).

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FORMATION OF A HIGHER EDUCATION ORGANIZATION IDENTITY BETWEEN IMAGINATIONS AND STANDARDS: THE CASE OF TURKISH UNIVERSITIES SYSTEM

Atay Erhan

Suleyman Sah University

Turkey

eatay@ssu.edu.tr

Zehra Topal

Suleyman Sah University

Turkey

ztopal@ssu.edu.tr

Abstract: Nowadays universities on the one hand try to survive and handle to their managerial system on the other hand cope with constrains from their institutional environment. The constrains are multilateral and including organizational demands, increasing competition in the market, national and international standardization however which are comprise of responding to demands of the students who are grown up in the technological era. Hence, universities are increasingly facing a double-sided pressure: to be innovative with a specific organizational duty while at the same time being an embedded part of a growing, and highly interconnected, internationalized and standardized higher education 'industry'. This dilemma has both theoretical and practical interest, and is explored in this paper through an empirical study of how one university has dealt with these challenges of innovation and standardization.

In this paper it is investigated that the processes involved in forming an organizational identity, which it is studied during the founding of a distinctive new college by using an interpretive, insider-outsider research approach. It aimed that to identify elements that constitute the identity. It is considered a dilemma that imaginations and innovations attitudes of entrepreneurs of university such as struggles to be innovative and authentic on the other hand centralized structure of state, national and international standardizations and especially idiosyncratic context of Turkey. By studying a Turkish foundation university from its establishment in 2007 to present, and by extensive triangulation of more qualitative studies on this university in this period, the paper concludes that higher education institutions may handle this dilemma by relating it to the continuous struggle for organizational identity. As methodologically has done per deep interview with founding members and content analysis to archive documents since its establishment.

Key Words: Higher Education, Organizational Identity, Standardization, Innovative Entrepreneurship, Institutional Isomorphism, Autonomy

Introduction

In the social life we are living with diverse institutions as in embedded and significant sense the life. Sometimes old institutions weaken by way of loss of legitimacy and meaning although many of their properties of alive. Vice versa is possible; a new social arrangements, agreements and perspectives may be given the outward form of an institution.

Otherwise, function as one of its member finds little or no inner meaning inside it (Beteille, 1995:563).

Institutions have in general a longer life span than people. Even if some institutions by the time they can transform into a new formations. If they do not adapt to recent development they may conflict. Universities are one of the most extended institutions in the world. On the other hand, the role and character of universities around the world is rapidly changing, with an increasing number of countries witnessing the rise of a market-based model of higher education and a rapid expansion of student enrolments. The world-wide trend in higher education is to push for enhanced student outcomes, accountability and innovation (Shaw et all., 2013:992).

In Turkey as our case, this emphasis has been encapsulated in the some formation process. In this paper it is investigated that the processes involved in forming an organizational identity, which it is studied during the founding of a distinctive new college by using an interpretive, insider-outsider research approach. It aimed that to identify elements that constitute the identity. It is considered a dilemma that imaginations and innovations attitudes of entrepreneurs of university such as struggles to be innovative and authentic on the other hand centralized structure of state, national and international standardizations and especially idiosyncratic context of Turkey.

Theoretical Framework

In the statement of DiMaggio and Powell (1983:150), organizational adaptation as determined by external forces where organizations have to adapt to economic, societal and cultural demands for reasons of legitimacy and survival. A representative theory here is the sociological version of neo-institutionalism, where a central thesis is that due to external political pressure, increased professionalization within a societal sector, or organizational uncertainty, organizations will become increasingly similar. In other words, organizational adaptation is a change towards standardization within a given organizational sector, e.g. higher education.

Also, organizations are dependent on external forces, but argues that each organization still has certain discretion left when it comes to how they should respond to external pressures. The concepts of strategic choice or critical decisions are in this perspective important, along with a view that organizations must find their environmental niche in order to successfully compete for customers, students or markets shares, improve financial support or relations with society at large (e.g., Selznick 1957; Clark 1998; Sporn 1999). At this point our question research is arise, how universities cope with the external pressures by making their own shape organizational identities? For clear understanding we should briefly sort out condition of universities in the context of Turkey.

Condition of Universities in the Context of Turkey

The Council of Higher Education (CoHE) consult, supervise and control to universities in Turkey. The CoHE is an autonomous institution which is responsible for the planning, coordination and governance of higher education system in Turkey. CoHE is established in 1982 and has a constitutional and centralized structure. The number of universities has been increasing by times. Regarding of CoHE's statistics there are two break point have seen in this duration. One of them is in the year of 1992 and other one is in 2006 and after. The count has increased approximately three times in this process. Especially foundation and private universities have establishes intensively in the term.

While the number of non government universities was only one before 1982, they were 16 in 1997, 30 in 2007 and 63 in 2011¹. Recently the update number is 76. Conjunction with this increasing, a competitive market has raised between universities. The rising competition in higher education and the mass demands for education prompt to universities to get seeking differentiation for fixing their strategic situation, and hit them transforming into organizational identity(Sakinc and Bursalioglu, 2012:93). In this case, our question research made out; formation by CoHE and differentiate organization identity of universities has presented a contradiction and how universities cope and deal with between imaginations and standards in their way.

Organizational Identity

Universities as an organization are dependent on external forces while each one still has specific discretion. They should respond and manage this dependency with concept of strategic choice or critical decisions. They are in a challenge market and they must find their niche in order to prospering compete for their stakeholders (Stensaker and Norgard, 2001:479). In this case organizational identity should be dynamic concept where identity tags last. Organizational identity in relation to both culture and image in order to understand how external and internal definitions of organizational identity interact and commit. According to Whetten (2006) this commitment the identity claims or referents that signify the organization's self determined and self defining position in social space. From this perspective organizations are more than a social collectives they are social actors (Gioia et all. 2010:6). However structure of centralized system of higher education in Turkey caused isomorphism (Stensaker and Norgard, 2001:476) and lead to rationalized formal structures (Meyer and Rowan, 1977:342). In this study we investigated that the processes involved in forming an organizational identity, which it is studied during the founding of a distinctive new college by using an interpretive, insider-outsider research approach. We aimed that to identify elements that constitute the identity.

Methodology

Our unit of observation is a foundation university which is established in 2007. In the academic meaning, there are two faculties and eight departments. University take position and differentiate itself social science. In the scope of our study we used a qualitative methods find out an embedded meaning of identity and perception of centralized system by employees in the university. Our sample consist of 32, and we did per deep interview each one by recording during one hour. We did discourse analysis to dechiphered text and content analysis to archive documents since its establishment. Our analysis table is still in progress.

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¹ <http://www.yok.gov.tr/en/web/uluslararasi-iliskiler/turkiye-de-yuksekogretim-sistemi>

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DETERMINANTS OF FIRM PROFITABILITY IN CROATIA'S MANUFACTURING SECTOR

Lorena Škuflíć

School of economics and business
Croatia
lskufllic@efzg.hr

Danijel Mlinarić

School of economics and business
Croatia
dmlinaric@efzg.hr

Marko Družić

School of economics and business
Croatia
mdruzic@efzg.hr

Abstract: This paper investigates determinants of the profitability of industrial firms in Croatia, using data for large, medium and small companies for the period 2003-2014. This paper provides a broad theoretical review of the determinants of profitability analysed in economic literature with special remarks on firm level determinants, and explanation of most used variables such as size of firm, revenues, growth rate of revenues, sales, profit in previous years, ownership, productivity level, financial leverage, cost of inputs, indebtedness. Results from the panel ordinary least squares model for Croatia's manufacturing sector reveal a positive and statistical significant relationship between profitability, total factor productivity, and concentration measured through Herfindahl-Hirschman index. On the other hand, indebtedness and liquidity show a negative relationship with the firm profitability of Croatia's manufacturing sector.

Keywords: Profitability, Determinants, Manufacturing Industry

JEL Classification: D22, L10

1. Introduction

Manufacturing industry represents a significant base for the long-term economic growth and development of each nation's economy, especially when it comes to a small country which has to focus on foreign markets during its process of development. A strong industrial base, export-oriented, competitive in the international market, represents an economic objective of both developed and less developed countries. It is evident that the countries, which are in the process of its economic development, exceed from being industrial countries into being service countries, that is, after a certain degree of achieved economic development, industrial sector is being replaced by the service sector. Accordingly, and in the EU, there has been a reduction in the share of manufacturing industry in the gross domestic product, which, in the economic literature, is known as the process of de-industrialization.¹

¹ De-industrialization began in the mid-60s in the US and copied to Europe, and its manifestations are reflected in reduced number of employees in the manufacturing industry as a result of increased productivity and decrease in demand towards this segment of the economy.

Reduction in the share of the manufacturing industry in total national production, regarding the number of employees, was affected by the changes in demand, increased productivity and dynamics in trade.

The share of the manufacturing industry varies from country to country, ranging from 5.2% in value added GDP (Luxembourg, the year of 2013) to 22.2% (Germany, in 2013). Following the trend line in the manufacturing industry since 1970 to this date the shares have continuously declined in the European countries. In France, the share fell from 22.3% (1970) to 11.3% (2013), while significantly smaller decrease was recorded in Germany, from 27.8% (1970) to 22.2% (2013). The country which recorded the largest decline in the share of value added in GDP is Luxembourg, where the share dropped from 41.5% (1970) to 5.2% (2013) (www.unctad.org).

If the process of de-industrialization is to be observed from the of micro-entity aspect, then it may be due to the slower growth of those companies in relation to companies of the service sector. The cause for the slower growth lies both on the supply and the demand side. The company, like any other living organism has its path, from starting point to death, during which some companies grow faster, some slower, and some stagnate. Length of the company's existence on the market is also individual and depends on the degree of adaptability to the environment. Companies that produce products with higher demand, achieve faster growth rates, and with the proper cost management they preserve better financial results, which then allow them a higher investment rate and investment in the production process technology. This simple explanation of profitability circle and company's existence on the market, can be viewed from the Firm's Theory aspect. The level of profitability depends on the ultimate goal of a business entity.

Firm's Theory, observed through prism of neoclassical school of economics, focuses on the production aspect, specifically on transformation of inputs into outputs, for which a level of technology and market environment, in which entities work, are important in terms of pricing and volume of production, and the market plays an important role on the output side in the design of consumer behaviour. The neoclassical theory company is based on market analysis models of perfect and imperfect competition, and within these other market structure on the analysis of oligopoly and monopoly, and monopolistic competition. The neoclassical theory company believes that the company is also the entrepreneur who is at the same time unified function of owner and manager, and whose main goal is to maximize profit, or to achieve maximum possible difference between total revenue and total costs. An entrepreneur makes the decision on how many inputs to be employed in order to achieve the planned level of production, taking into consideration the price of inputs and output prices on the market. Hence, in the basis of neoclassical theory, property and institution have no influence on the company's goal, as well as on the amount of knowledge, technology and cost-effectiveness (as summarized set of production capabilities). For each level of output, the entrepreneur determines that quantity of input that will minimize the expenses, but only output, through which the maximum profit is achieved, is considered to be the balanced level of production, which presents the rational behaviour of entrepreneurs.

Generally, by reducing the agriculture share, country carries out a higher level of national income and fewer people are employed in that sector, while the employment in the industry increases and so its share in value added, which gives way to the service sector after a certain stage. This process is associated with the reallocation of resources from less to more effective productions which implies structural changes.

All mentioned provides importance of profitability determinants for firm` performance and on the other hand, undoubtedly influence on the economy in the whole. Manufacturing industry in Croatia is the important contributor to the Croatian economic growth, especially in the past. It is arguable that the impact of determinants of profitability, throughout the world, is not similar on the firm` financial performance in every country that gives different influence on all stakeholders. Such reason gives motivation for this research which include quantitative data of all manufacturing companies in Croatia for over 11 years, from 2003 until 2014. All data gathered from FINA database. According to that, the aim of this research is to determine which microeconomic factors influence on the profitability of firm`s in Croatian manufacturing industry.

The paper is organized as follows. Section 2 presents review of microeconomic determinants of firm profitability what includes theoretical background and related literature with discuss on main characteristics and relations. Section 3 gives extensive overview of methodology, used models and explanation of research results of determinants of profitability. At the end, Section 5 concludes the article and gives main points of research with recommendations for further researches.

2. Review of Microeconomic Determinants of Firm Profitability

The connections between the profitability determinants and profitability of companies are well represented in previous researches. Most common question is what drives firm profitability unrelated to the firms' essence. According to that, models of firm profitability can be classified into two major groups, structure-conduct performance (SCP) and firm effect models (Škufljć, Mlinarić and Družić, forthcoming). There has been a huge volume of literature to date that has sought to identify the determinants of firm profitability. Here are some of them. Gringer and McM Kiernan (1991) focused on the determinants of profitability and showed that market share, capital intensity, growth of sales, working capital and decentralization play a significant role in explaining firm profitability. Brush et al. (1999) find that company and industry affect business profitability, but company has the larger influence. In addition to the size of the firms, and investment, some of the other determinants have also affected profitability, such as lagged profitability, a significant determinant of current profit margins, and that industry concentration is positively related to firm profits margins. Further, profit margins are found to be pro cyclical in concentrated industries but counter cyclical in less concentrated industries (McDonald, 1999). Similar, Feeny (2000) found a strong connection of a positive association between capital intensity, size and profitability. In addition, Nunes, Serrasquerio and Sequeria (2009) found a positive relationship between size, growth and profitability. Moreover, they concluded that higher liquidity will not decrease profitability. On the other hand, lower level of debt and lower level of fixed assets are more profitable. Depending on the research, firm-level or industry-specific effects are found to be the dominant factor on firm profitability. According to the all mentioned next Table briefly shows microeconomic determinants and their indicators of firm` profitability.

Table 1: Microeconomic determinants of firm profitability

| Determinants | Indicators |
|--|--|
| 1. Lagged profitability | - net profit from previous year |
| 2. Firm` size | - total assets; number of employees |
| 3. Firm growth in industry | - growth rate in operating income from the sale of company/growth rate in operating income of the industry |
| 4. Age | - years of firm existence |
| 3. Ownership | - share of state ownership - share of foreign ownership |
| 4. Cost management | - cost of production - share of material costs in total costs - growth rate of material costs - share of labor costs in total costs - growth rate of labor costs - cost of I&R - cost of advertising |
| 4. Leverage ratio; capital structure | - financial leverage - leverage ratio - net debt/EBITDA - self-financing coefficient - net debt ratio - share of loans in equity - EBIT/interest coverage ratio |
| 5. Working Capital Productivity; Multifactorial Productivity | - operating income/working hours - operating income/capital |
| 6. Tax burden | - paid taxes/total costs |
| 7. Export oriented firm | - amount of export |
| 8. Import dependence | - share of import in total sales |
| 9. Human capital | - number of high educated employees |
| 10. Quotation on the stock exchange and EPS | - dividends per share - annual growth (decline) rate of market price shares |
| 11. Current ratio | |
| 12. Regional affiliation (location) | |

Table 1 shows microeconomic determinants of firm` profitability with their indicators what is in continuation thoroughly explained with all significant literature and authors.

CONCENTRATION

Generally, in theory of industrial organization it is well known that concentration indicators are good approximation for market power, with positive correlation. There are a lot of researches about positive correlation, one of them is shown in „Oligopoly Theory“ of Stigler (1964). It is demonstrated positive correlation between profit maximization and relative firm size. Saving (1970) also showed same but in correlation

between firm's shares and Lerner index. Same results are shown also in Encaoua and Jacquernin (1980). According to that, most used approximation of concentration are Herfindahl-Hirschman index and concentration index, with positive correlation, what is in accordance with SCP paradigm (see: Bain, 1951; Demsetz, 1973; Peltzman, 1977). Most important concentration indicators, are briefly described below.

Concentration index represents sum of market shares of k number of firm's.

$$CR_k = S_1 + S_2 + S_3 + \dots + S_k \text{ where } S_1 \text{ to } S_k \text{ market shares of one firm.}$$

This indicator shows share of total revenues or sales of firm in total revenues or sales of an industry. It is possible to calculate market shares of 4, 8, 20 or even 50 largest firms in the industry. The most common concentration ratios are the CR_4 and the CR_{50} . Next Table shows classification of market structures for concentration ratio .

Table 2: Classification of market structures for concentration ratio

| | Market structure |
|------------|--------------------------|
| 0 = | Perfect competition |
| 40 > > 0 | Monopolistic competition |
| 60 > => 40 | Weak oligopoly |
| => 60 | Extremely oligopoly |
| => 90 | Monopoly |

Herfindahl-Hirschman index is defined as the sum of the squares of the market shares of the firms within the industry, with equation

$$HHI = S_1^2 + S_2^2 + S_3^2 + S_4^2 + \dots + S_n^2$$

where is S_i market share of firm.

The Herfindahl index provides a more complete picture of industry concentration than does the concentration ratio. Here are advantages of HHI:

- a) HHI gives distribution of market shares of four (or eight) firms and composition of market not just for larger firms.
- b) HHI also gives more weight to larger firms, respectively it recognizes interaction between larger concurrents.

Table 3: HHI classification of market structures

| | |
|-------------------|--|
| HHI | Imperfectly competitive market structure |
| HHI < 1000 | Monopolistic competition |
| HHI < 1800 > 1000 | Monopolistic competition or oligopoly |
| HHI > 1800 | Oligopoly or monopoly |

SIZE

In theoretical and empirical economic literature, within the framework of current researches, issues of correlation of company's size and profitability are indispensable. A variety of researches, as the main evidence of importance of company's size arguments, that the average cost of operating a small business is higher than the average cost of operating large enterprises (Agiomirgianakis et al., 2013) so it is necessary to observe the relationship between the two variables. Large enterprises have higher levels of

profitability when compared to small ones, primarily due to economy of scale. On the other hand, small enterprises are often new players on the market, so they take over market shares and profits of large companies (Papadogonas, 2007). According to above mentioned, and considering the majority of studies that show the significance of company's size to its level of profitability (see Dwyer et al., 2010), we can generally state and assume a positive correlation. According to RBV theory, the positive correlation between company's size and profitability, is a result of the more accessible access to capital and of suitability for utilization of the economy of scale's principles, which ultimately leads to higher profitability. Furthermore, other studies also confirm the hypothesis of positive correlation: Gschwandtner (2005), Nunes et al. (2009), Fukao (2006), Asimakopoulos et al. (2009), Stierwald (2010). The most common choice for company's size variable comes down to property size, number of employees and total sales, of which one of the most frequently used according to (Hirshey, 2008) is total sales.

LAGGED PROFITABILITY

Getting back to prior period assets, is mentioned in literature as an indispensable determinant because the lagged profitability is related to profitability of the next period. Positive correlation is expected, which has been confirmed in the works of Bothwell et al. (1984) and Fenny and Rogers (1999).

AGE

In the framework of the resource based view theory, RBV (see Jovanovic, 1982; Wernerfelt, 1984), where specific determinants of business enterprise have the greatest significance, it is assumed that the older the company is it can potentially acquire more resources (Autio, 2005), and the older the company is, it possesses higher amounts of information and more experience, enjoys a better reputation and it is enabled to have wider and better access to financing. However, there are a multitude of studies which confirmed the negative relationship of age and profitability, where as an important argument, the lag of older companies to market changes and innovations have been highlighted (Glancey, 1998). According to studies determinant of age can have a positive and a negative impact on profitability.

INDEBTEDNESS

Generally, indebtedness does not have to have only negative impact on profitability. Namely, if the borrowed funds are invested in products / services which bring an additional income, with the average profit values, indebtedness will in the long term have a positive impact on profitability. Thus, theoretical studies provide complex and intertwined answers on the impact of debt on profitability.

The impact of debt on profitability can be divided according to three basic relations (Kebewar, 2012):

- a) Signal theory which assumes a positive impact of debt on profitability;
- b) The theory of agency costs: b1.) The correlation is positive if the capital's agency costs are between the owners and manager, b2.) The correlation is negative if the agency costs of debt are between owners and lenders;
- c) The tax aspect - correlation is unpredictable, complex and depends on the tax evaluation of interests, income tax and tax valuation.

Such dual points of view are confirmed by the results of empirical researches, where the negative impact has been proved by Majumdar and Chhibber (1999), Eriotis et al. (2002), and Ngobo Capiez (2004), Goddard et al. (2005), Rao et al. (2007), and Tian Zeitun (2007) and Nunes et al. (2009). On the other hand, a positive impact has been proved by Baum et al. (2006, 2007), Berger and Bonaccorsi (2006), Margaritis and Psillaki (2007).

The high rate of invested capital refund reflects the real state of the market, namely its imbalance. The degree of profitability is one of the most important indicators of market power. Studies, that tried to prove the connection between capital refund, industry concentration and also entry barriers, have been carried out. Weiss (1974) determined the link between profits, concentration and entry barriers. Salinger (1984) demonstrated that the MES in concentrated industries is linked with capital refunds, while this link was not found with other entry barriers variables such as the level of advertising (Carlton and Perloff, pp. 260-261).

The capital structure, according to Bos and Fethersonu (1993), affects the profitability and the companies' risk. There are several debt ratios used in studies within the capital structure. Muhammad (2003) concludes in his paper, that a certain level of indebtedness is desirable, but an excessive level leads to financial turmoil. It uses indicators such as the ratio of total indebtedness in relation to properties, total capital debt and long-term debt in relation to capital. Ventoura (2002) proves that the ratio of debt and capital has a negative effect on profitability. Finally, literature on the effect of capital structure and profitability states that there are certain circumstances in which the ratio is positive and also negative.

FIRM GROWTH IN INDUSTRY

According to Greiner (1972) growth of the company in relation to the profitability can have a positive and a negative effect. In case of a negative ratio, the cause is found in violation of interpersonal relationships within the company due to the increased growth of demands for increasing formal relations in order to achieve the necessary efficiency, which in the short term represents a challenge for the achievement of the desired level of profitability. The positive effect is explained by the increased motivation of employees that, given the growth in the future, they will achieve set goals and thus affect profitability. There are few studies which would undoubtedly lead to a defined impact of the company's growth on the profitability, for example Roper's (1999) and Gschwandtner's (2005) study, whose results studied a statistically insignificant relationship between growth and profitability of the company. However, a positive relationship can be considered more natural as evidenced in the work of Serrasqueiro (2009).

OWNERSHIP STRUCTURE

High quality and comprehensive display for the significance of the ownership structure to the company's management was given in the work of Berle and Means (1932), which demonstrate the advantages and disadvantages of public ownership. Since then, there are many studies that speak in favor of one or the other ownership structure, but there are also studies that have shown no effect (positive or negative) of property to profitability as in Demsetz and Lehn (1985), Himmelberg et al. (1999), Demsetz and Villalonga (2001), Holderness and Sheehan (1988) and Denis and Denis (1994). Shirley

and Walsh (2000) explain the differences in company management, depending on the type of ownership. Finally, it is not possible to unambiguously determine the impact, because there are examples and studies for both types although it is expected that the companies in private ownership are more efficient and therefore more profitable.

IMPORT DEPENDENCE

According to Peltonen et al. (2008) import can have two different effects on profitability. First of all, it can influence in the way that it increases competitiveness on the market and consequently reduces profitability. It can also affect the competitiveness of companies which will ultimately increase profitability. By using the dynamic panel model Peltonen et al. (2008) demonstrated a negative and significant relationship between imports of goods and profitability. Such attitude is confirmed by the works of Sauner-Leroy (2003) and Boulhol (2005). Hansson (1992) determines a different result with respect to geographic region (country) in which the company operates.

In summary, studies researching the determinants of profitability have identified several factors in many countries. However, they do not clearly indicate which factors are the most significant in relation to the firm profitability, although different factors have been identified as determinants of profitability in different countries by using the different methods of study. This is an area this research intends to explore.

3. Methodology, model and research results

The analyzed period covers the years 2003-2014, for which the data were available. However, for our sample of companies relevant data are not abundant. All data gathered from Croatian database FINA. The FINA database contains tax return information on an annual basis. Each year all of entities in Croatia return data on their income, expenses, and other financial activities.

The results have to be evaluated with the fact that some entities in sample may be used for tax planning purposes rather than for reporting the financial activities of a particular line of business. The use of tax entities for accounting purposes will affect the results of an investigation of the determinants of entity profitability using economic variables. This has influenced our choice of explanatory variables, as discussed above, but also a method of estimation. We have applied the panel data analysis method, using the unbalanced sample to obtain the estimated coefficients.

It is well known that determinants are product of specific characteristics of industry and at the end economy, namely different variable has different impact and relation with profitability with other intensity (Škufljć, Mlinarić and Družić, forthcoming). This research employed the most important factors that influence firms profitability and that are commonly utilized through the previous researches. The variables and their used measurements are presented in Table 1. The dependent variable is profitability as measured by net profit before tax. As independent variables consider (1) indebtedness (Debt/EBITDA); (2) concentration (Herfindahl-Hirschman index); (3) liquidity (Current ratio); (4) productivity (Total factor productivity); (5) indebtedness (Indebtedness factor).

Table 4: Variables and measurement

| Dependent variable | Measurement | Symbol |
|-----------------------|----------------------------|--------------|
| Profitability | Net profit before tax | |
| Independent variables | | |
| Indebtedness | Debt/EBITDA | ldug_EBITDA |
| Concentration | Herfindahl-Hirschman index | Ihhi2 |
| Liquidity | Current ratio | Ikoeffteklik |
| Productivity | Total factor productivity | LTFP |
| Indebtedness | Indebtedness factor | Ifak_zad |

Further, while current studies do indicate that panel data analysis is more suitable than other methods of study in determining the profitability of manufacturing companies (Pratheepan, 2014). Therefore this study also hopes to explore the relative importance of determinant of profitability by using the panel data analysis.

Panel data (also known as longitudinal or cross sectional time-series data) is a dataset in which the behavior of entities are observed across time. Panel data allows you to control for variables you cannot observe or measure like cultural factors or difference in business practices across companies; or variables that change over time but not across entities. This is, it accounts for individual heterogeneity. With panel data you can include variables at different levels of analysis suitable for multilevel or hierarchical modeling. Some drawbacks are data collection issues, non-response in the case of micro panels or cross-country dependency in the case of macro panels.

Usage of fixed-effects (FE) is appropriate in analyzing the impact of variables that vary over time. FE explore the relationship between predictor and outcome variables within an entity. Each entity has its own individual characteristics that may or may not influence the predictor variables. When using FE we assume that something within the individual may impact or bias the predictor or outcome variables and we need to control for this. This is the rationale behind the assumption of the correlation between entity's error term and predictor variables. FE remove the effect of those time-invariant characteristics so we can assess the net effect of the predictors on the outcome variable. Another important assumption of the FE model is that those time-invariant characteristics are unique to the individual and should not be correlated with other individual characteristics. Each entity is different therefore the entity's error term and the constant (which captures individual characteristics) should not be correlated with the others. If the error terms are correlated, then FE is no suitable since inferences may not be correct and you need to model that relationship (probably using random-effects), this is the main rationale for the Hausman test. (Torres-Reyna, 2007)

The equation for the fixed effects model becomes: $Y_{it} = \beta_1 X_{it} + \alpha_i + u_{it}$

Where α_i ($i=1,\dots,n$) is the unknown intercept for each entity (n entity-specific intercepts). Y_{it} is the dependent variable (DV) where i = entity and t = time. X_{it} represents one independent variable (IV), β_1 is the coefficient for that IV and u_{it} is the error term.

For the sample of our research, the fixed effects method is more appropriate than the random effects. This assumption was also formally tested. Breusch-Pagan Lagrange multiplier test is based on verification and selection an appropriate model between Ordinary Least Squares (OLS) or random model. The null hypothesis is when the variance between the entities (in this case firms) zero, i.e., what implies that there is no panel effects, what allows us to conclude that the usual OLS is suitable method. However, the test result suggest rejection of the null hypothesis with on all levels of reliability, what implies that random model is more appropriate. Further, Hausman test helps us in making decision about better model between fixed and random. Main point is about whether the errors are correlated with regression. The null hypothesis presupposes that they are not, what goes in favour of random model, but if results are opposite, more appropriate is fixed model. The result of Hausman's test indicates rejection of the null hypothesis at all levels of significance, and fixed effects is better model than random effects. Nevertheless, we have concluded that the fixed effects method should be applied in this case. The results of the estimation are presented in the following table:

Table 5: Results of Breusch & Pagan and Hausman tests

Breusch and Pagan Lagrangian multiplier test for random effects

$$lPrfPRO[ID,t] = Xb + u[ID] + e[ID,t]$$

Estimated results:

| | Var | sd = sqrt(Var) |
|---------|----------|----------------|
| lPrfPRO | 4.771073 | 2.184279 |
| e | .7250876 | .8515208 |
| u | 1.14926 | 1.072036 |

Test: Var(u) = 0

$$\text{chibar2}(01) = 63918.40$$

Prob > chibar2 = 0.0000

| | Coefficients | | | |
|---------------|--------------|---------------|---------------------|-----------------------------|
| | (b) fixed | (B) random | (b-B) Difference | sqrt(diag(V_b-V_B)) S.E. |
| ldug_EBITDA | -.1819732 | -.1885957 | .0066225 | .0041334 |
| lfak_zad | -.6143266 | -.583628 | -.0306986 | .0033769 |
| lkoeffteklirk | -.2401719 | -.2354695 | -.0047024 | .0037796 |
| LTFP | .0075825 | .0086374 | -.0010549 | .0002127 |
| 1HHI2 | .3131585 | .35242 | -.0392615 | .0034747 |

b = consistent under H_0 and H_a ; obtained from xtreg

B = inconsistent under H_a , efficient under H_0 ; obtained from xtreg

Test: H_0 : difference in coefficients not systematic

$$\begin{aligned} \text{chi2}(5) &= (b-B)'[(V_b-V_B)^{-1}](b-B) \\ &= 235.38 \\ \text{Prob}>\text{chi2} &= 0.0000 \end{aligned}$$

The results of panel Ordinary Least Square (OLS), random effects, between effects and fixed affects are reported in Table 6. The basic equation for our model is as follows:

$$\text{Profitability} = \text{const} + \alpha \text{dug_EBITDA} + \beta \text{lfak_zad} + \gamma \text{lkoefteklik} + \eta \text{LTFP} + \mu \text{HHI2} + u$$

Table 6: Results of panel data analysis method

| VARIABLES | (1) OLS | (2) Random | (3) Between | (4) Fixed |
|--------------|------------------------|-------------------------|-----------------------|-------------------------|
| ldug_EBITDA | ***-0.306 (0.0151) | ***-0.189 (0.0122) | ***-0.364 (0.0381) | ***-0.182 (0.0128) |
| lfak_zad | ***-0.455 (0.0132) | ***-0.584 (0.0105) | ***-0.356 (0.0338) | ***-0.614 (0.0111) |
| lkoefteklik | ***-0.199 (0.00688) | ***-0.235 (0.00690) | ***-0.231 (0.0145) | ***-0.240 (0.00787) |
| LTFP | ***0.0109 (0.00229) | ***0.00864 (0.00156) | 0.00499 (0.0128) | ***0.00758 (0.00158) |
| IHHI2 | ***0.383 (0.00149) | ***0.352 (0.00241) | ***0.362 (0.00307) | ***0.313 (0.00423) |
| Constant | ***15.15 (0.0142) | ***15.05 (0.0204) | ***14.96 (0.0343) | ***14.85 (0.0256) |
| Observations | 63,496 | 63,496 | 63,496 | 63,496 |
| R-squared | 0.625 | | 0.620 | 0.462 |
| Number of ID | | 12,888 | 12,888 | 12,888 |

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The Table above shows dependent variable with profitability which is represent with net profit before tax and five independent variables. All variables are significant on 1%. Concerning statistical significance, estimated parameters and Breusch & Pagan and Hausman tests we have used fixed effects panel models. There is a positive and significant relationship between concentration which is represent with Herfindahl-Hirschman index and productivity with measurement in total factor productivity with dependent variable (profitability). Contrarily, there is negative and also strong significant relationship between indebtedness which is represent with ratio of debt and EBITDA, liquidity with current ratio and indebtedness factor and profitability. Furthermore, final and concrete conclusion about relation between profitability and selected microeconomic determinants in Croatian manufacturing industry are given in below.

If we change indebtedness by one percent, we would expect profitability to change by -0,182%, in average. If we change Herfindahl-Hirschman index by one percent, we would expect profitability to change by 0,313%, in average. If we change current ratio by one percent, we would expect profitability to change by -0,24%, in average. If we change indebtedness factor by one percent, we would expect profitability to change by -0,614%, in average. If we change total factor productivity by one percent, we would expect profitability to change by 0,00758%, in average.

The results showed evidence of a strong positive significant relationship between profitability and Herfindahl-Hirschman index and total factor productivity. The strongest negative correlation with profitability has indebtedness factor, followed by current ratio and indebtedness.

4. Concluding remarks

Particularities of manufacturing industry, in general sense, considering the changes in macroeconomic and microeconomic indicators with their relation puts determinants of firm profitability for high level of importance for firm's profitability in Croatia. The main contribution of this paper is the identification of the determinants affecting profitability of manufacturing firms in Croatia. A static panel model method is utilized on a sample of all manufacturing firms with business in Croatia covering the period between 2003 and 2014.

Parameter coefficients show that market concentration (Herfindahl-Hirschman index) and total factor productivity had a significant and positive impact on the profitability for the manufacturing industry in Croatia during the study period. The results also showed a significant but negative relationship between indebtedness, current ratio and indebtedness factor. This results implies that concentration and indebtedness factor are determinants with larger influence on profitability and next researches have to absorb that facts. Further, provided results are in line with previous studies in the same area but for future researches we should pay attention to some notes from this research. First of all, there are restrictions about selection of the determinants (different number of determinants give different results), picked econometric tools and usage of different variation of panel (dynamic) models. Inclusive, it is common knowledge that the profitability determinants of manufacturing firms are very important according to the economic development of any country, especially to countries adopting an export what includes oriented industrialization policy within an open economic environment, according to that, more researches in this area are necessary.

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USING DATABASE AUDIT FOR ANALYZING ON HISTORICAL DATA

Adnan Hodžić

International Burch University
Bosnia and Herzegovina
adnan.hodzic@ibu.edu.ba

Adem Karadag

Turkey
nuhadem@gmail.com

Abstract: Database auditing is one of the biggest issues in data security. Absence of information auditing drives the business applications to the lost trail of business procedures. To cope with auditing and in order to track operations and the actors of those operations in time, we need historical data or temporary database. Legitimate and exchange times are two important time-stamps in temporary database. In this paper, we show the methods to handle database auditing in business exchange operations, accurate times, and performers of the operations. These strategies are separated in two sets; utilizing relational databases, and utilizing semi-structured information.

Keywords: Database Audit, Historical Data

Introduction

It is very crucial that a company no matter how big is it maintains the security of its information. Since there are many stealing of valuable data such as customers' credit card data, designs and maybe source codes, the data should be protected all the time. Keeping safe your data is protecting its confidentiality, integrity, and availability. To ensure the data security, there should be a security plan. Authentication and administration can facilitate the security at a point (Mullins & Craig, 2002). However, there is a need to keep log files and check them separately from the database. Thus database audit was introduced to inspect the trail maintenance. Data servers help to create a database audit policy to protect the database safe. In this way, user entries can be controlled. There will be some techniques showing how to make database auditing depend on historical data. This paper divided into 4 parts. In part 2 and 3, there is literature review of historical data and auditing. The outline of auditing of database was described in some ways. We used a relational database (Grad, 2013) to represent the row, column based and log-file auditing strategies.

Database Auditing

Database auditing includes inspecting a database to control and view the actions of database users. In this way, auditor can see the manipulations, corruptions or glitches on the data. Database audit also refers to a professional database auditing resolution-giving chance to track and inspect of any database activity involving accessing, login, protection breaches, user activities, insert-delete-change the data. Recently, to supply accurate data auditing a framework has been introduced in respect to data retention strategies. (Lu & Miklau, 2009) Under retention restriction a formula applied to audit data in the protected history. In this way database audit would be more accurate.

It is important to detect changes that are deviates from standard. To differentiate the normal behaviors on the data and have better results in audit, data mining techniques are generally applied. This method can only detect the static actions of the user. This disadvantage can be affected by tracking all activities of user in an data audit system. As a result, anomaly detection method was introduced to model the normal behavior of the user. (Park & Lee, 2008) In this way normal behaviors can be easily differentiated from suspicious ones.

To teach database security and auditing and make the students have better understanding about it, hands -on lab studies are set (Luebbers, Grimmer, & Jarke, 2003) In these studies various database scenario are set to integrate theories of database protection into practices.

Historical Data

Historical data is the information outlining activity, conditions and trends in a company's past database. Historical data is often archived, and may be held in non-volatile, secondary storage. Historical data can be useful in helping to predict the future of a company and a market, as when conducting predictive analyses.

Table 1: Operational Student Table Referenced By Student-History Table For Row-Based Auditing

| Student Number | Name | Birth | Address | Registration Date | Fee |
|----------------|--------|------------|----------|-------------------|------|
| 445 | Zeynep | 10.10.1988 | Ankara | 15.01.2008 | 2400 |
| 822 | Mahmut | 12.09.1990 | Istanbul | 01.09.2010 | 2600 |
| 544 | Ayşe | 15.05.1991 | Istanbul | 01.09.2011 | 2600 |

It is very significant to detect who made the changes like insertion of a new data, data manipulation or deletion on the database. In this way, a good data audit can be retrieved. The time and the user is important issue to analyze the modification of data. When was the action happened can be answered by valid and transaction times. In a study it is mentioned that valid and transaction times should assure no data loss. (Bhargava & Gadia, 1993)

Arranging Historical Data For Auditing On Relational Database

There are some ways to design historical data in a relational database (Margaret Rouse, 2015) like separated tables for recording past data and transaction log files. The idea of arranging separated tables for each relational database table is easy way to track to changes for each item. With both strategies there is no change on the original data tables. There are 3 ways that we represent here to supply historical data for auditing database. They are auditing on a row level, column level and log-table.

Database Audit on a Row Level

Our original relational tables stay same but we create a separate table for each table to apply data audit. Operational "Student" table as shown in Table 1 supplies the current data of each student for operations. There are 2 kinds of data type in this table;

static and operational data. Static data stays same or rarely change like Student Number, Registration date or Name. Historical or operational data continuously can be updated like address of the student. Static query, which is always used, already stays same to call the data from "Student". Table 2 is an auditing table that includes all students' data in the operational table. Two time intervenes needed for valid times. We need to know the beginning and ending time to sustain the life cycle of the data. Besides the valid time, we acquire to have operation type to diminish the complexity of comparison among histories of the same data and the user to make him responsible from the action.

History of "Student" table is shown in Table 2. It can be seen from history table that Ali Oz has been a student since 01.09.2005. The user Mustafa updated his fee 2 times by increasing by \$100 each and updated address by changing it from Istanbul to Adana. Ali has finished the school and his record deleted from the Student table by Semih. Ahmet moved from Hatay to Ankara on 23.09.2008 and his record terminated on January 2009 by Mustafa. Zeynep's fee was increased by \$100 by Mustafa. Finally, Semih added two new students Mahmut and Ayşe to the Student table.

Table 2: Operational Student Table Referenced By Student-History Table
For Row-Based Auditing

| Student Number | Name | Birth | Address | Regist. Date | Fee | Begin | End | O p | User |
|----------------|--------|------------|----------|--------------|------|------------|------------|-----|---------|
| 966 | Ali | 21.04.1986 | Istanbul | 01.09.2005 | 2300 | 01.09.2005 | 01.09.2007 | I | Mustafa |
| 966 | Ali | 21.04.1987 | Adana | 01.09.2005 | 2300 | 01.09.2007 | | U | Mustafa |
| 966 | Ali | 21.04.1988 | Adana | 01.09.2005 | 2450 | 01.09.2007 | 23.06.2008 | D | Semih |
| 855 | Ahmet | 11.05.1986 | Hatay | 01.09.2006 | 2350 | 21.09.2007 | 01.09.2008 | I | Semih |
| 855 | Ahmet | 11.05.1986 | Ankara | 01.09.2006 | 2350 | 23.09.2008 | 15.01.2009 | D | Mustafa |
| 445 | Zeynep | 10.10.1988 | Ankara | 15.01.2008 | 2300 | 15.01.2008 | 15.06.2010 | I | Mustafa |
| 445 | Zeynep | 10.10.1988 | Ankara | 15.01.2008 | 2400 | 15.01.2008 | | U | Mustafa |
| 822 | Mahmut | 12.09.1990 | Istanbul | 01.09.2010 | 2600 | 01.09.2010 | | I | Semih |
| 544 | Ayşe | 15.05.1991 | Istanbul | 01.09.2011 | 2600 | 01.09.2011 | | I | Semih |

Operational table and audit table records are identical. Data is repeated in different rows but this is kept for the sake of historical query.

Database audit on a row level has some advantages and drawbacks. It is easier to apply auditing. When the user wants to insert, update or delete something from the operation table, the program can simply copy the all value in the record into the historical table. Besides, the end column should be updated with the operation. This operation can be achieved by the database as used in (Yang, 2009) article. Drawbacks can be mentioned that redundancy makes the system complicated. Also, calling historical data is needed to the comparison between operational table and auditing table by using recursive query.

```

SELECT S1.fee, MINS, MAXS, S1.USER, OPERATION FROM Student_HISTORY_R S1,
( SELECT S2.fee, MIN(S2.begin) MINS, MAX(S2.end) MAXS
FROM Student_HISTORY_R S2
WHERE Student Number = 966 GROUP BY fee) S3 WHERE S1.fee = S3.fee

```

Database Audit on Column Level

Column level audit is not including redundant data as seen in the row level audit. This historical table does not contain static data like birth date and registration date. The auditing table just sustains the changed data except primary key like student number. This is required to save the data in the operational table. Student history in Table 3 keeps just the changed data and it is less redundant than the Table 2. The student number 966 Ali moved from Istanbul to Adana on 01.09.2007 got raised fee from 2300 to 2450 on

01.09.2007. Selecting not-null value on a particular auditing column in SELECT statement would display only the actual change. For example,

```

SELECT fee, begin, end, USER, OPERATION FROM Student_HISTORY_C
WHERE Student Number = 966 AND fee IS NOT NULL

```

The query displays the auditing of Ali's fee. Comparing with row-based auditing on the same query, the SELECT statement is much less complex.

Each record in column-based auditing table cannot contain more than one value of historical data because of the uncertainty of end time of each auditing data.

Table 3: Student_History_C Table Using Column-Based Auditing

| Student Number | Address | Fee | Begin | End | Operation | User |
|----------------|----------|------|------------|------------|-----------|---------|
| 966 | Istanbul | | 01.09.2005 | 01.09.2007 | I | Mustafa |
| 966 | Adana | | 01.09.2007 | | U | Mustafa |
| 966 | | 2450 | 01.09.2007 | 23.06.2008 | D | Semih |
| 855 | Hatay | | 21.09.2007 | 01.09.2008 | I | Semih |
| 855 | Ankara | | 23.09.2008 | 15.01.2009 | D | Mustafa |
| 445 | Ankara | 2300 | 15.01.2008 | 15.06.2010 | I | Mustafa |
| 445 | | 2400 | 15.01.2008 | | U | Mustafa |
| 822 | Istanbul | 2600 | 01.09.2010 | | I | Semih |
| 544 | Istanbul | 2600 | 01.09.2011 | | I | Semih |

Since it is less complicated column level audit is faster. Less disk space is used also. However, many NULL values would cause other issues when writing queries.

Auditing on Log Table

A log table that tracks changes to a system are also referred audit as it gives a bunch of information like user, data, time of execution that can be used to audit a system. Relational Database Management Systems (RDBMS)'s like audit option like in DB2 (IBM Knowledge Center, 2015), SQL (Stankovic, 2016) and ORACLE Servers (Stackowiak, Bales, & Greenwald, 2004) and facilitate database administrators to sustain an audit trail (Logging, Auditing, and Monitoring the Directory) and saved it in a log file. However, log tables are not keeping the finished time to program. To prevent this, there may be two ways.

Column Based Log Audit Tables for Operation Logs

We need to isolate auditing log data from the operational data. To do this, we make additional table for each auditing column. For instance, if ADDRESS and FEE columns in the STUDENT table are auditing columns, we make ADDRESS and FEE tables for auditing purposes as appeared in Table 4 and Table 5. There are some advantages about this way. First, it decreases the amount of auditing data and it makes it easier to analyze the tables. However, the number of independent tables may increase.

Table 4: Audit Log Table For Address

| PK | Student Number | Adress | Begin | End | OP | User |
|----|----------------|----------|------------|------------|----|---------|
| 1 | 966 | Istanbul | 01.09.2005 | 01.09.2007 | I | Mustafa |
| 2 | 966 | Adana | 01.09.2007 | | U | Mustafa |
| 3 | 855 | Hatay | 21.09.2007 | 01.09.2008 | I | Semih |
| 4 | 855 | | 23.09.2008 | 15.01.2009 | D | Mustafa |
| 5 | 822 | Istanbul | 01.09.2010 | | I | Semih |
| 6 | 544 | Istanbul | 01.09.2011 | | I | Semih |

Table 5: Audit Log Table For Fee

| PK | Student Number | Fee | Begin | End | Op | User |
|----|----------------|------|------------|------------|----|---------|
| 1 | 966 | 2300 | 01.09.2007 | | U | Mustafa |
| 2 | 966 | 2450 | 01.09.2007 | 23.06.2008 | D | Semih |
| 3 | 445 | 2300 | 15.01.2008 | 15.06.2010 | I | Mustafa |
| 4 | 445 | 2400 | 15.01.2008 | | U | Mustafa |
| 5 | 822 | 2600 | 01.09.2010 | | I | Semih |
| 6 | 544 | 2600 | 01.09.2011 | | I | Semih |

One Log Audit Table for Operation Logs

To join audit data into one spot, we coordinate each auditing column from all operational tables into one single auditing log table. The audit log table makes out of name of table and column, Student ID of the record in the operational table, changed value, begin time, operation that causes the change and name of user who controls this data.

Case of single audit log table of the database containing Student and Faculty tables is appeared in the Table 6. All changes made on the tables is built into the single audit log table. A solitary insertion of Student number 966 into Student table makes the insertion into audit log table two times; one log record for ADDRESS and another for Fee if Student table has two auditing columns. Upgrading on an auditing trait will embed an auditing record into the log table. You can see same action like in insertion; deletion of a record will be logged twice into audit log table if there should be an occurrence of two auditing columns, for example, deletion of Student 966 in Table 6.

Table 6: One Audit Log Table For Every Table; Student And Faculty In Database

| PK | Student Number | Table | Column | Value | Begin | End | Op | User |
|----|----------------|---------|---------|----------|------------|------------|----|---------|
| 1 | 966 | Student | Address | Adana | 01.09.2007 | | I | Mustafa |
| 2 | 966 | Student | Fee | 2450 | | 23.06.2008 | D | Mustafa |
| 4 | 855 | Student | Address | Hatay | 21.09.2007 | 01.09.2008 | I | Semih |
| 5 | 855 | Student | Fee | 2350 | 23.09.2008 | 15.01.2009 | D | Semih |
| 6 | 445 | Student | Address | Ankara | 15.01.2008 | 15.06.2010 | I | Mustafa |
| 7 | 445 | Student | Fee | 2300 | 15.01.2008 | | I | Mustafa |
| 8 | 445 | Student | Fee | 2400 | 01.09.2010 | 13.04.2011 | U | Semih |
| 9 | 822 | Student | Address | Istanbul | 01.09.2010 | | I | Semih |

| | | | | | | | | |
|----|-----|---------|---------|----------|------------|--|---|---------|
| 10 | 822 | Student | Fee | 2600 | 01.09.2010 | | I | Mustafa |
| 11 | 544 | Student | Address | Istanbul | 01.09.2011 | | I | Mustafa |
| 12 | 544 | Student | Fee | 2600 | 01.09.2011 | | I | Semih |
| 13 | 221 | Faculty | Manager | 108 | 01.01.2012 | | I | Semih |
| 14 | 103 | Faculty | Manager | 120 | 21.06.2013 | | U | Mustafa |

Audit log table is expansive if there are numerous auditing columns from various tables. Separating the data in columns and having a solitary audit log table for every subsystem are suggested. Both methodologies require additional handling for each operation at the databases, particularly, the auditing data. Of course, database motors have as of now controlled log tables. With this additional handling, the general framework will be slowed down.

Conclusion

Operation tables and auditing tables should be apart from each other. In this way database engine could be much faster in running the auditing query when we compare a table includes both operational and auditing data. Overhead of checking which partition will be used against the query is added to execution time. Also, database administrator would manage the database management system easier.

There are many options for auditing database. Some solutions are appropriate for relational databases. On the other hand, marketing databases are mostly using semi-structured databases.

Database auditing is one of the crucial issue for a company to maintain its' not only security-related concerns but also performance and reliability. Monitoring and recording of selected user database actions determine the future of the company's business. Overall, security and reliability of the data can be sustained by a good database auditing method

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MODEL OF ENTREPRENEURIAL INTENTIONS AMONG STUDENTS IN BOSNIA AND HERZEGOVINA

Azra Pašić Mesihović

University of Sarajevo

Bosnia and Herzegovina

azra.pasic@efsa.unsa.ba

Munira Šestić

University of Sarajevo

Bosnia and Herzegovina

munira.sestic@efsa.unsa.ba

Abstract: The purpose of this paper is to examine entrepreneurial intentions among business students in state universities in Bosnia and Herzegovina. Theoretic base for The Model of Entrepreneurial Intentions in this research is Theory of planned behavior, developed by Ajzen (1991.). TPB explains that Attitude towards behaviour, Perceived Social Norms and Perceived Behavioral Control are three motivational factors that constitute the construct which explains entrepreneurial intention. Entrepreneurial intentions are considered to be the single most influencing predictor for performing entrepreneurial behaviour. Collected data were analyzed in SPSS 19.0 statistical program, using standard descriptives for general information about the demographic characteristics of the sample. After performing Factor analysis, four different factors emerged which represented four main constructs of the model. Cronbach Alpha was 0.8 and showed adequate reliability in the questionnaire. Parametric statistics was used in the analysis, because Kolmogorov-Smirnov test was not significant (p value was greater than 0.05). We used correlation analysis and regression analysis to confirm the hypothesis.

Keywords: entrepreneurial intentions, students, Theory of planned behaviour

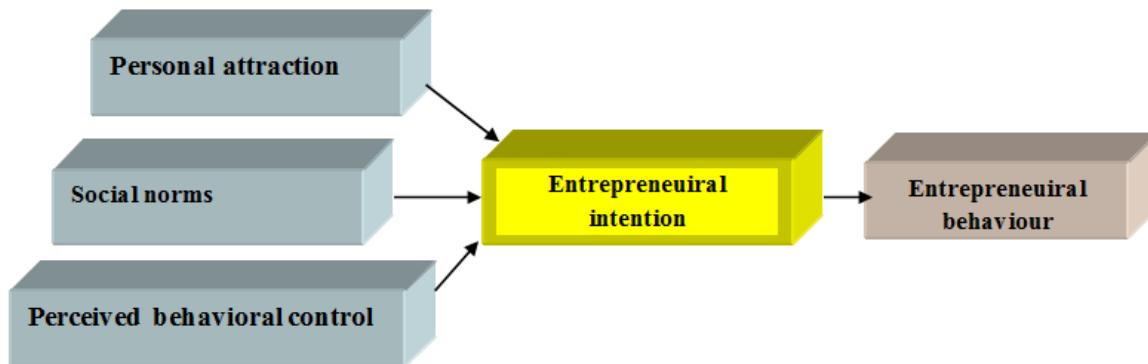
1. INTRODUCTION

The importance of entrepreneurship to society has been identified and discussed since at least the fifteenth century (Schumpeter, 1912), and that discussion remains topical (Maresch et al., 2015; Kirchhoff et al., 2013; Grichnik and Harms, 2007). Process of entrepreneurship is a very complex activity, and for bringing more lights on it, it requires a multidisciplinary approach. Who is an entrepreneur, why is he/she different from the rest of the population? What are the motives for becoming entrepreneur? These are some of the questions which always cause debates. Organizational emergence is usually considered as a key outcome of entrepreneurship (Shirokova et al, 2015; Aldrich, 1999; Gartner, 1985; Katz & Gartner, 1988; Shane & Delmar, 2004).

Entrepreneurial activity is intentional, resulting from motivation and cognition (Frese, 2009; Kautonen, Van Gelderen, & Tornikoski, 2013; Kolvereid & Isaksen, 2006; Krueger, 2005). Starting point for every rational and important action is intention. Social psychology scholars define intentions as cognitive states immediately prior to the decision to act (Theory of Planned Behavior: Ajzen, 1991; Theory of reasoned action: Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Entrepreneurial intentions are the single most important predictor of one's later entrepreneurial behaviour. But not all intentions

are transformed in the planned behavior. But this obvious gap between intention to behave and behaviour will be part of another research.

Picture 1: Entrepreneurial intention model EIM



Entrepreneurial intention is defined as the conscious state of mind that precedes action and directs attention towards a goal, such as starting a new business (Linan et al., 2016; Fayolle et al., 2014). Several models (Shapero & Sokol, 1982.; Moore, 1986.; Scott & Twomey, 1988.; Herron & Sapienza, 1992.; Naffzinger et al., 1994.; Krueger i Brazeal, 1994.; Baum et al., 2001.; Bandura, 2006.) have been used to explain EI – although these have not been as influential as the Ajzen's (1991) Theory of Planned Behaviour (Linan et al., 2016; Kautonen et al., 2013; Griffiths et al., 2009; Van Gelderen et al., 2008). Unlike other EI models, the TPB offers a coherent and generally applicable and replicable theoretical framework. TPB recognizes three key elements which directly influences on intention to become an entrepreneur.

The attitude towards the behaviour or personal attraction PA refers to the attractiveness of the proposed behaviour or degree to which the individual holds a positive or negative personal valuation about being an entrepreneur (Ajzen, 1991, 2002; Kolvereid 1996). Subjective norms or social norms measure the perceived social pressure from family, friends or significant others (Ajzen, 1991) to perform the entrepreneurial behaviour. It refers to the perception that 'reference people' may or may not approve of the decision to become an entrepreneur (Ajzen 2001). The third motivational factor is Perceived behavioral control PBC and it describes the perceived easiness or difficulty of becoming an entrepreneur (Ajzen 1991). Some researchers have considered this concept confusing for interpretation and they used self-efficacy instead of PBC (Moriano et al., 2012; van Gelderen et al., 2008., Kvereid & Isaksen, 2007.; Krueger et al., 2000.), but Ajzen (2002) specifies that it is a wider construct, since it encompasses self-efficacy and perceived controllability of the behaviour.

Entrepreneurship becomes more and more attractive for people who are about to make their first career choice, as this perspective allows participation in the labor market while keeping personal freedom (Shirokova et al, 2015; Martinez, Mora, & Vila, 2007). Special form of entrepreneurship is student entrepreneurship, which has the early start-up activities during the studies. According to latest published GEM Report for Bosnia and Herzegovina (2012) relatively small number of young people started their own business (5.9%), and between them there are more male entrepreneur. Students' involvement in entrepreneurial activity depends on their career plans and attitude toward self-employment, which are contingent on various factors (Shirokova et al, 2015).

In this research we are going to examine intentions among students to start and run their own business. What are the driving factor(s) who pull/push students in entrepreneurship? According to Theory of planned behaviour three main hypothesis are formed:

H1: Personal attraction has positive influence on Entrepreneurial intentions.

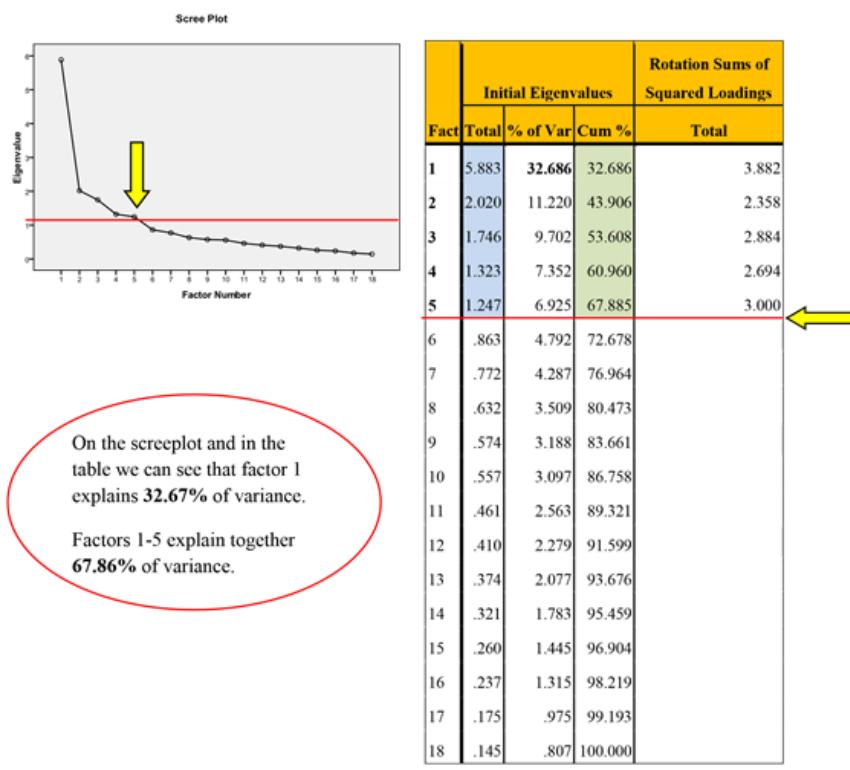
H2: Social norms have positive influence on Entrepreneurial intentions.

H3: Perceived behavioral control has positive influence on Entrepreneurial intentions.

This paper will follow the IMRaD structure. After Introduction, in the second part (Methods) the answer to when, where, and how was the study done will be given. Results will present what did the study find, and was the tested hypothesis true. And finally in the last section it will be discussed what might the answer imply and why does it matter, how does it fit in with what other researchers have found and what are the perspectives for future research.

2. METHODS & RESULTS

In this research, The Model of Entrepreneurial Intentions (MEI), based on Theory of planned behaviour was tested on the sample of business students from School of Economics and Business Sarajevo. The measurement point was in the school year 2015/16., when 91 students (freshmen) who passed Entrepreneurship course were asked to participate in a survey. Questionnaire used in this research was developed by Autio et al. 2001. Students were asked to give answers on 20 questions (which were measuring PA, SN, PBC and EI). Scale used in this questionnaire was five point Likert type. Collected data were analyzed in SPSS 17.0 statistical program. After performing Factor analysis (KMO and Bartlett's Test were significant), five different factors emerged.



Extraction method used for this research was Principal axis factoring and oblique rotation.

Criterias for obtaining factors were: Keiser's rule (≤ 1) and point of inflection on screeplot.

Table 1: KMO and Bartlett's Test

| | |
|---|--------------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | 0.758 |
| Bartlett's Test of Sphericity | 646.495 |
| df | 153 |
| Sig. | 0.000 |

Three questions were problematic (after rotation they were in a wrong factor, they were not measuring what they were suppose to), and they were dropped out. In the structure matrix we can see the final version of items, where rotation converged after 9 iterations (using Oblimin with Kaiser normalization). Factor 1 is representing the questions which measure the construct PBC. Factor 2 represents PA positive, Factor 3 SN, Factor 4 PA negative and finally Factor 5 represents construct El.

Table 3: Structure Matrix

| | | | Factor | | |
|--|------|------|--------|-------|-------|
| Questionnaire | 1 | 2 | 3 | 4 | 5 |
| Uspješan(na) sam u identifikovanju poslovnih mogućnosti. | .752 | .346 | -.305 | .326 | -.402 |
| Posjedujem vještine i mogućnosti da uspijem kao preduzetnik/preduzetnica. | .750 | .135 | -.227 | .124 | -.292 |
| Veoma dobro uočavam poslovne mogućnosti. | .749 | .344 | -.356 | .361 | -.351 |
| Znam uočiti i neutralisati prepreke za ostvarenje svoje ideje. | .699 | .279 | -.440 | .367 | -.550 |
| Siguran(a) sam da bih bila uspješna ukoliko bih pokrenuo(la) sopstveni biznis. | .585 | .258 | -.130 | .524 | -.265 |
| Za mene je poželjna jedino karijera u velikoj firmi (rad u privatnom sektoru). | .216 | .799 | -.139 | .014 | -.196 |
| Za mene je poželjna jedino karijera u javnom sektoru. | .210 | .755 | -.185 | -.016 | -.223 |
| Na mom Fakultetu traže se nove ideje za nove biznise. | .342 | .253 | -.903 | .244 | -.239 |
| Na mom Fakultetu mogu se susresti ljudi koji imaju nove ideje za nove biznise. | .230 | .093 | -.790 | .162 | -.094 |
| Poznajem mnogo ljudi koji su nakon završetka studija pokrenuli svoj sopstveni biznis. | .464 | .405 | -.543 | .173 | -.210 |
| Postoji povoljna infrastruktura kao potpora pokretanju novih biznisa. | .322 | .444 | -.469 | .155 | -.297 |
| Započeti sopstveni biznis meni zvuči atraktivno. | .222 | .444 | -.107 | .746 | -.220 |
| Preduzetnička karijera je poželjna opcija za mene. | .388 | .109 | -.359 | .724 | -.344 |
| Prednost svog obrazovanja na najbolji način bih iskoristio(la), ukoliko bih pokrenuo(la) sopstveni biznis. | .293 | .279 | -.251 | .679 | -.229 |
| Započeti sopstveni biznis, sa pola radnog vremena, u narednih godinu dana | .416 | .368 | -.246 | .071 | -.790 |
| Započeti sopstveni biznis, uz puno radno vrijeme, u narednih godinu dana | .317 | .139 | -.055 | .386 | -.660 |
| Započeti sopstveni biznis, uz puno radno vrijeme, u narednih pet godina | .229 | .221 | -.057 | .438 | -.656 |
| Započeti sopstveni biznis, sa pola radnog vremena, u narednih pet godina | .414 | | -.354 | .068 | -.512 |

Extraction Method: Principal Axis Factoring.
 Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 9 iterations.

Standard descriptives for general information about the demographic characteristics of sample were done. In the sample 71.4% were female participants and most of them (46.2) were 20-21 years old.

Table 5. Age

| Dob | <20 | 20-21 | 22-23 | 24-25 | >25 |
|------------|-------|-------|-------|-------|------|
| Percentage | 34,1% | 46,2% | 7,7% | 3,3% | 6,6% |
| Frequency | 31 | 42 | 7 | 3 | 6 |
| M | | 2,00 | | | |
| SD | | 1,09 | | | |

*M = aritmetička sredina; SD = standardna devijacija

Table 6. Sex

| Spol studenata | Muški | Ženski |
|----------------|-------|--------|
| Percentage | 25,3% | 71,4% |
| Frequency | 23 | 65 |

Five variables listed in the table down were computed relying on the results from dimension reduction technique. Questions which were measuring the same construct were computed. In the correlation and regression analysis these five variables will be used.

Tabela 7: Descriptive statistics for variables

| Variable | N | min | max | M | SD | Skew | SE_S | Kurt | SE_K |
|------------------------------|----|-------|-------|-------|------|-------|------|-------|------|
| Perceived behavioral control | 87 | 11.00 | 25.00 | 20.02 | 3.35 | -0.25 | 0.26 | -0.65 | 0.51 |
| Personal attraction negative | 88 | 2.00 | 10.00 | 6.67 | 2.27 | -0.54 | 0.26 | -0.57 | 0.51 |
| Social norms | 89 | 6.00 | 20.00 | 14.75 | 3.56 | -0.67 | 0.25 | -0.39 | 0.51 |
| Personal attraction positive | 87 | 6.00 | 15.00 | 13.01 | 2.04 | -1.22 | 0.26 | 1.32 | 0.51 |
| Entrepreneurial intentions | 88 | 4.00 | 20.00 | 13.56 | 3.91 | -0.11 | 0.26 | -0.56 | 0.51 |

* N = sample, M = mean, SD = standard deviation, Skew = skewness-asimetry, SE_S = standard error of skewness, Kurt = kurtosis, SE_K = standard error of kurtosis.

For analyzing data parametric statistics was used (series of T-tests and ANOVA). After analyzing results of the samples, one statistically significant difference appeared. Male students have significantly higher entrepreneurial intentions than female group of students

Tabela 8: Difference in EI between male and female students

| | M | SD | t | Df | p | Confidence interval 95% | |
|-----------------------------------|----------------|------|-------|----|-------------|-------------------------|-------|
| Entrepreneurial intentions | M 14,09 | 3,68 | 18.36 | 22 | 0.00 | 12.50 | 15.68 |
| | F 13,30 | 4,10 | 26.20 | 62 | 0.00 | 12.37 | 14.42 |

(* M = mean, SD = standard deviation, t = T-test, Df = degrees of freedom, p = Sig. of t: if p is less or equal 0,05, difference is statistically significant).

In the reliability analysis we measured consistency of a questionnaire. Cronbach coefficient Alpha is 0.866 showed that it is reliable.

Table 4: Cronbach's Alpha(a)

| Cronbach's Alpha(a) (a) Based on Standardized Items | N of Items |
|---|------------|
| 0.866 | 0.868 |

We used correlation and regression to test the hypothesis 1, 2 and 3. Correlation analysis showed significant moderate and high correlation coefficients. Only correlation between PApos i PAneg was very week and not significant.

Table 9: Correlation matrix

| | | PBC | PA neg | PA pos | SN | EI |
|---|-------------------------------------|---------------|--------------|--------|--------|----|
| 1 | Perceived behavioral control | 1 | | | | |
| 2 | Personal attraction negative | 0.28** | 1 | | | |
| 3 | Personal attraction positive | 0.47** | 0.042 | 1 | | |
| 4 | Social norms | 0.48** | 0.33** | 0.34** | 1 | |
| 5 | Entrepreneurial intentions | 0.53** | 0.30** | 0.36** | 0.34** | 1 |

**. Correlation is significant at the 0.01 level (2-tailed).

For the regression analysis it is important to underline that dependent variable is Entrepreneurial intentions EI, and four independent variables are Perceived behavioral control PBC, Personal attraction negative PAneg, Social norms SN, Personal attraction positive PApos. According to Ajzen's TPB these four predictors directly and positively influence dependent variable EI.

After running regression analysis on this sample of 91 student all four independent variables together explain 32,0% of entrepreneurial intention variance. The method used in the analysis was Forced entry or Enter (all predictors were forced into model simultaneously). We inspected values of variance inflation factor VIF (it is very close to 1) and concluded that there is no multicollinearity (which we could have guessed after observing value of correlation coefficients). In the sense of statistical significance, only predictor PBC is statistically significant ($p=0.001$).

In the hierarchical model predictors are selected based on past work or from other research. Known predictors are entered in model fist in order of their importance in predicting outcome. In this case we respected the outcome of Factor analysis where factor 1 alone explained the most of variance (3,67%). This factor is represented by PBC.

Table 10: Model Summary^b with coefficients^a

| Variable | B ^a | Beta (β) ^a | t | p | Model summary ^b | | Confidence interval 95% | VIF |
|------------------|----------------|-------------------------------|------|-------|----------------------------|----------------------|-------------------------|------|
| | | | | | R=565 ^a | R ² =0.32 | | |
| Constant | -2.11 | | | | | | -7.67 | 3.45 |
| PBC | 0.45 | 0.387 | 3.32 | 0.001 | | | 0.18 | 0.73 |
| PA neg | 0.28 | 0.163 | 1.62 | 0.110 | | | -0.07 | 0.63 |
| PA pos SN | 0.31 | 0.162 | 1.49 | 0.140 | $\Delta F=9.04$ ** | SigF=0,00 | -0.19 | 0.29 |
| | 0.05 | 0.042 | 0.37 | 0.709 | | | 0.10 | 0.73 |
| | | | | | | | | 1.33 |

- a. Predictors: (Constant), Personal_attraction_positive, Personal_attraction_negative, Social_norms, Perceived_behavioral_control
b. Dependent Variable: Entrepreneurial_intentions

In the hierarchical model building first variable PBC explained 27.4% variance of EI, PApos explained additionally 2.3%, SN explained additionally 0.4%, PApos explained additionally 2%. Only PBC predictor was at statistically significant level (Sig $\Delta F=0.000$).

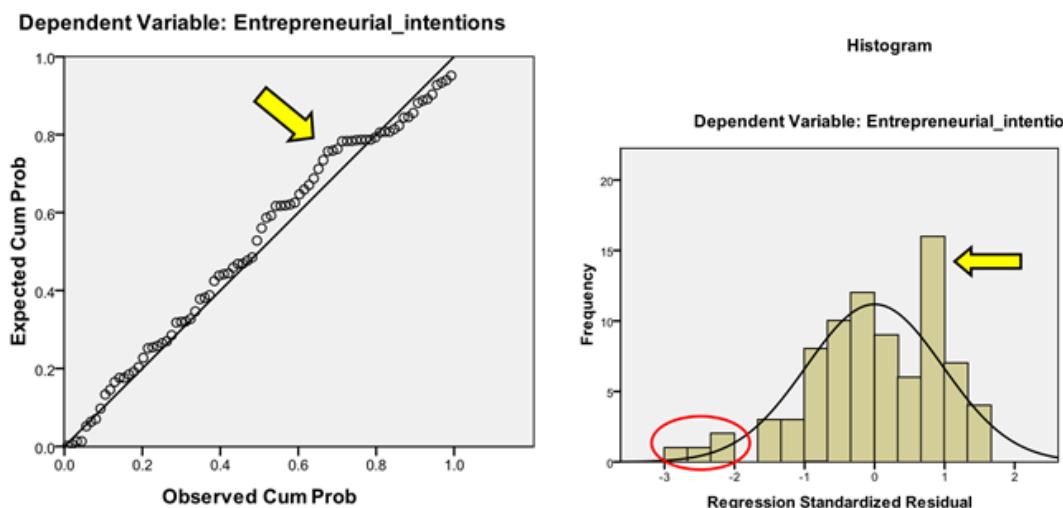
Table 11: Hierarchical model building

| Model | Predictors | Beta (β) | t | p | Model summary |
|-------|-------------------------------------|-------------------|------|------|--|
| 1 | Perceived behavioral control | 0.52 | 5.49 | 0.00 | $R^2=0.274$ $\Delta R^2=0.274$ $\Delta F=30.141$ |
| | Research methods I | | | | $Sig.\Delta F=0.000$ |
| 2 | Perceived behavioral control | 0.483 | 4.95 | 0.00 | $R^2=0.296$ $\Delta R^2=0.023$ $\Delta F=2.53$ |
| | Personal attraction negative | 0.155 | 1.59 | 0.12 | $Sig\Delta F=0.12$ |
| 3 | Perceived behavioral control | 0.454 | 4.18 | 0.00 | $R^2=0.300$ $\Delta R^2=0.004$ $\Delta F=0.401$ $Sig\Delta F=0.53$ $R = 0.320$ $\Delta R = 0.020$ $\Delta F= 2.23$ |
| | Personal attraction negative | 0.141 | 1.40 | 0.16 | |
| | Social norms | 0.070 | 0.63 | 0.53 | |
| | Personal attraction positive | 0.162 | 1.49 | 0.14 | $Sig\Delta F=0.14$ |
| 4 | Perceived behavioral control | 0.387 | 3.32 | 0.00 | Personal attraction negative 0.163 1.62 |
| | | 0.11 ² | | | |
| | Social norms | 0.042 | 0.37 | 0.71 | |

- a. Predictors: (Constant), Perceived_behavioral_control
b. Predictors: (Constant), Perceived_behavioral_control, Personal_attraction_negative
c. Predictors: (Constant), Perceived_behavioral_control, Personal_attraction_negative, Social_norms

- d. Predictors: (Constant), Perceived_behavioral_control, Personal_attraction_negative, Social_norms, Personal_attraction_positive
- e. Dependent Variable: Entrepreneurial_intentions

Normal P-P Plot of Regression Standardized Residual



We use standardized residuals (z-scores) which are residuals divided by an estimate of their standard deviation. We know that 95% z-scores should lie between -1.96 and +1.96 (assumption of normal distribution). Since there is no value greater than absolute 3.29, we conclude that there is no reason to worry about outliers. However on the normal P-P plot and on the histogram we can see some deviation marked with arrow, it is not perfectly normally distributed. Outliers outside three standards deviations were excluded.

Missing values were excluded listwise. In general, missing values are closely examined and no pattern or frequency arose. This is the example of missing completely at random. One observation was excluded because the student gave all 1s to all the questions (we believe that it was very malicious behaviour, but not true answers to given questions). The regression analysis in the sample generally supports Hypothesis 3. Students who have higher self-efficacy (PBC) have higher entrepreneurial intentions. Hypothesis 1 and 2 did not find any support in this research.

$$\hat{y} = 0.39x_1 + 0.16x_2 + 0.16x_3 + 0.04x_4 \text{ with standardized regression coefficients}$$

3. DISCUSSION

The research about entrepreneurial intentions among business students in SEBS pointed out few very important findings, which are coherent with other similar studies. Perceived behavioral control (very close concept to self-efficacy) is a belief that a person is capable of starting and running a successful business. This is the main predictor which influences formation of entrepreneurial intentions. This construct alone explains 27.4% of variance (of Entrepreneurial intentions) in this research.

Social norms have very little influence on young people (in this sample), and it is explained with locus of control. Individuals who have high internal locus of control believe that they are responsible for outcomes and their life, they keep things

under control. In the other hand individuals with high external lokus of control believe that other people influences and direct their life. Entrepreneurs typically have high internal locus of control, and they do not wait for the approval from the others to star bussines. Social norms explain 0.4% of variance EI (this contribution was not statistically significant).

Personal attraction was divided in two categories (positive and negative aspects). This was done because Factor analysis did not put corresponding questions in one factor, but in two. There was an option to drop out two questions and in that case 4 factors would emerged. But, please note that this analysis was mostly done for the demonstration purpose (exam) and there is a strict rule that for this assignment we need at least 5 variables. However, statistically those two predictors PPos i PNeg explained respectively 2.3% and 2% of variance EI (this contribution was not statistically significant). This construct measured attitudes towards entrepreneurship and we can conclude that those attitudes do not impact highly enough on EI among students. This may be explained with the fact that those are student freshmen and that they will develop stronger pro/contra attitudes towards entrepreneurship in the cours of their studies. Certainly intense education and practice will have positive effect on their overall knowledge and attitudes.

Highest level of propensity to act, or highest level of entrepreneurial intentions is in general among last year students who are actively considering all career options because they will soon step out in the labour market. Gap between entrepreneurial intentions and behaviour (start-up activity) is than smallest. Therefor, simillar research should be undertaken among those students. The sample should include engeneering and other studies to have a fully representative sample.

In the course of analysis some other techniques might be used (ex. factor scores for later analysis). In the Factor analysis all the other methods were run, but the most logical and best results gave the ones we used (oblique). When it comes to normality PPos showed moderate asimetry (negative one). Even after transformation (reflection and log 10 or square root) normal distribution was not achieved. That is why variables were not transformed at all. Kolmogorow-Smirnow and Shapiro-Wilk test were significant for two variables. They are sensitive in general, so we relied on normal distribution observed on histogram.

And finally for more significance, we sholud enlarge the sample.

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BENEFIT ANALYSIS OF A DEVELOPING MARKETS STOCK EXCHANGE MERGERS: CASE OF A BORSA ISTANBUL AND SARAJEVO STOCK EXCHANGE

Sanel Halilbegovic

International Burch University

Bosnia and Herzegovina

sanel.halilbegovic@ibu.edu.ba

Abstract: Whether due to mentality or the lack of investment 'culture', but people in the Balkans have certain repulsion towards investing in financial instruments offered by the local exchanges. Based on the public opinion one can conclude that most of the people are reluctant to invest in the financial instruments because they can't rely on the trustworthiness and credibility of the local exchanges, due to corruption scandals, misconduct and wrongdoings that happened in the recent history. Since its inception, Sarajevo Stock Exchange has been suffering from extremely low volume and poor investment liquidity that in the end resulted with choppiness and overall instability in the market. Turkey's main stock exchange, Borsa Istanbul, which is 80 times larger than SASE, has openly expressed interest in direct cooperation with Sarajevo Stock Exchange and that strategic move can certainly reduce or even eliminate problems local investors face.

This study examines the effect of benefits and costs of the cooperation between Borsa Istanbul and Sarajevo Stock Exchange (SASE). Multiple facets of the benefits and costs are examined and their effect on the macro and micro scale. Macro effects of the raising stake of Borsa Istanbul in SASE include effects on government, municipality and overall economic level, while micro effect is the direct effect to the 'end-consumer', a small investor.

The secondary data will be used in analysis of benefits to costs with the side by side comparison and eventual derivation of the Benefit/Cost ratio (BCR) that will test the hypothesis that benefits highly outweigh the costs in this cooperation.

The research shows that raising the stake of Borsa Istanbul in SASE will bring a new level of professionalism and trust in a corruption and unprofessionalism ridden SASE. In addition Borsa Istanbul will open new market horizons to investors from Bosnia and as an outcome we should see and increase in market liquidity, trading volume and even the BDP of both countries.

Keywords: Emerging stock markets, cross listing, stock market merger

JEL Classification: F15, F62, G15, G24

Introduction

At its inception in late 90's, Sarajevo Stock Exchange (SASE) has been showing signs of prosperity and acceptance in the investors' circles. However, due to ample irregularities, corruption scandals and an overall lethargy in trading volume, SASE has been slowing down since early 2000's. In the recent years stock exchange unions became the trend in an emerging markets, which is a result of globalization and deregulation on the world level. This process started in late 1990's following the process

of converting the stock exchanges from nonprofit, usually member owned organizations into for profit organizations that are owned by the state and corporations. In late 1990's European stock exchanges experienced significant changes such as several mergers and acquisitions, changes in trading systems and ownership structures, and the most significant increased number of quoted companies. One of the most famous mergers happened in 2000 when Belgian, French, Dutch and Portuguese exchanges have merged. From these four stock exchanges Euronext was created. In this way these four exchanges have increased their market share and became competitive to the European largest stock exchange, London Stock Exchange. Stock exchange mergers have various effects among which is market efficiency as the most important one. Studies have shown that the merger outcomes depend on the size of the stock exchange. This implies that the degree of market efficiency is higher for the merger between small stock exchanges because the smaller the stock exchange, higher the growth potential. However, there are certain issues that should be considered such as regulatory issue. Regulations can be internal, that require compliance with rules of stock exchange, or external that require compliance with the rules of regulatory body on state or international level.

Following or better yet lagging on these global trends, Borsa Istanbul Stock Exchange (BIST), which is Turkey's only exchange, in 2011 has acquired 5% of Sarajevo Stock Exchange (SASE) which is owned by Bosnian brokerage houses. In January 2015 it bought additional shares and increased its stake to more than 30%. The purpose of this paper is to explain the possible benefits of the Borsa Istanbul stake in Sarajevo Stock exchange.

Literature Review

According to the research of Prof. Dr. Ulf Nielsen (University of California), the main benefit of stock exchange merger is the stock liquidity that follows the merger. Simply said, there are more market participants and more potential investors. There is also a smaller gap or a spread between bid and ask which is again the result of the liquidity and more participants competing on the exchange. There are always investors willing to buy the security for a given price and issuer or dealer willing to sell the security for that price. Market is also becoming more efficient due to lower information and other non-monetary transactions cost. Liquidity of the security is measured by turnover. Turnover represents number of shares that are traded relative to the number of shares outstanding. If the merger is international, meaning that the stock exchanges are located in two different countries, it increases the investor's base. Stocks are accessible to the investors in both countries. Companies benefit from listing on both, domestic and foreign market. Following the increased trading volume, exchanges should increase their investment in new technologies that have the ability to satisfy the demands of sophisticated investors (Philips, Faseruk, Glew, 2014). Thanks to the increased volume the stock exchanges will experience the economies of scale, and the cost of the investment will spread over the larger volume of financial products. Furthermore internationally diversified market is likely to introduce new financial and trading instruments to the stock exchanges.

Besides the liquidity and capital flow, market efficiency is the most important outcome of the stock exchange merger. Degree of market efficiency depends of the country's level of development, size, geographical diversification and industrial diversification (Charles, Darne, Kim, Redor, 2014). As a result of the increased efficiency the average trading fees decreases, the bid-ask spread also decreases, trading volume increases and the volatility of large cap securities decreases. However, the merger does not

affect all stock markets in the same way as it was mentioned before. Efficient market hypothesis (Samuelson, 1965), states that price fully reflects all available all relevant information. In the inefficient market further prices are highly unpredictable. Market efficiency is especially an issue in the developing markets. So, the fact that exchange merger contributes to the market efficiency lead us to the conclusion that the merger has higher impact on the developing market than on the already developed and efficient market.

Stock market mergers and acquisitions contribute to the decreasing costs of a transaction through the economies of scale that will attract new investors to participate in new stock exchange markets or platforms with higher trading volume and much better liquidity (McAndrews and Stefanidis, 2002). Stock exchange mergers will also improve liquidity with increasing trading volume but decreasing transaction costs (Neilsson, 2009). Many companies may benefit from alliances because of better price efficiency when new information becomes more available (Werner and Kleidon, 1996). There are many factors that affect the stock exchange success. Some of them include financial regulation quality, corporate structure for stock exchange demutualization and cross-membership agreement (Dorodnykh, 2013). A trading amount influences much the success of a stock market acquisition or merger, a greater stock exchange or some with a larger number of domestic firms could indicate maybe less success (Dorodnykh, 2013; 2014). On the other side, lower stock exchange participation could improve performance, and also, provide some credibility as well as reliability for higher stock exchange partners (Maciulis et al., 2007; Hasan et al., 2012). The trading with less volume may also experience lower integration - it's happened because of complex financial regulations as well as restrictions on foreign investors. Also, geo distances or levels of merger do not necessarily translate into a raising in stock exchange interdependence that maybe will improve stock exchange performance (Nielsson, 2007). Some bigger companies may obtain higher liquidity or trading volume from the stock exchange mergers, and can reduce costs of the transaction to improve market efficiency (Nielsson, 2009).

Hypothesis and Methodology

Given the introduction an organically derived hypothesis emerges:

"The cooperation and a partial merger of SASE and Borsa Istanbul is highly beneficial to all stakeholders in each market – from investors, over companies in the market and both countries' governments"

Since the full scope of the merger and its benefits hasn't happen as of yet, this research with this hypothesis will basically serve as a base starting point of the future researches, once the entire program materializes and once the measurable data becomes available.

The methodology used in this research is of a hybrid qualitative nature. This paper will have a descriptive research design with prediction based narratology. Since there is a very small amount of primary and secondary data on this topic, the research will mainly focus on the possible outcomes of the cooperation between two exchanges and the best case scenario analysis that could definitely be a starting point for the future researches on this particular topic.

Data Analysis and Discussion

As previously said, Sarajevo stock exchange suffers from a chronic condition of a very low trading volume, high instability and a persistent choppiness in the market. At its inception SASE has established the first market index called SASX10 which is comprised of 10 largest companies by the market capitalization (table 1).

Table 1: List of companies in SASX-10

| SASX-10 | | |
|----------------|-------------------------------------|----------------------|
| | Chart | Data |
| Symbol | Description | Weight |
| BHTSR | BH Telecom d.d. Sarajevo | 2.511.953 |
| BSNLR | Bosnalijek d.d. Sarajevo | 3.191.734 |
| ENISR | Energoinvest d.d. Sarajevo | 3.869.787 |
| ENKTRK2 | Enker dd Tešanj | 180.511 |
| FDSSR | Fabrika duhana Sarajevo dd Sarajevo | 770.234 |
| IKBZRK2 | IK Banka dd Zenica | 225.845 |
| JPEMR | JP Elektroprivreda HZHB Mostar | 735.356 |
| JPESR | JP Elektroprivreda BIH dd Sarajevo | 2.541.259 |
| SOSOR | Sarajevo osiguranje dd Sarajevo | 1.135.781 |
| TCMKR | Tvornica cementa Kakanj dd Kakanj | 637.306 |

Source: www.sase.ba

Combined, those 10 companies have an average share price of 22.46BAM and a 14,386,000 shares for a grand total of BAM 323million. (table 2).

Table 2: SASX-10 companies and respective prices and shares outstanding

| SASX-10 companies | price | shares |
|---------------------------------|--------------|-------------------|
| BH TELECOM | 16.25 | 63,500,000 |
| Bosnalijek | 12.99 | 7,500,000 |
| Energoinvest | 1.60 | 17,500,000 |
| Enker | 5.51 | 600,000 |
| FDS | 50.00 | 1,300,000 |
| IK Bank | 59.00 | 464,000 |
| Elektroprivreda Mostar | 33.03 | 7,361,000 |
| Elektroprivreda Sarajevo | 17.18 | 31,500,000 |
| Sarajevo Osiguranje | 6.03 | 4,635,000 |
| Tvornica Cementa Kakanj | 23.00 | 9,500,000 |
| Average | 22.46 | 14,386,000 |

Source: Author's analysis

For the purposes of this research the focus will be on the above listed companies and the benefits of the stock market mergers will be pertaining to those 10 companies. The benefits of the mergers between stock markets and especially when the emerging

markets are in question are numerous. In this research the benefits will be split into two major groups

- Benefits to investors
- Benefits to companies and governments

Benefits to investors

In today's world of expanding globalization and loosening of borders, investors from all countries generally have it much easier to trade and invest into foreign markets. Benefits to investors are probably the largest portion of benefits among the 3 types of benefits and since the market doesn't exist without investors these benefits are definitely the most important ones.

Investors will have a wider variety of investments to choose from and have a better chance to create a customized portfolio that suits a specific investor. For example an investor on SASE can mainly choose between companies in real sector such as banks, power and gas producing companies, pharmaceutical companies, telecom etc, but by having Turkish companies cross listed to SASE, investors in BiH could have an access to companies in other niches such as service, IT, automotive and many others. Investors would benefit from an improvement in quality and availability of information. Every company that is a subject to cross listing into other exchanges will have to adapt and adhere to new corporate governances as well as state/government regulations. That new set of rules will benefit the investor as it would be almost impossible for a company to fabricate and window-dress the accounting and other legal information across markets. Improvement in the information flow and quality will even attract more investors who were previously reluctant to investing due to corruption in the companies and markets. Another side benefit to the investors would be a fact that investors would enjoy better protection from companies' malpractice due to more stringent and strict rules that would be enforced to cross listed firms. One of the most important benefits to investors in the case of cross listing is the liquidity of the market. As previously noted SASE has been suffering the chronic low trading volume that hurts investors since low volume adds to the negatively affected beta (β) and overall instability in the market prices. Table 3 and Table 4 shows the rapid fall in share turnover which is the total number of shares during a period divided by the average number of shares outstanding for the period. Obviously this ratio needs to be as high as possible which is quite opposite in case of SASE.

Table 3: Share turnover of SASX-10 companies in %

| SASX 10 Companies | Trading Shares | | | Total Shares Outstanding | Turnover | | | |
|-------------------------------------|-----------------------|-------------|-------------|---------------------------------|-----------------|-------------|-------------|--|
| | Year | | | | Year | | | |
| | 2013 | 2014 | 2015 | | 2013 | 2014 | 2015 | |
| Bosnalijek d.d. Sarajevo | 1,251,231 | 423,500 | 215,058 | 7,829,987 | 15.98% | 5.41% | 2.75% | |
| BH Telecom d.d. Sarajevo | 309,765 | 382,181 | 163,984 | 63,457,358 | 0.49% | 0.60% | 0.26% | |
| JP Elektroprivreda BIH dd Sarajevo | 74,020 | 131,657 | 112,712 | 31,506,541 | 0.23% | 0.42% | 0.36% | |
| JP Elektroprivreda HZHB Mostar | 80,995 | 26,937 | 206,625 | 7,361,660 | 1.10% | 0.37% | 2.81% | |
| Fabrika duhana Sarajevo dd Sarajevo | 42,712 | 57,177 | 50,908 | 1,281,712 | 3.33% | 4.46% | 3.97% | |
| JP HT dd Mostar | 72,639 | 16,544 | 175,774 | 31,586,325 | 0.23% | 0.05% | 0.56% | |
| Energoinvest d.d. Sarajevo | 128,474 | 145,921 | 67,321 | 17,657,682 | 0.73% | 0.83% | 0.38% | |
| Energopetrol dd Sarajevo | 14,874 | 2,344 | 41,983 | 5,492,922 | 0.27% | 0.04% | 0.76% | |
| IK Banka dd Zenica | 11,019 | 72,485 | 36,308 | X | | | | |
| Tvornica cementa Kakanj dd Kakanj | 12,870 | 24,388 | 15,865 | 9,476,540 | 0.14% | 0.26% | 0.17% | |

Source: www.sase.ba

Table 4: Share turnover of SASX-10 companies in BAM

| <i>SASX 10 Companies</i> | Year | | | Increasing/ Decreasing from 2013 to 2015 | Increasing/De- creasing from 2014 to 2015 |
|------------------------------------|------------------|-----------------|-----------------|---|---|
| | 2013 | 2014 | 2015 | | |
| Bosnalijek d.d. Sarajevo | 17,603,134.85 KM | 4,862,039.99 KM | 2,274,453.65 KM | -87% | -53% |
| BH Telecom d.d. Sarajevo | 6,080,675.91 KM | 7,515,664.94 KM | 3,223,738.77 KM | -47% | -57% |
| JP Elektroprivreda BIH dd Sarajevo | 1,677,709.16 KM | 2,628,944.60 KM | 1,910,654.74 KM | 14% | -27% |
| JP Elektroprivreda HZHB Mostar | 2,813,044.09 KM | 866,012.02 KM | 7,903,864.86 KM | 181% | 813% |
| FDS dd Sarajevo | 2,622,451.38 KM | 2,433,514.90 KM | 2,217,435.59 KM | -15% | -9% |
| JP HT dd Mostar | 485,539.12 KM | 104,081.94 KM | 1,196,319.35 KM | 146% | 1049% |
| Energoinvest d.d. Sarajevo | 322,778.33 KM | 312,483.37 KM | 128,141.41 KM | -60% | -59% |
| Energopetrol dd Sarajevo | 102,574.17 KM | 18,139.59 KM | 218,447.52 KM | 113% | 1104% |
| IK Banka dd Zenica | 665,546.13 KM | 4,145,923.73 KM | 2,147,693.08 KM | 223% | -48% |
| Tvornica cementa Kakanj dd | 260,317.67 KM | 519,038.27 KM | 364,696.22 KM | 40% | -30% |

Source: www.sase.ba

With firms from both exchanges having IPO in the cooperating market there will be an additional shares available for investors in foreign markets and with more investors in the play, the supply and demand will stabilize without having abrupt shifts to either side, hence lowering the choppiness in the market, hence lowering the firm's β . Also due to development of more efficient marketplace investors on both ends can expect narrowing of the price spreads and better efficiency in the stock pricing and therefore having lower chance for arbitrage and abuse of the market itself.

Benefits to companies and governments

While benefits for investors are ample and many, the companies and governments of both countries will also benefit from the cooperation, cross listing and merger of the two exchanges. One of the biggest benefits to the companies in both markets is that the companies will be able to do the second initial public offering (IPO) in the cross listed country, hence issuing new shares, resulting in a radical increase in firm's market capitalization. With an increase in market capitalization the overall volume of traded stocks will also increase fatherly increasing the traded shares turnover. Using only a modest and conservative increase in number of shares by 20% the results in the turnover are very apparent as shown in Table 5.

Table 5: SASX-10 companies new turnover after merger of exchanges

| SASX 10 Companies | Trading shares | | | Turnover | |
|-------------------------------------|----------------|-----------|--------------------|----------|--------|
| | 2016 | 2017 | Shares outstanding | 2016 | 2017 |
| Bosnalijek d.d. Sarajevo | 1,801,774 | 2,162,129 | 9,395,984 | 19.18% | 23.01% |
| BH Telecom d.d. Sarajevo | 447,755 | 537,306 | 76,148,830 | 0.59% | 0.71% |
| JP Elektroprivreda BIH dd Sarajevo | 104,350 | 125,220 | 37,807,849 | 0.28% | 0.33% |
| JP Elektroprivreda HZHB Mostar | 116,609 | 139,930 | 8,833,992 | 1.32% | 1.58% |
| Fabrika duhana Sarajevo dd Sarajevo | 61,461 | 73,753 | 1,538,054 | 4.00% | 4.80% |
| JP HT dd Mostar | 104,614 | 125,537 | 37,903,590 | 0.28% | 0.33% |
| Energoinvest d.d. Sarajevo | 185,618 | 222,741 | 21,189,218 | 0.88% | 1.05% |
| Energopetrol dd Sarajevo | 21,356 | 25,628 | 6,591,506 | 0.32% | 0.39% |
| IK Banka dd Zenica | 15,867 | 19,041 | 556,800 | 2.85% | 3.42% |
| Tvornica cementa Kakanj dd Kakanj | 19,105 | 22,926 | 11,371,848 | 0.17% | 0.20% |

Source: author's analysis

Of course by issuing new shares of stock the companies would have to adhere by the local rules and regulations and other stipulations by security and exchange commission that would in the end benefit the investor but also have a secondary benefit to the company because the company will have a better or more realistic view into its own situation. The above concept of turnover didn't take in effect another huge benefit to the cross listed company and that is the effect on the price of the stock. Companies will experience some sort of a price discovery where the pricing of stocks become much more efficient than in an isolated or stand-alone markets. Chances are that if the volume and efficiency of the pricing increases, the companies will show up on the professional analysts radar as well as the mutual fund managers which will even more increase the recognition of the company, resulting in the probable increase in stock price.

With the existing historic ties between Bosnia and Herzegovina and Turkey and the recent interest in other trades and trade agreements between Turkey and BiH, the companies will benefit from an increase in brand recognition in a new market. Increase of a brand recognition may not be easily quantifiable but we can be certain that it will have an effect on the stock prices as investors, especially small investors are most likely to invest into firms that they have the previous knowledge of.

In this entire benefit scheme the governments of both countries are included too. Each country's government will surely benefit on multiple factors but the main factor is the economic stability and flow of capital. With an increase in companies' price stability comes stability in the entire sector(s) as well as the stability in the macroeconomic aspects. This resulting stability in the economy may result in an improved credit rating not only for the companies but for governments as well, therefore decreasing a cost of capital to the benefit of all. As these firms attract additional investors the flow of capital will also improve that will in effect improve the situation for all the participants in the economic chain, while at the same time improving the general living and economic conditions in the country.

The government will also surely benefit by an increase of taxable income both on an individual and corporate level and another potential benefit would be that the cooperation between Borsa Istanbul and SASE can serve as an example and as a basis for all the future cooperation between Balkan exchanges. In recent economic conferences one can see that the common denominator of economic growth in Balkan countries is cooperation and unity, with more local exchanges cooperating the benefits for all stakeholders would multiply even more.

Findings

From this research it becomes clearly apparent that benefits of the cooperation of the emerging stock market such as SASE with an already developed market such as Borsa Istanbul, are many. The research has shown that all of involved parties and stakeholders are benefiting from this merger.

Hence, the hypothesis "The cooperation and a partial merger of SASE and Borsa Istanbul is highly beneficial to all stakeholders in each market – from investors, over companies in the market and both countries' governments" is confirmed. The natural question arises from this research and that is, what are the costs and what does the cost benefit analysis says about the merger of exchanges but in all reality the benefits are so abundant that not only do they cover the costs but they far exceed them. Although the benefits are plentiful there are some important costs and those are mostly pertaining to the companies and not to investors or governments. The companies, in order to reap all the benefits listed in this research, would need to invest certain capital into investment bank(s) that would organize an additional IPO, also the companies would have to pay the cross-listing fee to the exchanges, although this fee could be reciprocally removed with the prior agreement between exchanges. Another important cost to companies would be an additional time and funds spent in order to conform to the local laws and rules as well as an additional costs for another layer of auditing, but all in all the benefits on the macro as well as micro scale are apparently very much abundant, so it can be concluded that the benefit cost ratio, although not mathematically calculable, tilts benefits scale by far.

Conclusion

In conclusion, this research has clearly showed that the main obstacle of this merger is that of a will of directors of exchanges and sooner they start the procedure, sooner the Turkish and Bosnian companies, investors and governments can start gaining from the benefits listed. Also this merger can definitely serve as a breeding ground for future co-ops among other ex-Yugoslav or Balkan exchanges that suffer from the same problems as SASE. In all reality the sky is really the limit of the benefits that come out of this merger as it will not only generate value added benefits but also sizeable capital gains for all stakeholders involved.

As with any research, especially since this merger is still in the inception phase, this research can serve as a starting point for any future researches on any topic pertaining to the merger of SASE and Borsa Istanbul. Hopefully generations to come will realize that the power is in unity on all levels, especially the economic one.

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PERCEIVED SATISFACTION WITH PUBLIC TRANSPORT SERVICE: CASE STUDY OF GRAS

Nataša Tandir

International Burch University
Bosnia and Herzegovina
natasa.tandir@ibu.edu.ba

Haris Tandir

International Burch University
Bosnia and Herzegovina
hari.tan@hotmail.com

Abstract: Public service quality is in recent years one of the major challenges for economic analysis. It is due to the size of companies providing public services as well as to the importance of obtained results both for companies offering the services and for the public policy creators and administrators. One of the aspects that can be evaluated is the level of service offered or the supply side. The other side is the perceived satisfaction with the service quality, which represents the demand side aspect. There is not much research that analyses how the passengers perceive the quality of the services.

The objective of this paper is two folded. Firstly, to evaluate the quality of GRAS services from the aspect of users and secondly to see what needs to be improved in order for non-users or people who rarely use public transport to become regular users. The information is valuable for policy makers as well as operational managers in the public transport system. An insight into what users consider as important and how they perceive existing public transport service can show that investment and improvement of existing service can really attract new users and keep the existing ones.

The data were collected using self-administered internet mediated questionnaires to the residents of Sarajevo Canton. In total 247 persons answered the questionnaire. The response rate was above 50 per cent. The results showed that there is wide space for improvements in service, especially if the company is trying to reach non-users.

Keywords: public transportation, services, satisfaction

Introduction

Car traffic has increased considerably during recent decades. The car enables transportation that brings people positive consequences but also costs for society. Individual freedom and independence are among the positive consequences noted in connection with car use. Thus, the versatile car enables people to conduct diverse activities in different places, for instance, work, purchases of different kinds, and leisure activities. At the same time the negative environmental effects of car use is becoming recognized.

Public transport has a lower societal cost than the car. Although most people use public transport for some trips they make, it is generally perceived to be less attractive and is less chosen. How can it be made more attractive? In the public transport

industry, increasing competition has led to an increased market orientation, something which for instance has led to that customer surveys have become common. With the increased competition, there is also an interest in boosting market shares. In addition to this, there are adaptations of services in order to encourage both existing and new travellers to travel more by public transport (Carlsson, 1999; Eriksson, 2006).

Both society and the public transport industry want to change public transport in order to adapt it to those who are frequent car users today. Accordingly, there is a need for knowledge of how public transport can be made attractive to car users.

Public service quality is in recent years one of the major challenges for economic analysis. It is due to the size of companies providing public services as well as to the importance of obtained results both for companies offering the services and for the public policy creators and administrators. One of the aspects that can be evaluated is the level of service offered or the supply side. The other side is the perceived satisfaction with the service quality, which represents the demand side aspect. There is not much research that analyses how the passengers perceive the quality of the services.

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Literature Review

According to Felesson and Frimen (2008) in many countries there have been investments in improvement of public transport systems in order to increase the quality and thus the usage of this mean of transport. However, this doesn't lead to corresponding increase in demand (Fujii & Kitamura 2003, Mackett & Edwards 1998). This is mainly because of the increasing usage and ownership of cars. Anable states (2005) that today, people are very dependent on car transportation. For them, car is not just a mean of travel. As Steg (2005) points, it gives a feeling of sensation superiority, power, freedom, position in the society.

On the other hand, there is an increase development and implementation of measures related to the promotion of consequences of car travel, mainly on environment and congestion, especially in large cities. Together with cycling and walking, public transport is generally recognised as a sustainable alternative to the usage of cars (Redman et al., 2013). Transfer from car travel to public transport usage became an important alternative for the society which leads to the necessity to improve the quality of public transport, make it more appealing and satisfying for the users (Beirão and Cabral, 2010). Public transport systems need to become more market oriented and competitive. They need to create certain image that would attract users. In order to recognize the possibilities for improvement and increase market share, companies providing public transport services need to understand travel behaviour, consumer's needs, expectations and satisfaction of users (Beirão and Cabral, 2010). Those information are valuable for policy makers as well as operational managers in the public transport system. An insight into what users consider as important and how they perceive existing public transport service can show that investment and improvement of existing service can really attract new users and keep the existing ones (Felesson and Friman, 2008).

Satisfaction represents a concept that deserves certain attention. It is mainly elaborated in consumer research and it is proven to have great value in understanding present

and future behaviour of customers. Customers' satisfaction is the link between the service (or a good) offered by a company and perception of that service from the customers (Fellesson and Frimen, 2008).

In the research by Friman, Edvardsson and Garling (1998) it is pointed that dissatisfied users are maybe more important than satisfied users. In order to determine the satisfaction or dissatisfaction the relevant attributes need to be identified. In the same study it was assumed that the satisfaction is mainly affected by negative critical incidents (NCIs) and that positive critical incidents are not so relevant. The main NCIs identified were: treatment of employees (lack of competencies, knowledge, willingness to serve); service unreliability (delays); simplicity of information; and shortcomings of vehicles, equipment and stops. The study showed that single NCI and a memory of how many times it has repeated (frequency) affects overall satisfaction with the public transport service.

Paulley (2006) determined key factors that affect the demand for public transport. According to the research it was found that fares, income, car ownership and quality of service are key in determining the demand. The study is mainly related to the urban public transport in Great Britain, however many international examples and sources are used to emphasise the topic.

The research of Walle (2006) studies the relation between transport mode and time factors using elasticities and regression techniques. The results showed that there is a clear relation of waiting and walking time and public transport use. According to the findings important issues were emphasised and recommended to the public transport companies.

The important factor that can influence car drivers to switch to public transport is trip chaining. In the work of Hensher and Reyes (2000) different discrete choice models are evaluated to determine the role that certain features of households have on the tendency to undertake varying trip chains that involve the use of the car or public transport.

Research conducted by Dell Olio et al. (2011) indicates the difference between desired quality of service and perceived quality by users. The first represent what the users desire, expect or hope to receive and the later one is the daily experience of the users of public transport. The research offers new aspect of quality: the quality that the user and potential user desires. The most valued variables were waiting time, cleanliness and comfort, while driver's behaviour, occupancy and travel time were valued less. The obtained results provided useful information for the authorities and operating companies to plan marketing policies directed towards different categories of users, as well as potential users.

The important attributes that could attract car users to become the users of public transport were emphasised by Lauren Redman et al. (2013). The important contribution of this research is related to the quality attributes of public transport services that would encourage shift from private car usage to public transport. The results implied that reduction in fare promotions and other habit-interrupting measures of transport policy can lead car users to initially try public transport. To sustain those new users, the accessibility, reliability and mobility provision are highly valued.

In a study of public transport services, Hensher et al. (2003) found that travel times and fares have the greatest impact on negative satisfaction, whereas frequency of

service and seat availability constituted the largest sources of positive satisfaction. In another study, Friman et al. (2001a, 2001b) found four factors identified as constituting perceived service quality in public transport services. The first factor was how travellers were treated by staff, that is their willingness to serve, their knowledge, and their competence. The second factor was service reliability. The third factor was simplicity of information (e.g. the availability of departure and destination information). The design of vehicles and space (relating to comfort, safety, and cleanliness) constituted a fourth factor.

A transnational study of public transport in nine European cities (Fellesson & Friman, 2008) confirmed these results by highlighting the impact of safety, security, frequency, service reliability, comfort, and the quality of staff behaviour on the level of satisfaction with public transport.

Stradling et al. (2009) examined 68 items which de-motivate people from using buses. Eight factors were revealed by factor analysis. Factor 1 was interpreted as inconvenience of route, scheduling, and other service provision; Factor 2 as unwanted arousal from the journey experience (e.g. crowded bus); Factor 3 as feelings of being unsafe; Factor 4 as the need for autonomy and control; Factor 5 as costs; Factor 6 as self-image; Factor 7 as the preference for independence; and Factor 8 as disability and discomfort.

In a narrative review of international research on how to attract car users to use public transport, Redman et al. (2011) concluded that it is essential to break car-use habits, for instance by providing free public transport tickets for a limited time to enable car users to test public transport. To bolster attractiveness, it may be necessary to go beyond core service attributes such as travel time, accessibility and reliability by improving affective qualities. In order to keep (former) car users in public transport it is essential that they perceive the service as attractive, not only initially but over time. If this can be accomplished successfully car users may become satisfied public transport users (Pedersen et al., 2011).

Case Study - Public Company "GRAS"

The public transport in city of Sarajevo was organised in 1885. Firstly, it was a tram which used horses. The electric power trams were introduced in 1895. The bus transport started in 1948. After many change, improvements and development, new charging system was introduced in 1974 while the half automatic fare charging system was implemented in 1977. During the war, the vehicles, the lines and whole company, as everything else in Sarajevo were devastated. The reconstruction of the public transportation service started in 1996.

Today, the mission and vision of the company states that the public passengers' transportation represents one of the most important if not the key function of modern city, overgrowing simple communication function. It represents the part of the city development policy, the base for healthy community with great social role, since the main users of public transport is population with lower income, especially younger population and retired people. The mission of the company is to improve conditions and safety in public transport, to increase the offer, improve the efficiency of communication and to maximise profit. The vision is to give absolute priority to the quality, speed and reliability of public transport, support of the Sarajevo Canton and to the ecology and energy efficiency.

Since 2005 the company implemented ISO 9001:2000 standard which was successfully recertified in 2010. The special attention is given to the staff training and communication toward the users.

Methodology

In Sarajevo there are two companies providing public transport services to the city. The objective of this study is to evaluate the user's perception and satisfaction with the quality of GRAS public transport company. The research should show what are the strengths and weaknesses of GRAS and where are the places for service improvement. The users will evaluate characteristics of public transport services like: coverage, time, reliability, behaviour of employees, condition of vehicles, frequency, safety, etc.

According to the available literature and with the objective of the research following hypotheses were constructed:

H1: There is an overall satisfaction with public transport services of GRAS.

H2: Non users would become users if more than three attributes would be improved.

H3: Places for improvement of public transport services are quality of vehicles, treatment of users by employees and service reliability.

The data were collected using self-administered internet mediated questionnaire. The questionnaire was designed using Google docs. It was administered using e-mail and social networks. This way of collecting data was chosen because of following reasons: there is no demand for field work, there are no financial resources necessary, data input is automated and data analysis is easy to perform using SPSS (Saunders et al., 2009). The design of each question was done by adapting questions used in other questionnaires. The advantages of relying on already designed questionnaires are the ability to compare the findings with other studies and possibility to **assess**' reliability of the questionnaire. In order to avoid poor questions, the relevant scientific literature was consulted. Likewise, there were no copyrights on the questions and the questions were adapted from many existing questionnaires, thus there is no need to point each out.

The first part of the questionnaire is consisted of basic demographic questions. The second part consist the question related to the reasons why people do not use public transport or use it very rarely, and what needs to be improved so a non-user would become the user of public transport services. Third part is evaluating the perception of users about the quality of public transport service using 5-point Likert scale: (1) don't agree at all, (2) hardly agree, (3) neutral, (4) partially agree, and (5) fully agree. The sampling was done using non-probability sampling more precisely convenience sampling, which is used because of ease of reaching the respondents this way.

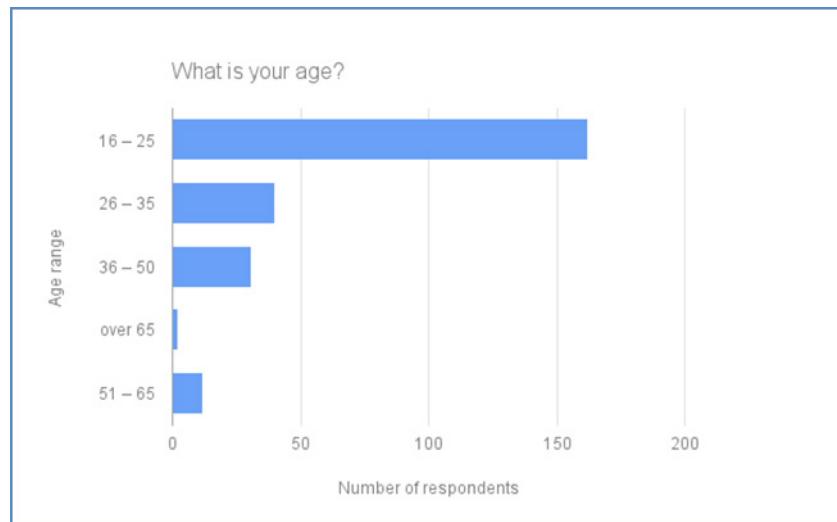
The survey was administered in English and Bosnian language. The purpose of the research was explained with accompanying cover letter. According to Dillman (2007) the message in covering letter has positive effect on the response rate.

Since the number of thematic questions in the survey was 19, in order to obtain validity, the minimum number of respondents was 190 (ten respondents per each question). In total 247 persons answered the questionnaire. The response rate was above 50 per cent.

Results

Out of 247 respondents 49.8 per cent are female and 50.2 are male. When asked about living area, 81.9 per cent live in the study area while 18.1 per cent do not. The age structure of respondents is presented in next figure.

Figure 1: The age structure of respondents



Related to employment status 59.6 per cent are students and 36.7 are employed. There is also a minority of self-employed (3.3 per cent) and retired respondents (0.4 per cent). The respondents who own a car are 43.4 per cent of the sample.

Since one of the aims of this paper is to determine what are the reasons not to use public transportation services, it was important to find out how often respondents use public transport. People who use it few times a year count for 20.8 per cent of the total sample and 8.6 per cent never use it. This is represented in figure 2.

Figure 2: Frequency of public transport usage

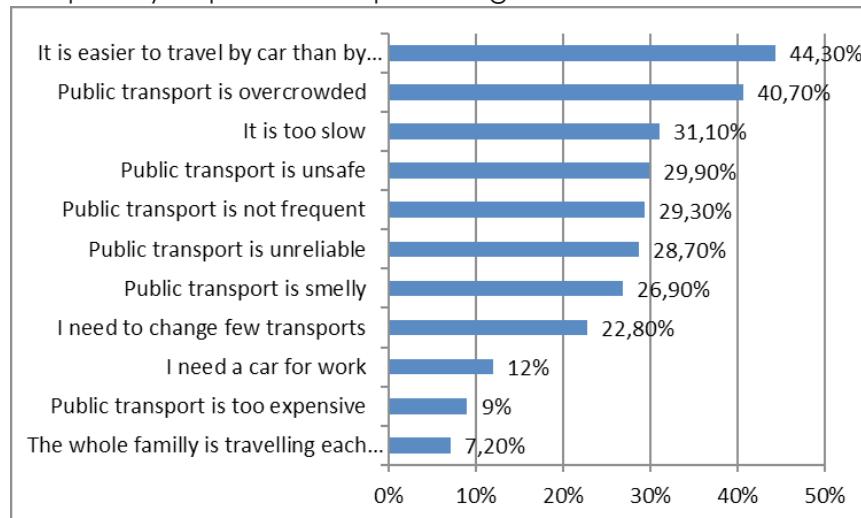


Figure 3 shows the reasons why some respondents do not use or rarely use public transportation services. The main reasons, according to the non-users are that it is easier to travel by car and that public transport is overcrowded (more than 40 per cent). Only 9 per cent thinks that public transport is too expensive and only 7.2 per cent do not use it because the whole family is travelling by car.

Figure 3: Reasons for not using public transport



When asked about what needs to be improved so they would become users or more frequent users of public transport the respondents gave different answers (table 1).

Table 1: What needs to be improved in order to use public transportation more frequently

| Frequency of using public transportation services | If you do not use public transportation services or use it very rare, what are your reasons for it? |
|---|--|
| Every day | Safety (7) Cleanness (3) Frequency (4) Reliable (regular) (3) Speed (2) To reduce the price of tickets (3) New tram More vehicles and seating places (2) |
| Few times a month | Quality, better conditions Reliable and more frequent (3) Less crowd Modern vehicles (2) Customized tickets according to the destination There should be only one public transport service company The public transport market should be more competitive, not monopolistic. Everything (2) Better hygiene and behavior of employees |

| | |
|------------------|--|
| | Wi-Fi |
| Few times a week | Safety (3) |
| | New vehicles (3) |
| | Frequency (2) |
| | Cleanliness (2) |
| | Better employees (2) |
| | You never know whether the bus will take you all the way to your destination or it would stop somewhere (therefore you lose your money you pay for the ticket and you are late in most |
| | More comfortable |
| | Everything (2) |
| | Nothing |
| Few times a year | Cleaner (4) |
| | Better transport (3) |
| | Safety (3) |
| | Better connectivity and more available routes |
| | More vehicles with newer production date |
| | frequency (7) |
| | Less crowd (2) |
| | Educate people manners in public transport |
| Never | All (2) |
| | Speed, reliability and frequency (2) |
| | Don't know |
| | Not planning to use it |

Mainly answers were related to three broad topics. Frequency and reliability is very important. Second issue that was pointed is related to the conditions in the vehicles. The respondents ask for better quality, better hygiene and more clean vehicles. The third group of possible improvements is related to the employees and their behaviour. The complaints are related to the manners of drivers and lack of politeness. One more response that was repeated few times is safety during ride.

When all respondents were asked to say whether they agree or disagree with certain attributes of public transport the responses corresponded with answers from non-users. The number of surveyed people that thinks it is overcrowded is 148 (61.9 per cent). Around 45 per cent thinks it is not safe. More than 60 per cent states that the vehicles are not modern and not clean.

Discussion

The purpose of this study is to investigate which are the problems in public transport perceived by its users and which solutions may make public transport more attractive to car users. With such knowledge, it will then be possible to suggest how public transport can adapt its service offering to car users.

The results of this study indicate that public transport services need to be improved.

This is due to the perception that current public transport services are not attractive enough.

The generality of these results is implied by the fact that they are in line with previous research findings from other countries (Curtis & Headicar, 1997; Kingham et al., 2001; Shannon et al., 2006).

How can public transport be improved and become attractive? In response to this question, the results showed that increased service frequencies, reliability, cleaner and newer vehicles were stated by car users to be reasons for increasing their use of public transport. Similar results have been shown in other studies (Kingham et al., 2001). Even if an improved public transport system would be provided in medium-size cities, it would probably still be the case that car users would have to make sacrifices, especially initially because of their known difficulties in changing an acquired car-use habit (Fujii & Gärling, 2005).

Furthermore, it is unlikely that a public transport service would fully cater to car users' needs as regards time and flexibility. In order to increase public transport use, it is thus also essential to make car use less attractive. It is not likely in the near future that conditions governing car use in medium-sized cities will deteriorate due to congestion. Other measures need to be taken to reduce the relative attractiveness of car use, for instance the prohibition of car traffic in various zones, parking restrictions, and general measures such as increasing the cost of owning and driving a car.

Conclusion

One of the undisputable need for the economic development of any society is providing public transport services that are satisfying the growing mobility needs of citizens.

Many public transport companies in other countries, as well as our domestic company have internal indicators of the quality of services they offer. However, those parameters are usually related to some attributes that are important from the aspect of the company, such as travel time, frequency of the service, the average delay, the average age of the buses that serve a route, etc. These measurements have internal utility but in many cases are not valid for specific actions to improve user welfare.

The studies on quality must be not only based on certain standards but on combination of set quality criteria and level of user's satisfaction. The public authorities, no matter they are regulators or providers, must establish levels of quality that maximize user utility.

Related to the above mentioned, this study provides an interesting insight into the satisfaction of users. Likewise, it determines attributes that need to be improved in order for non-users to become users. Frequency, reliability, safety, cleanliness are the characteristics that need to be main concerns of future strategies of public transport companies, especially in a market that once used to be monopoly and is transforming to more competitive market.

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BRAND LOYALTY IN THE TIME OF CRISIS

CASE OF VOLKSWAGEN IN BOSNIA AND HERZEGOVINA

Damir Dinarević

International Burch University
Francuske revolucije bb, Iliča
Sarajevo, Bosnia and Herzegovina
damir.dinarevic@gmail.com

Abstract: In this study the customers' loyalty of company Volkswagen will be discussed. The issue is very attractive, since the company was facing crisis being accused for software cheats on pollution checkouts. Since they are present in Bosnia and Herzegovina for many years, and some parts were produced on this area, it is suitable that market of Bosnia would be researched to check how strong loyalty of customers is. The survey was created in order to collect data. In three parts of capital city Sarajevo (Sarajevo City Center, Grand Center and Old Town) people were randomly surveyed. Regression analysis was done, where trust in brand was dependent variable. We found that trust in brand is positively related to brand loyalty, discovering that Bosnian customers are loyal to Volkswagen. Studies like this can be done in other countries as well, helping Volkswagen to rebuild trust in customers who were affected by this crisis.

Keywords: Customer Loyalty, Brand Loyalty, Volkswagen, Bosnia and Herzegovina

Introduction

Achieving customers' loyalty is the aim of the every company, but once the company has customers' loyalty; it needs to try to keep it as well. Volkswagen was in crisis in September 2015, because of the scandal in press that Volkswagen cheated on CO₂ emission tests. This crisis put a company in very bad position, many customers of Volkswagen asked for refund, and the news spread out quickly throughout the world. Stocks of Volkswagen fell sharply, and it started losing hundreds customers daily.

Market of Bosnia and Herzegovina is small market for Volkswagen, but there are still many loyal customers of Volkswagen. Their loyalty is connected to the production of Volkswagen parts and complete products twenty years ago. Workers of the company spread out good word of mouth to all their family and friends and to the new generations. Thus, most of the people in Bosnia and Herzegovina grow up listening only well about Volkswagen. The unconditional loyalty of customers on Bosnian Herzegovinian market was interesting to investigate in the time of crisis in which Volkswagen appeared to be in fall 2015.

All the efforts taken to create strong brand are done in order to have loyal customers, who will attach to the brand emotionally and on regular level. Therefore we need to define brand loyalty, and all the factors influencing it. (Lau & Lee, 1999) defined brand loyalty as behavioral intention to purchase products of certain brand or to encourage other people to purchase that brand. As a support for this definition (Banks, 1968) in his study proved that there is strong relationship between actual purchase and behavioral intention towards a brand.

Having loyal customers is very important for companies. They can maximize profit of the company because loyal customers are willing to purchase more frequently; spend money on trying new products or services; recommend products and services to others; and give companies sincere suggestions (Haghkhah, Hamid, Ben, Ebrahimpour, Roghanian, & Gheysari, 2013). Consequently, brand loyalty improves the success and profitability of a company.

Many marketers and companies tried to define loyalty. Loyalty can be defined according to a (Brown, 1952) as a subset of repeat purchase behavior and intention to repeat the purchase. (Aaker, 1991) defined brand loyalty as a measure of the attachment that a customer has to a brand. (Dick & Basu, 1994) investigated customer loyalty, and they defined it as strength of the relationship between patronage behavior and attitudes towards a brand. (Griffin, 1995) took different approach defining customer loyalty as a resistance of customer to discounts provided by competitors, and regular purchase and recommendation to friends of the company's products and services.

Brand loyalty involves many concepts and factors that need to be understood and investigated. Some researchers define it taking in consideration many complicated factors while others are trying to simplify and create a base for understanding core of brand loyalty. For example (Oliver, 1999) defined brand loyalty taking in consideration many dimensions. According to him brand loyalty is "a deeply held commitment to rebuy or re-patronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior." So, we can see that there are many ranges of dimensions included in his definition such as cognitive, affective, conative, and action.

On the contrary, many published literature mention that there are three main streams of brand loyalty. Those are behavioral loyalty, attitudinal loyalty and integrated or composite loyalty. Attitudinal loyalty can be defined as the level of psychological attachments and attitudinal advocacy of customer to the product or brand (Rauyruen & Miller, 2007). Essentially, the degree to which a consumers' character towards a service is favorable is denoted by attitude (Kay, 2006). Composite loyalty is the combination of behavioral and attitudinal loyalty. In other words composite loyalty includes repurchase intention and attitudinal advocacy of the brand. Composite loyalty is a dedication on the part of the customer to maintain a relationship and a devotion to buy the product or service repeatedly (Oliver, 1999).

(Gommans, Krishnan, & Scheffold, 2001) identified brand loyalty through similar dimensions explained previously (cognitive, affective and behavioral intent). They added also the perception of the company toward creating brand loyalty, pointing out that companies are relying considerably on mass media communications for brand image building. Also they pointed out that creating satisfaction in customer doesn't mean that they will be loyal to a brand. But, loyalty implies satisfaction and consequently according to (Roustasekehravani, Abdul Hamid, Haghkhah, & Pooladireishahri, 2014) there is asymmetric relationship between satisfaction and loyalty. Thus, something in between is needed to bring satisfaction to loyalty.

Brand value can be defined as "that extra money made by a company or can be made from the selling of its products in solely way only due to the name of its brand" (Quester, Pettigrew, Kopanidis, Hill, & Hawkins, 2014). The corporate statement of Volkswagen Group is "innovation for everyone", which represents their core values which they want to bring to consumers (Volkswagen official page). Each of their

brands represents high technology and German engineering skills which are symbol for quality. That is reason why customers are willing to spend more money to obtain Volkswagen and not another brand. Another value that Volkswagen is bringing to the market is affordable price. That is their strength which is there for every brand they produce, of course taking in consideration segment of market in which they compete.

The brand image represents how customers see the brand, what is their opinion. There are many definitions of brand image, such as "human behavior, customers' wants and desires, connection of customers to the brand" (Quester, Pettigrew, Kopanidis, Hill, & Hawkins, 2014). The brand image can be observed in terms of repeated purchase or in terms of occasional purchase, also the perception of customers toward brand in terms of quality or in terms of price. It is said that Volkswagen is successful to establish images of brands that compete between themselves, but it failed to create complementing brand image (Murphy, 2015). All those concepts need to be taken in consideration when researching loyalty of the customers.

The company Volkswagen is German car manufacturing company established in 1946. Actually company was found by German Labor Front (Gesellschaft zur Vorbereitung des Deutschen Volkswagens mbH) ten years earlier with an aim to produce cars affordable for most of the German inhabitants. Thus, the name of the company Volkswagen means "The People's Car Company" (Volkswagen official website). Headquarter of the company is in Wolfsburg, Germany. At the time they were established the main goal was to develop mass production of an affordable and fast vehicle. The Austrian engineer Ferdinand Porsche helped designing first automobiles produced. During the 70s the Volkswagen cars became more popular and became more sold than Ford Motor Company's model T.

The brand positioning of Volkswagen depends of the brand, since it has many brands for different segments of the market. Generally, Volkswagen wants to be perceived for all brands as quality product, good engineering, German manufacturing skills, durability of product etc. The brand positioning is not easy to achieve, thus with every new market the Volkswagen enters, they try to continually work on brand positioning in the minds of consumers (Murphy, 2015). Volkswagen is also usually positioned as affordable and innovative, since they are bringing new technology in every product and make it affordable for different segments of the market.

During the September 2015 the scandal occurred with Volkswagen tests for pollution emission. It is said that Volkswagen cheated tests on 11 million diesel cars worldwide (Topham, Clarke, Levett, Scruton, & Fidler, 2015). Those cars were made to show reduced level of emission of nitrogen oxide on tests, but in reality they released approximately 40 times more than what is standard by EPA. This scandal ruined Volkswagen reputation and caused many loyal customers to change their opinion about the company (Topham, Clarke, Levett, Scruton, & Fidler, 2015).

The Volkswagen actually developed a system that was helping car to use fuel very efficiently. The system is called a common-rail fuel injection system. This system is leading to better fuel atomization through allowance of high precision electronically controlled fuel delivery and high pressure of injection. It is also bringing improved air/fuel ratio regulation, and by extension enhanced control of emissions. It is all well explained theoretically, but it needed to become reality. The Volkswagen developed new system, called a urea-based exhaust after treatment system. This system claimed that Volkswagen engines will meet US emission requirements, and even be cleaner than the requirements are asking, and still bring good performance at the level of

other Volkswagen engines. However, the theory did not meet the reality. Those systems did not combine good fuel economy and compliant nitrogen oxide emissions. In order to meet standards of US the Volkswagen programmed the cars to show low emission of nitrogen oxide on the laboratory tests. Thus, the car still showed good fuel economy and low emission instead of real high nitrogen oxide emission. It said that this cheating affair primarily affected 1.2 and 1.4 liter diesel engines and the 1.4 liter motor with a cylinder cut-off, the petrol engine (Hotten, 2015).

There are many countries that are investigating Volkswagen group within their boundaries in order to find if they also equipped the vehicles in those countries with cheating software. The most rigorous is European Union and United States. European Union is considering recalling Volkswagen loans, and is planning to establish a federal authority to oversee those emissions of cars. Another consequence of those cheating software is fall of value of stock of Volkswagen group. The stock values were pretty much stable at the beginning of September, but when the results of tests were reviled the values of stocks sharply decreased and keep decreasing after that.

Connection of Volkswagen with Bosnia starts in early 70s. In that time in Bosnia and Herzegovina there was factory that produced certain car parts, called *Tvornica Automobila Sarajevo* (TAS). TAS translated on English means Factory of Automobiles Sarajevo. They produced some parts for Volkswagen, and then they started producing some complete models of their cars. The Volkswagen owned 49 percent of the TAS shares, while another Bosnian Company "Udružena Metalna Industrija Sarajevo" (UNIS) owned 51 percent of shares (Reuters, 2008).

Nowadays, there is no complete production of Volkswagen cars, but some parts of the cars are still produced in Bosnia and Herzegovina. The company from Gorazde Bekto Preciza is also producing some parts for Volkswagen, which they either sell on domestic market or send to the factories in Germany for production of all cars for European market. In 2008, there were negotiations to transfer the production factory from Slovakia to Volkswagen Bosnia and Herzegovina, which would bring 600-700 new workplaces to the Bosnia (Reuters, 2008).

People in Bosnia value engineering and quality of Volkswagen products, especially because they were also producing them once and also because the old models are still used. Since it once provided many workplaces, and because old generations are spreading good word of mouth to the new generations, the Volkswagen brand is very much appreciated in Bosnia and Herzegovina, and it has many loyal customers, who would always choose Volkswagen over another brand (Reuters, 2008).

Data

Data for this research is collected by the survey. The survey was done by self-enumeration method of the participant, using consumer intercept method. Random citizens of Sarajevo were asked to fulfill the questionnaire. The method chosen was efficient in sense of speed, economy and control of respondent type. The survey was conducted in March and April 2016 in three different locations in Sarajevo. First destination was in Old Town region, where random local people were asked to fulfill the questionnaire. Second location is newly built shopping mall, Sarajevo City Center, with largest garage in town. Finally, location in Ilijadzka municipality, Grand center, was last place where questionnaire was done. The method, which includes shopping malls, is in literature often called as mall intercept method. To reduce response bias, the items to measure the various constructs were ordered randomly. Also, about half of the total

number of items was reverse-scaled to avoid acquiescence bias. The questionnaire was administered to 20 individuals for the pre-test. The phrasings of some items, as well as the instructions were modified for greater clarity after receiving feedback.

For this study the questionnaire was designed in order to collect the data. Questionnaire was made to target citizens Sarajevo, where sampling unit was individual consumer. There are few studies which investigated customers loyalty created questionnaires in order to measure customers' loyalty. The basis for most of the researches, as well as for these studies is Lau and Lee's (1999) study. They created questionnaire with liker scale for 15 different variables, those variables are Consumer Brand Characteristics, Similarity Between Consumer Self-Concept and Brand Personality, Brand Liking, Brand Experience, Brand Satisfaction, Peer Support, Company Characteristics, Trust in Company, Company Reputation, Company Perceived Motives, Company Integrity, Brand Characteristics, Brand Reputation, Brand Predictability and Brand Competence.

Questionnaire was generally divided into two separated parts. First part is composed of questions concerning respondents' profiles, such as gender, age and income. Second part of the questionnaire is part designed by previously mentioned Lau and Lees' (1999) model. The questions in second part were grouped in the 13 major clusters, which were at the same time variables for our regression analysis. The standardized liker scale from 1 as minimum value to 7 as maximum value was used for the questions.

Questionnaire was fulfilled by the 150 participants. The population of this study is the population of Bosnia and Herzegovina. Based on data provided by Agency for Statistics of Bosnia and Herzegovina, the quotas on age, gender and income were used to confirm a representative distribution of consumers in sample.

Table below summarizes the descriptive statistics of the data used for the analysis. For each variable there were 150 observations, and from the table we see the mean and standard deviation for each variable. The mean score is the simple average of all items included in the construct (Lau & Lee, 1999). The scores for mean for all variables range from 3.51 to 5.91. The lowest mean has Brand experience variable, while Brand Reputation has the highest mean.

Standard deviation shows how much the value of variables differs from the mean value for the variable. The standard deviations for variables vary from 0.83 to 1.35. Thus, the means and standard deviations appear to be acceptable. The lowest standard deviation is for Brand reputation, and the highest one is for Brand experience, just the opposite from means. The mean for each variable is important since mean values of variables for each observation are used in analysis of the data.

Table 3.1.3.1. Descriptive statistics

| Variable name | Mean | Standard Deviation |
|--|------|--------------------|
| Brand Reputation | 5.91 | 0.83 |
| Brand Predictability | 5.46 | 1.01 |
| Brand Competence | 4.90 | 1.31 |
| Reputation of the company | 5.03 | 0.94 |
| Motives of the company | 4.97 | 1.09 |
| Company's integrity | 4.99 | 1.17 |
| Brand Experience | 3.51 | 1.35 |
| Similarity Between Consumer Self-Concept and Brand Personality | 4.70 | 1.30 |

| | | |
|--------------------|------|------|
| Brand Liking | 5.07 | 1.26 |
| Friends support | 4.94 | 1.57 |
| Brand satisfaction | 5.42 | 0.99 |
| Trust in brand | 5.27 | 1.25 |
| Brand Loyalty | 5.09 | 1.17 |

Source: Authors own calculation

The data collected for this study was analyzed through the regression analysis in STATA econometric program. Before the actual regression was done, the reliability of the scales was tested through internal consistency method.

The Cronbach's alpha was used in order to perform internal consistency test. The table below show the results of the test obtained. It is important to mention that values higher than 0.70 are accepted, in case that there is value lower than 0.70 caution must be taken when interpreting results. As it is shown in the table, none of the Cronbach's alpha coefficients is lower than 0.90, thus we can conclude that internal consistency of variable is fine, and further analysis can be done.

Table 3.2.1. Cronbach's alpha results

| Variable name | alpha |
|--|--------|
| Brand Reputation | 0.9417 |
| Brand Predictability | 0.9367 |
| Brand Competence | 0.9349 |
| Reputation of the company | 0.9406 |
| Motives of the company | 0.9429 |
| Company's integrity | 0.9354 |
| Brand Experience | 0.9411 |
| Similarity Between Consumer Self-Concept and Brand Personality | 0.9396 |
| Brand Liking | 0.9358 |
| Friends support | 0.9384 |
| Brand satisfaction | 0.9366 |
| Trust in brand | 0.9349 |
| Brand Loyalty | 0.9344 |

Source: Authors own calculation

Since the Cronbach's coefficients have been acceptable, next test needs to be done before regression analysis. Pearson Correlation Analysis is done to check for correlation between variables. This analysis measure the linear correlation between two variables, where results can vary between +1 and -1 inclusive. The positive 1 means total positive correlation; also the negative 1 means total negative correlation; and finally in case of 0 it means that there is no correlation between those two variables. The highest and most disturbing result is correlation between Reputation of Company and Motives of the Company. It is found that correlation between those two variables is 0.9219. This high correlation should be taken in consideration when regression analysis is done, it can significantly disturb the results. Correlations among all other variables are in the acceptable range.

Results

The regression analysis was done with the data collected. There are two models of regression, first one done using all variables from the survey, and another without Motives

of the company, since this variable was highly correlated with the variable Reputation of company. For the both models the R2 and adjusted R2 are very high, slightly lower in the second model, but it is reasonable since there is one less variable in that model. It is also important to mention that higher R2 was expected since the sample was very much similar to the population of the Bosnia and Herzegovina. However, we can say that the fitted regression equation explains 79% of the variation in Brand Trust.

It is also noticeable that significance of variables is different between the two models. The reputation of the company which was insignificant variable in first model appears to be highly significant in second model. Also, the Brand Reputation which was significant variable at 10 percent significance level in first model appears to be insignificant in another model.

Other variables have pretty much same significance in both models. Thus, we can conclude that the correlation between Reputation of Company and Motives of the company disturbed results in first model, and that this situation was repaired by excluding Motives of the Company in second model

Table 4.1. Results from the Regression Model 1

| Variable name | Coefficient | p-value |
|--|-------------|-----------|
| intercept | 0.7494 | * 0.072 |
| Brand Reputation | -0.1421 | * 0.081 |
| Brand Predictability | 0.1235 | 0.132 |
| Brand Competence | 0.0979 | 0.165 |
| Reputation of the company | -0.0510 | 0.744 |
| Motives of the company | -0.1999 | 0.100 |
| Company's integrity | 0.2093 | *** 0.000 |
| Brand Experience | 0.0146 | 0.782 |
| Similarity Between Consumer Self-Concept and Brand Personality | 0.1658 | *** 0.003 |
| Brand Liking | -0.0533 | 0.458 |
| Friends support | 0.1143 | ** 0.029 |
| Brand satisfaction | 0.2070 | ** 0.015 |
| Brand Loyalty | 0.4248 | *** 0.000 |
| Number of observations | 150 | |
| R2 | 0.7873 | |
| Adjusted R2 | 0.7687 | |

Source: Authors own calculation

Taking in consideration coefficients gotten from the regression analysis, we can see that they are pretty small. None of the variables stand out when observing coefficients. Brand Reputation, Reputation of the Company and Brand Liking are negatively correlated to the Trust in a Brand. But out of those three, only Reputation of the Company is highly significant. This shows us that customers in Bosnia and Herzegovina have negative perception of reputation of Volkswagen, and this situation can be explained through the crisis that happened.

Table 4.2. Results from the Regression Model 2

| Variable name | Coefficient | p-value |
|--|-------------|-----------|
| intercept | 0.7671 | * 0.067 |
| Brand Reputation | -0.1281 | 0.116 |
| Brand Predictability | 0.1092 | 0.183 |
| Brand Competence | 0.0953 | 0.180 |
| Reputation of the company | -0.2785 | *** 0.000 |
| Company's integrity | 0.2176 | *** 0.006 |
| Brand Experience | 0.0054 | 0.918 |
| Similarity Between Consumer Self-Concept and Brand Personality | 0.1755 | *** 0.002 |
| Brand Liking | -0.0458 | 0.525 |
| Friends support | 0.1069 | ** 0.041 |
| Brand satisfaction | 0.2139 | ** 0.012 |
| Brand Loyalty | 0.4342 | *** 0.000 |
| Number of observations | 150 | |
| R2 | 0.7831 | |
| Adjusted R2 | 0.7658 | |

Source: Authors own calculation

Company Integrity, Similarity between Consumer and Brand, and Brand Loyalty are variables are proven to be significant at 1% significance level. Those variables are all positively related to the Trust in Brand, thus we can conclude that loyal customers trust Volkswagen no matter what, and that it is highly important for customers to perceive Volkswagen brand in the same way they perceive themselves.

Satisfaction with the brand and Friends support are significant variables at 5% significance level. Thus, it is shown that all the good word of mouth that people in Bosnia are spreading about the Volkswagen is highly affecting Trust in Volkswagen that customers have. Also, the satisfaction with the brand used is significantly affecting whether customers in Bosnia and Herzegovina will trust Volkswagen company or not.

The variables were also checked for multicollinearity, since there can be correlation due to the combined effect of independent variables. Multicollinearity exists when two or more independent variables used in the regression are correlated (Lau & Lee, 1999). If a high degree of correlation exists, it is then difficult to determine the contribution of each independent variable, because their effects are confounded (Lau & Lee, 1999). Since the multicollinearity may arise due to the combined effect of two or more independent variables, a common measure for assessing pairwise and multiple variable collinearity is the variance inflow factor (VIF), which tells us the degree to which each independent variable is explained by the others (Lau & Lee, 1999). The variables were checked for multicollinearity, since there can be correlation due to the combined effect of independent variables. Results of VIF are shown in table below, since the cutoff threshold is 10, no variable needs to be cut off.

Table 4.3. VIF analysis results

| Variable name | alpha |
|---------------------------|--------|
| Brand Reputation | 0.9417 |
| Brand Predictability | 0.9367 |
| Brand Competence | 0.9349 |
| Reputation of the company | 0.9406 |
| Motives of the company | 0.9429 |

| | |
|--|--------|
| Company's integrity | 0.9354 |
| Brand Experience | 0.9411 |
| Similarity Between Consumer Self-Concept and Brand Personality | 0.9396 |
| Brand Liking | 0.9358 |
| Friends support | 0.9384 |
| Brand satisfaction | 0.9366 |
| Trust in brand | 0.9349 |
| Brand Loyalty | 0.9344 |

Source: Authors own calculation

Conclusion

The brand loyalty cannot be achieved easily, but it can be destroyed in a minute. Still, creating strong brands and developing emotional attachment of brand with customers, can decrease help companies not just for competition, but also in time of crisis. The value of loyal customers is that they stay with the company in the time of crisis. Volkswagen company had crisis in September 2015, many of their customers felt betrayed and their reputation was harmed on a global level. Still, there will always be customers who not only stick to the Volkswagen brand but also defend it damaging other brands on the market.

On Bosnian market Volkswagen has deep history and many customers who developed emotional connection with the brand. The reputation of Volkswagen on this market is very high, which can prevent customers from switching to another brand.

We found that trust in brand is positively related to brand loyalty, discovering that Bosnian customers are loyal to Volkswagen. This can be significant for Volkswagen in their attempt to repair the situation after the crisis. Loyal customers, who are not affected by the crisis, should be recognized by Volkswagen and rewarded. Rebuilding the trust with consumers, whose loyalty was affected by the crisis, should be priority of Volkswagen.

As shown previously brand loyalty plays very important role in todays' market. Every company should pay much attention in order to create and keep loyal customers. According to our analysis the company reputation is disturbed very much, and people are questioning real motives of the company. It is shown that people in Bosnia and Herzegovina are still loyal to Volkswagen brand, they trust it a lot, but for Volkswagen as a group, the reputation has been disturbed. Those results show that market of Bosnia and Herzegovina was affected by the crisis in September, but that there are many people who would defend Volkswagen, and who are loyal to it still.

Studies like this can be done in other countries as well, helping Volkswagen to rebuild trust in customers who were affected by this crisis. Further research could study trust in a brand over time to discover how brand, company and consumer-brand characteristics influenced consumers' trust before and after the crisis, so the effects of the crisis could be stated. Additionally, new, more current methods can be applied, since the method of Lau and Lee (1999) is starting to outdate slowly. As another methodology suggestion, the panel data of countries affected by the crisis can be analyzed, since just one country cannot explain real situation on the market, especially if it is small market as Bosnian market is.

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THE EFFECTIVENESS OF ADVERTISING IN SPORT VIDEO GAMES: A COMPARISON BETWEEN SVG ADVERTISING AND TELEVISED SPORTS ADVERTISING

Eldin Kurtić

International Burch University
Bosnia and Herzegovina
eldin.kurtic@outlook.com

Erkan İlgun

International Burch University
Bosnia and Herzegovina
erkan.ilguen@gmail.com

Abstract: In today's competitive business, marketers are trying to find the most effective way to promote their products and services, and reach a greater audience. Since the introduction of the internet, marketing professionals have been using digital advertisements more and more. It is easy, cheap and they can reach a huge population which would be impossible to reach by other means. Another way to advertise digitally is the gaming industry. This paper focuses on finding how effective this type of advertising really is. In the first part of the paper, a brief introduction and an overview of previous research on this topic will be presented. The following part focused on investigating if participants who played a sports video game had a higher recall rate and purchase intention of advertised products than participants watching a televised football game. Evidence from the gathered data suggests that advertising via video games is indeed more effective than televised gaming. Furthermore, different variables like satisfaction level and gaming experience were tested in order to see if they had an effect on increasing recall rate of gamers. Again, the evidence was sufficient to conclude that these variables did increase the recall rate of advertisements in sports video games. As such, this paper provides some justification to companies willing to invest into marketing their products in video games, and are reassuring the companies that already do.

Keywords: sports video game (SVG), gamers, in-game advertising, buying intent (purchase intent), recall.

Introduction

Since the advancements in technology, people have been spending their time more and more with television, computers and consoles. When it comes to advertising however, one big market people don't talk about very much is the gaming industry. The International video game revenue is estimated to be \$81.5B in 2014 (newzoo.com). This is more than double the revenue of the international film industry in 2013 (UNESCO Institute for Statistics. Retrieved 1 November 2013). In 2015 it was estimated at US\$91.5 billion (newzoo.com).

In the U.S. an astonishing 155 million people play video games, of which whom are 44% female and 56% male gamers. It is also interesting to note that the average gamer is 35 years old. This comes as a surprise, since people usually connect video games with kids and teenagers. The same study found that 47% of the gamers felt that video games

provide more value for their money, compared to DVDs (28%) going to movies (14%) and music (12%).

Many companies have realized that the gaming industry is a market that has huge potential, so they started advertising their products within this industry. Many advertise their products via streaming websites, where people can watch popular gamers play video games, others however decided to market their products within the games itself. This is especially true for sports video games, like Formula 1, Soccer, Basketball and other sports games. The reason companies choose sports games for advertising over other kinds of games is that advertising in these games comes natural. This is due to the fact that real-life sport games have billboards all around the place, so we are used to them being there in video games too. They don't present a distraction from the game, because it feels natural having them there. On the other hand such advertisements would be a nuisance in first person shooter games, because they would distract players from enjoying the game as much.

Another thing important to note is that advertising via video games can reach an audience that other means of advertising probably can't. As mentioned before, the gaming community has less intentions of watching TV or going to the movies since they believe video games give them more value for money. Consequently, advertising in video games is an easy way of reaching this specific audience. Many organizations know about this and that's why they started to promote products in video games that would suite such an audience. For example, Kingston and Asus are visible at almost every gaming event, knowing that they will reach a higher audience there, rather than on television or at a sport stadium.

However, even though this industry is rapidly increasing, there is very few studies investigating the effectiveness of in game advertising, and even less has been done in comparing the effectiveness of in game advertising to advertising of televised games. Therefore, the aim of this study is to investigate if the recall rate of advertisements in video games is higher than the recall rate from TV broadcasted games. In addition to this, this study will also investigate if the level of video game consumption has an effect on the recall rate of advertised products. Therefore, the three hypotheses this study will investigate are:

1. There is a significant difference in the recall rate of advertisements in a sports video game compared to a TV broadcasted game.
2. There is a significant difference in the buying intent of products advertised in a sports video games compared to a TV broadcasted game.
3. There is a positive correlation between the experience level in video games and the recall rate of advertised products.
4. There is a positive correlation between the satisfaction level in video games and the recall rate of advertised products.

The purpose of this paper is to find if in-game advertising is a good alternative to traditional TV advertising. In addition, this paper investigates different determinants affecting the recall rate of gamers.

Literature review

Review of past research

Recent research of in-game advertising has been focusing on its effectiveness. For example, Walsh, Zimmerman, Clavio, and Williams (2014b), investigated if there is a difference in the type of advertisement (visual signage or verbal in-game announcements) on the brand awareness in a sports video game. Similarly, Cianfrone and Zhang (2013) investigated the effectiveness of in-game advertising and came to the conclusion that the recall rate of advertisements was positive. They also suggested that in-game advertising could be a cheaper alternative for smaller companies to advertise their products effectively.

Additionally, Michael Bode (2012) researched the effectiveness of in-game advertising compared to advertising via TV broadcasting. He used infrared eye-tracking tools on his participants in order to establish how much advertisements they could recall from playing a sports video game compared to watching a real TV broadcasted game. He came to the conclusion that in-game advertising was more effective, meaning that it needed less glances on average to recall an advertisement. However, in order to use the eye-tracking tool effectively, it had to be calibrated, which meant that the participant's freedom of movement was limited.

Recently, it has been hypothesized that advertising in games could be more effective than TV advertising. However, there is some issues with this that have to be addressed. Lang (2000) explained that gamers have limited capacity for processing information. Gamers have to use their cognitive resources for playing the game, and for processing information of advertised brands. Therefore, gamers who are more proficient in playing video games will use less of their cognitive ability for playing the game and will have a higher recall rate of advertisements than gamers who are less proficient at the video game (Leng, 2015).

Schneider & Cornwell 2005 discussed that while devoting attention to playing a game, the player will have less available attention capacity to process the additional stimuli of advertisements in a game. Yang, M. et al. (2006) and (Lee & Faber, 2007) also discussed this. Due to this fact, Kim, Walsh, & Ross (2008) concluded that in-game advertising is less effective than televised advertising.

On the other hand, some argue that the level of involvement can have a big impact on the recall rate of in-game advertising. For example, if the video game is exciting and fast paced, gamers will experience a higher level of involvement and may notice more in-game advertisements (Leng et al., 2010). Sport video games are interactive and create an environment where the gamer is stimulated to think, engage and be creative (Nelson, Keum, & Yaris, 2004). Furthermore, Cianfrone et al (2008) investigated the influence of sport video game consumption on brand awareness and found that it was significant. In addition to this, many argue that the placement of advertisement can be a big factor when it comes to recall rate in SVG's, due to the fact that our eyes are mostly focused on the main objective of the game (the ball, players, cars). Advertisements that appear at places that are located centrally will be recalled at a much higher rate than advertisements appearing at locations that are on the sides. (Schneider & Cornwell, 2005; Acar, 2007; Chaney, Lin, & Chaney, 2004).

The researches above suggest there are many variables that can influence positive or negative levels of brand awareness in SVG's. This topic definitely needs more careful

studies in order to determine how effective SVG advertising really is. This study will try to investigate and compare the recall rates of people watching a televised sports game and gamers playing a SVG. This study will also investigate the participant's attitudes towards the advertised brands and their buying intent.

Brand awareness

Brand awareness is mostly connected to recognition and recall of advertisements or sponsorship in different settings (Aaker, 1996; Walsh, et al. 2008). Brand awareness can be aided and unaided. Unaided recall is a type of brand awareness where the consumer remembers different advertisements without giving him any cues (visual or verbal). On the other hand, aided recall is when consumers are given verbal or visual cues in order to remember any advertisements or sponsorships. Aided recall should always be lower than unaided recall, but it doesn't mean it is more effective way of analyzing brand awareness. If people are not familiar with a brand they probably won't recall their name, which doesn't mean that haven't seen it.

Purchase intention

Purchase decision is described as a form of decision-making which studies why consumers buy a specific brand (Shah et al., 2012). Others explain purchase intention as a setting where consumers decide to buy a particular product or service in a particular condition (Morinez et al., 2007). Purchase intention is a variable that can directly determine the effectiveness of the advertisement. If the recall rate of an advertising or sponsorship is high but people are not likely to buy it, than it wasn't effective. Measuring only recall rate would result in a bad understanding of the advertising effectiveness.

Methodology

Data collection

For this study a total of 100 participants were recruited. The average age of the participants was 23.70, with the youngest being 16 and the oldest 55. Out of 100 participants, 91 were male and 9 female. Two separate studies have been conducted, each study consisting of 50 volunteers. One group were people who played Pro Evolution Soccer on a PlayStation 4 for 10 min, and were mostly recruited at a local internet café. They were selected randomly and paid a voucher for an hour of free playtime at the internet café. The second group of 50 participants had to watch a recorded televised game for 10 minutes. They too were recruited at the internet café and have gotten a voucher. The whole experiment had taken 10 days to finish, approximately interviewing and testing 10 participants a day. The purpose was to see which group would have a higher recall rate of advertisements, and to investigate their buying intent of the advertised products. In order to have more exact results, the advertisements on the console game and the recorded TV game had to be the same. For this reason a recorded game of Bayern Munich vs Athletico Madrid had been used, because the console game had the same advertisements as the Champions League match. 10 different products had been advertised during the game (Gazprom, Sony Xperia, Playstation 4, Lays, Heineken, Uni Credit, Nissan, Adidas, Pepsi and Mastercard).

Two surveys were formulated in order to investigate the hypotheses. In the first part of the survey, both contained question about age, sex and education. The second part was about recall of advertisements. For this study aided recall was tested. Participants had

to answer what advertisements they could remember from the video game/televised match. Participants had to mark advertisements they saw on list of 20 advertisements, of which only 10 were right. Only right answers were used for this study. The third part of the study investigated the buying intent of the participants. Participants were asked to answer how likely they would buy the advertised products and services. For this a Likert scale from 1-5 was chosen, not very likely/very likely. Furthermore, gamers were asked to describe their level of satisfaction while playing the game on a likert scale 1-5. Participants from the gamer group were also asked to answer how much time they spend playing video games on a weekly basis. For this another likert scale has been used.

In addition to this, both groups were asked if the advertisements present a distraction from watching/playing the game. The gamer group was also asked if they would prefer more advertisements in sports video games if that meant a lower initial price for the game.

Data analysis

In order to analyze the data gathered from the surveys, SPSS version 23 was used. For the first part of the survey descriptive statistics was used.

In the second part there was two samples from two different groups, so a two sample t-test was used to calculate if there is a difference in the recall rate of advertisements between the two groups. In addition, another independent t test was used to calculate if there is a difference in the buying intent of the advertised products between the two groups.

For the last part a Spearman correlation analysis was used to establish if increased levels of video game consumption would result in a higher recall rate of in game advertisements. Furthermore, another correlation was used to investigate if increased levels of involvement (enjoyment) would result in a higher recall rate of advertisements in video games.

Results

Results of part one – descriptive

In table 1. the group statistics for the number of recalled advertisements are presented. Gamers recalled on average 3.86 advertisements, whereas participants watching a televised game only recalled 2.82 advertisements on average. This means that gamers recalled 1 advertisement more on average than participants watching a televised football game.

Results of part two – recall rate and buying intent comparison

Table 1: Group statistics for recall rate

| | Group | N | Mean | Std. Deviation | Std. Error Mean |
|--------|-------|----|------|----------------|-----------------|
| Recall | 1 | 50 | 3.86 | 2.450 | .346 |
| | 2 | 50 | 2.82 | 1.722 | .244 |

Table 2: Independent t test for recall rate

| F | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | |
|--------|-----------------------------|---|------|------------------------------|-----------------------|---|-------|-------|-------|
| | | .Sig | t | Sig. (2-tailed) | Std. Error Difference | Confidence Interval 95% of the Difference | | Lower | Upper |
| | | | | | | Lower | Upper | | |
| Recall | Equal variances assumed | 4.736 | .032 | 2.456 | .016 | .423 | .200 | 1.880 | |
| | Equal variances not assumed | | | 2.456 | .016 | .423 | .198 | 1.882 | |

An independent t test was conducted to determine if there is a difference in the mean recall rate of advertisements between a sports video game and a televised game. This is shown on table 2. Looking at Levene's test for equality of variances the level of significance is 0.032 which is less than 0.05 and therefore equal variances are not assumed. From looking at the bottom row (equal variances not assumed), the level of significance is 0.016 which is less than 0.05 and therefore is highly significant. The 95% confidence interval was 0.198-1.882. Looking at these results the null hypothesis can be rejected, which means that there is a significant difference in the recall rate of advertisements in SVG's compared to televised advertisements.

Table 3: Group statistics for buying intent

| | Group | N | Mean | Std. Deviation | Std. Error Mean |
|---------------|-------|----|--------|----------------|-----------------|
| Buying_intent | 1 | 50 | 3.5005 | 1.05577 | .14931 |
| | 2 | 50 | 3.0375 | 1.11635 | .15788 |

To test the difference in the mean buying intent between gamers and participants watching a televised football game an independent sample t test was used. Table 3. shows the group statistics for this test. On average the gamers purchase intent of advertised products was higher by 0.5 compared to participants watching a televised sports game. On the second table the independent t test is presented. Levene's test for equality in variances has a significance level of 0.993 which is higher than 0.05, thus equal variances are assumed. The upper row shows a t statistic of 2.131 with a significance level of 0.036 which is less than 0.05. The 95% confidence interval was 0.03179-0.89423. Looking at this it can be concluded that there is a positive significant difference in the mean buying intent of gamers compared to people watching a televised sports game.

Table 4: Results of the independent t test for buying intent

| Buying intent | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | |
|-----------------------------|---|------|------------------------------|--------|-----------------|-----------------------|---|--------|
| | F | .Sig | t | df | Sig. (2-tailed) | Std. Error Difference | Confidence Interval 95% of the Difference | |
| | | | | | | | Lower | Upper |
| Equal variances assumed | .000 | .993 | 2.131 | 98 | .036 | .21730 | .03179 | .89423 |
| Equal variances not assumed | | | 2.131 | 97.696 | .036 | .21730 | .03177 | .89424 |

Results of part three – Testing correlations

To test the third hypothesis a correlation was used. Since gaming experience satisfaction level are measured on an ordinal scale using a likert scale, the Pearson's Correlation couldn't be used in this research. A Spearman's correlation had to be used instead. Recall has a positive correlation with gaming experience. The correlation coefficient is 0.799 which presents high correlation, meaning that higher level of gaming experience will increase recall rate of advertisements. In addition, satisfaction level also has a high correlation, with a coefficient of 0.835 meaning that higher levels of satisfaction while playing a video game will result in increased recall rates of advertisements. The level of significance is 0.000 for both variables and is therefore highly significant.

Table 5: Results of the correlation analysis

| Correlations | | | | | |
|--|-------------|--------------------------|--------|-------------|-------------|
| | | | Recall | Consumption | Involvement |
| Spearman's correlation | Recall | Correlation Coeffi-cient | 1.000 | .799** | .835** |
| | | Sig. (2-tailed) | . | .000 | .000 |
| | | N | 50 | 50 | 50 |
| | Consumption | Correlation Coeffi-cient | .799** | 1.000 | .720** |
| | | Sig. (2-tailed) | .000 | . | .000 |
| | | N | 50 | 50 | 50 |
| | Involvement | Correlation Coeffi-cient | .835** | .720** | 1.000 |
| | | Sig. (2-tailed) | .000 | .000 | . |
| | | N | 50 | 50 | 50 |
| .(Correlation is significant at the 0.01 level (2-tailed :** | | | | | |

Furthermore, both groups were asked to answer if the advertisements presented a distraction in order to fully enjoy the game/match. 75% gamers answered that advertisements did not present any distraction to enjoying the game, whereas 63% participants watching a televised game said that they didn't mind the advertisements either. Gamers where also asked if they would rather have more advertisements in the game if that meant they could buy the game for a cheaper price. 84% of the gamers answered positive and would welcome more in-game advertisements if they could get the game for a lower prices.

Conclusions and limitations

This study tried to provide insight on the effectiveness of in game advertising. The purpose was to identify an alternative strategy to advertise products compared to the mainstream advertisement techniques. Even though gamers recalled more advertisements than participants watching a televised football game, the recall rate was surprisingly high for both groups. The group playing Pro Evolution Soccer recalled 39% of the advertisements while the group watching a televised football game recalled 28%. The high recall rate could be due to the fact that the advertised products and services were among the more popular brands, and therefore participants recognized them easier. Only Lays had a low recall late (18% and 8%), which is an unfamiliar brand in Bosnia and Herzegovina.

The purchase intent of people playing Pro Evolution Soccer was also significantly higher than the group watching a televised football game. Meaning that the average gamer would be more likely to buy a product that was advertised in the game, than someone watching a football game on television with the same advertisements.

This study also managed to find a positive correlation between the gamer's level of experience in video games and the recall rate of the advertised products. The results showed that increased playtime of video games leads to increased recall rate of advertisements. This is most likely due to the fact that gamers who are more experienced in playing video games will use less cognitive resources to actually play the game, and can therefore use more cognitive resources to process other peripheral information like advertisements. In addition to this, gamers who experienced a higher

satisfactory level while playing the game, also had increased recall rate. This means that gamers who enjoy the game more will have a higher level of involvement and therefore recall more advertisements from the game.

Furthermore, the study found that gamers don't mind in-game advertisements and would even welcome more if that meant a lower price for buying the game. This is something the gaming industry should be interested in, to encourage more sponsorship partners which would reduce their expenses for making the game, and ultimately give customers the game for a lower price.

Even though this study managed to find enough evidence to support its hypotheses, there is still some limitations to this study. Firstly, doing such a study on a bigger sample size would bring better results. Unfortunately, due to financial limitations the researcher couldn't create a bigger sample size. It would also be appropriate to test the effectiveness of in game advertising on different types of games too. Moreover, most of the participants were males, since female gamers are rare in Bosnia and Herzegovina. It would be interesting to see someone include female gamers to see if there would be a difference in the recall rate and purchase intent of in game advertisements. In addition, this study was mostly conducted on students and youngsters. A research including more mature and elderly people would bring more appropriate results too.

This study can be used by organizations to justify marketing their products in video games. This is especially true for smaller companies trying to find a less expensive but efficient way to market their products. In game advertising has been found to be lot less expensive than advertising on TV, but could be as if not even more effective.

In conclusion, this paper managed to provide enough evidence that in-game advertising can be more effective than televised advertising. There is still much work to be done in this field in order to fully understand how effective in-game advertising truly is, and to understand what really determines its effectiveness. However, the gaming industry is gaining more importance and relevance, which will also result in more studies to come. Future studies should investigate this further, to provide more evidence to organizations who are investing, or are willing to invest into marketing their products in video games.

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THE IMPACT OF VIRTUALIZATION AND CLOUD COMPUTING TO MODERN BUSINESS

Aida Habul

School of Economics and Business in Sarajevo, University of Sarajevo
Bosnia and Herzegovina
aida.habul@efsa.unsa.ba

Merdžana Obralić

International Burch University
Bosnia and Herzegovina
Merdzana.obralic@ibu.edu.ba

Miza Habul

The Audit Office for Institutions of FbiH
Bosnia and Herzegovina

Dario Frimel

School of Economics and Business in Sarajevo, University of Sarajevo
Bosnia and Herzegovina

Abstract: Nowdays, the increasing application of information technology in modern business and life in general, virtualization and cloud computing are new solutions designed to increase the level of system abstraction and degree of utilization of computer performance. New technologies offer the flexibility, the ability to adapt workloads resources and to realize cost savings of IT infrastructure in terms of administration and support costs. The period when the big companies had a monopoly and control over resources and information are far behind us and the only companies to survive in the future are „smart“ companies. This paper defines the terms virtualization and cloud computing and explains its importance as the challenge of rapid success and growth of the company. Special attention is focused on the savings and its benefits. The advantages of applying virtualization and cloud computing are numerous only in case they are implemented in the right way, although many managers have doubts about this technology. The data is obtained through an online survey which was conducted in the companies in Bosnia and Herzegovina as well as data Forrester Research that determined the current level of application of virtualization and cloud computing in the world and companies in Bosnia and Herzegovina. Besides, it pointed out the guidelines of the future steps.

Keywords: virtualization, virtual organization, cloud computing, smart companies, IT savings.

Introduction

Virtualization is latest trend in technology solutions that are designed to increase system abstraction level and computers performance capacity use. Virtualization is proven software technology that simply transforms IT environment. We are behind the time where big companies had some kind of monopoly and control over resources and informations. Only „intelligent“ companies will survive in the future, with best and fastest information flow.

In times of global crisis, it's very important for companies to achieve lower costs compared to competition, without changing product and service quality they offer. Planned investments in information technology is one of the ways for company to achieve such goal. In this research we will show solution known as virtualization or virtual platform, which enables easier management of information system and achieves savings who were not achievable by other solutions. This paper will show benefits of virtualization because they are primary reason why virtualization has succeeded in previous years. Server virtualization and desktop computer virtualization are two most common implemented types and therefore we'll focus on benefits that these types provide.

IT infrastructure needs a change and virtualization can be a solution. Virtualization has big influence on architecture, infrastructure, processes, operations, people, skills and business in general. Virtual organization enables lowering operational costs and optimal use of resources. Accepting virtualization depends on organization, people need to understand this concept that embraces many questions and solves problems. Being familiar with technology is not enough. Transformation process, from classic to virtual organization, is complex managerial activity.

What is virtualization and what impact does it have on modern business

Constant innovations in fields of information technology make it most dynamic science of today's age. Virtualization is one of the latest innovations in this field which presents attribute of something that should be present but it isn't. Concept of virtualization is based on abstract representation of functionality and resources. For user (human or application) there is no difference between virtual and real functionality, but real values and activities in virtual performance are different than those presented to user. Using virtualization it's possible to achieve lower costs, and this will be most noticeable in larger and more complex systems. Today's powerful PCs based on x86 architecture are projected for one operational system and very small number of applications on it, which leads to very low performance capacity use. Virtualization is the one that solved this problem. As an example, real operational system communicates directly with hardware while virtual operational system has for a user all attributes of real system but it is being run on other real system. Therefore, communication is not being done with hardware but with another system. That other system is taking a role of hardware in communication with virtual system. The work of hardware is being simulated by program language and therefore work we call it virtual system. Virtualization can mean that user through virtual interface is using multiple computers as one.

Work of multiple applications and processes on single physical machine, sharing hardware between multiple operative systems on it, is what is considered virtualization. When we talk about shared hardware, we are talking about processor, memory, hard drive space and networking. With today's presence of powerful machines, we are encountering servers that only for a fragment of their time use resources and are mostly free. That capacity, that is not being used, is something company is not allowed to have because optimization of business is one of the keys to success. Virtualization is allowing us to optimize resources available on servers, so instead buying new machine for operative systems or applications. Through virtual platforms we are able to use existing resources and through that we are lowering costs. This is most noticeable in big companies that have large amount of computers. Lowering costs is not only existent in savings through not buying new computers. Costs are being saved through lowering maintenance costs, having less machines means less maintenance costs and having less computers is also beneficial for companies that are following ecological trends.

One of the biggest advantages of virtualization is that experts in company don't have to plan new infrastructure procurement, operative system installations and all other prework activities. Instead, they can focus installing applications on existing virtual server unit. Applications can be put to use shortly and the time saved from previous mentioned activities can be allocated on improving functionality of information infrastructure and optimization of business processes.

To understand how virtualization works it is very important to understand what is virtual machine and virtual infrastructure. Virtual machine acts like a physical machine, it contains virtual processors, RAM, hard drive and network interface. Also, virtual machine (later in text referred as VM) can standalone run operative systems and applications same as if its physical computer/server. For virtual machine it's characteristic that it is fully made out of the software, which means it doesn't contain any hardware components.

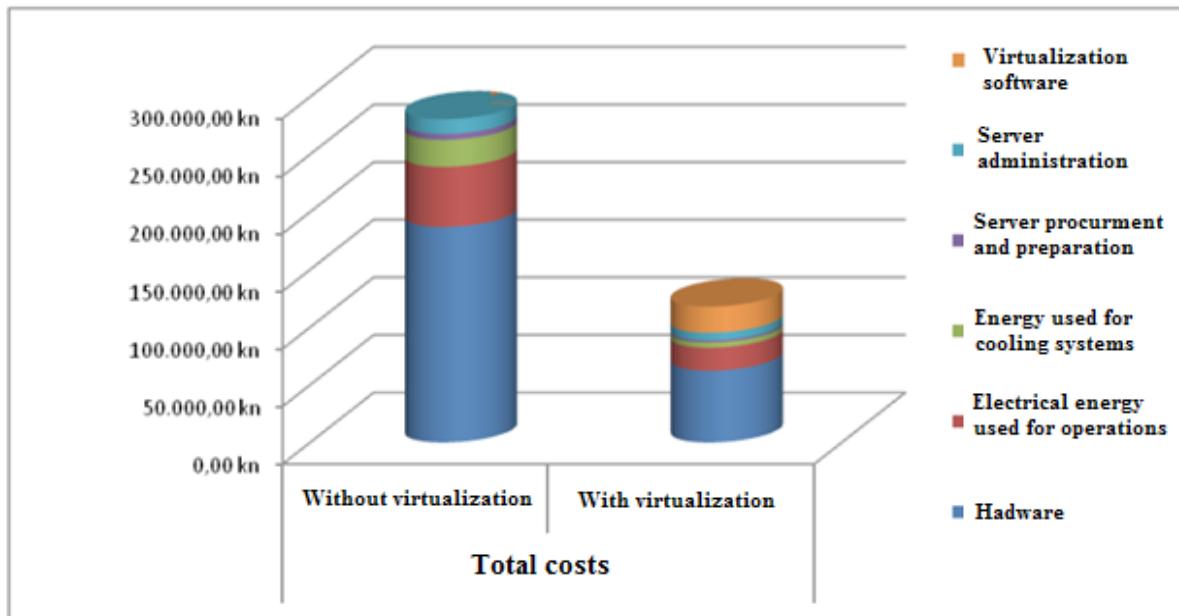
Basic characteristics of virtual machines are:

- Isolation – virtual machines are separated from each other like they are physically separated.
- Compatibility – virtual machines are compatible with all hardware standards based on x86 processors.
- Hardware independence – virtual machines are run independently from basic hardware.
- Virtual infrastructure – it enables sharing physical resources of physical machines on whole infrastructure. VM allows sharing resources of one computer to many virtual ones so we could reach maximum efficiency.

Creating virtual infrastructure allows greater flexibility and higher speeds than using commonly using hardware. System resources, that are needed for individual applications, are distributed to virtual machines that are running those applications. That eliminates costs of installation and configuration of new hardware. As a result we are having maximum capacity usage and exceptional ability to manage valuable IT infrastructure.

Pros and cons of virtualization

There are many virtualization benefits, but we will mention only the most important ones. Cutting down costs: Systems not in use, in present time when optimization of all parts of the business is essential for companies survival, is not something company wants. Virtualization enables optimal use of available resources on servers instead buying new hardware. If we are to do consolidation of servers into one, we are lowering amount of hardware and with that even the physical space it takes. Large companies that have huge systems will have to rent or use less space for hardware and by doing so they are lowering costs. Less physical servers means less electrical energy spent and with that being said, we must take in consideration that fewer servers means less heating in room and less use of cooling systems which ultimately leads to saving costs in long term.

Picture 1: Costs overview before and after virtualization¹

Simple maintenance – if we lower the number of physical servers we have simplified system maintenance, therefore we are lowering number of repetitive tasks that take time. Those tasks are control, configuration, upgrading and similar tasks. Big advantage of system virtualization is easier system migration in virtual environment. It is certain that virtualization makes job easier when it comes to system administrator tasks and others involved in implementation and maintenance of IT equipment, of course additional education is necessary when it comes to managing virtual environments.

Productivity – once virtual environment is set-up IT personnel will perform tasks easily instead of taking hours to finish them. For example, migration from one server to another, or after server crashes and gets destabilized, using virtualization tools it takes only couple seconds to get it back in working state. Using virtualization efficiently IT personnel will become more productive, and by them becoming more productive, downtime of servers will be lowered which increases productivity on whole company level.

Testing – virtualization enables us simple system restore in previous state which is great feature that you want to have when you are testing new applications that could crash server. Before testing, only thing we have to do is make a backup copy of system in case we face some errors during the testing that would crash server. It is not uncommon that we want to test applications or systems before putting them to use. It is recommended to test applications in safe environment where downtime of servers wouldn't hurt business performance or operational functions.

When we are talking about cons of virtualization, we must mention all in one place problem. Biggest issue that is troubling virtualization is that everything is in one place. If error happens on one server that is host of virtual machine, all machines are unavailable. Although this sounds terrifying, it is not. Systems can be secured with redundant servers that will take over all functions in case of crash/downtime. We can take additional measure such as backups that will secure our data. Another issue that virtualization comes up with is new servers.

¹ D. Đorđević, D. Glavašević and D. Knjak (n.d) „Ekonomski učinci primjene softvera za virtualizaciju“

Virtualization demands powerfull servers that support virtualization technology. Although we are lowering number of physicaly needed server units, we can't rely on using old server for virtualization solutions. This could mean additional costs in IT departments budget, but in long term virtualization pays off. When we are talking about number of servers, there is one issue that must be adressed in virtualization. Once we learn how to install servers easily, amount of servers could increase faster than number of administrators that are needed to maintaine them. It's is neccesary to limit resources for virtual servers because we might find ourselves in situation of overburdened virtual server. Compliance and skills of IT personnel play biggest role in this situation. If we are creating virtual machines that are going to be unused just like physical ones used to be, than we haven't optimized our system at all.

Education plays major role in virtualization. To virtualize environment we need to have IT personnel capable of understanding technology for virtualization, therefore education is neccesary for IT staff. Adding new layer of complexity, we are adding a possibility of new problems to come. Solving those problems can significantly increase time of fixing other issues at hand. This only applies if we have uneducated personnel. With proper education and benefits of central management that is brought through virtualization, it is almost certain that intervention times will be lower.

Virtualization in numbers

Virtualization technology use leading world companies, and based on these numbers, we can see how important position virtualization takes:²

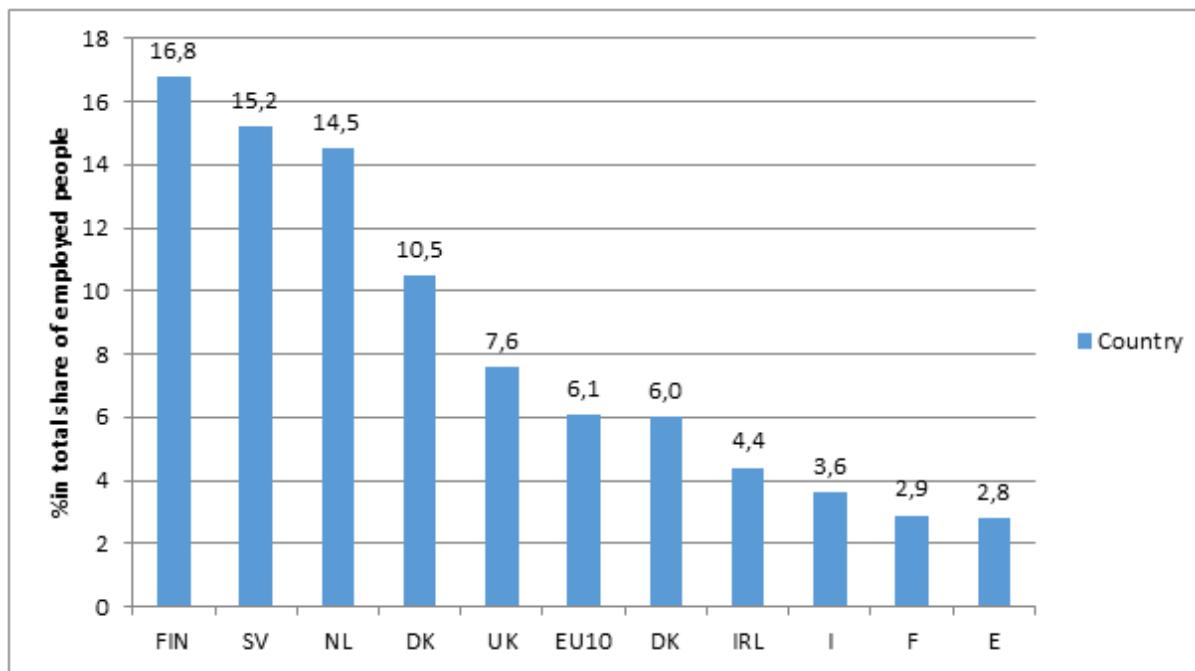
- 100% - companies of top 100 companies use virtualization.
- 98% - of first top 500 companies use virtualization (491 out of 500)
- 96 – of first top 1000 companies use virtualization (955 out of 1000)
- 50 out of top 50 banks use it
- 5 out of 5 top global aerial companies
- 9 out of 10 top chemical companies
- 5 out of 5 top oil companies
- 10 out of 10 top pharmaceutical companies

Development degree of virtual business practice in developing countries

Characteristics of new age, that is business in 21st century are: globalization, knowledge and ICT. Characteristics that affect virtual organizations are: characteristics of market, production process and strategic goals of organization.

² Source: <http://www.vmware.com/company/customers/>

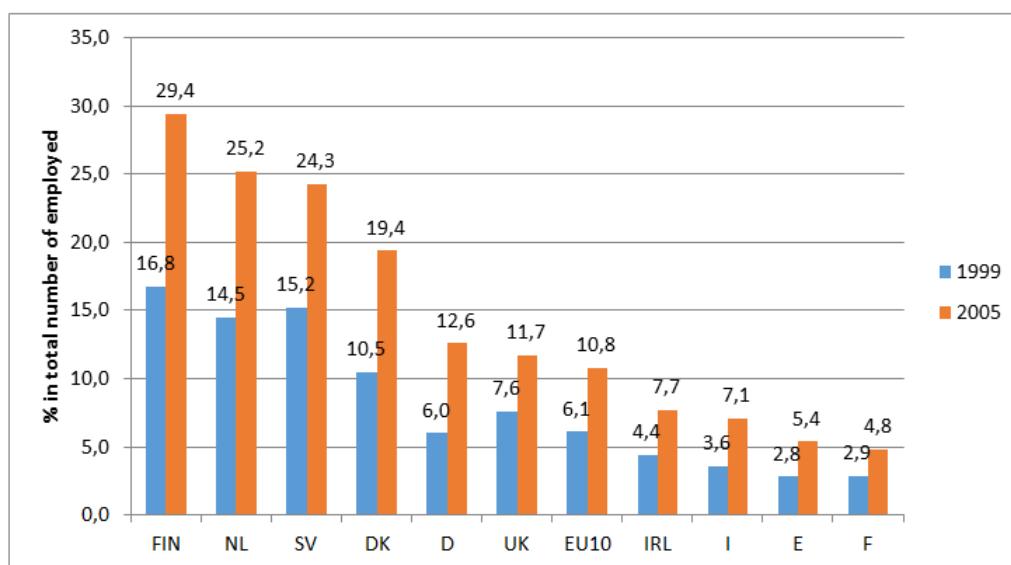
Chart 1: Teleworkers share in developing european countries



As we can see in chart 1, we have presented teleworkers share in total number of employed in developed countries. Biggest share in total number is measured in Finland (16.8%) while that share is lowest in England (2.8%). Although England is on last place, United Kingdom is on 5th place with 7.6% among European countries, positioning itself in front of EU10 (6.1%).

On the next chart we can see data from period of 1999 and 2005. Clearly we can see that with advance in information technology there is advance in share of teleworkers in total number of employed people. In Finland that had biggest percentage in share, there was a leap from 16.8% to 29.4%. Netherland takes second place with rise from 14.5% to 25.2% while United Kingdom has shown rise as well holding position in front of EU10 with 11.7%.

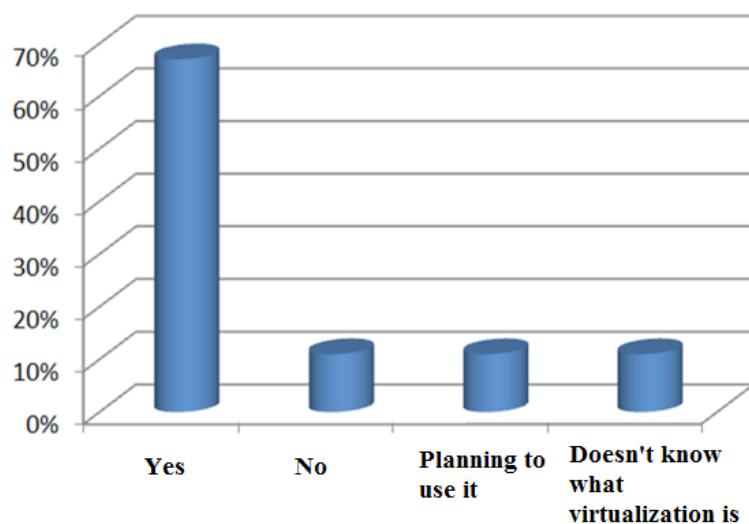
Chart 2: Estimated share of teleworkers in total number of employed in 2005.



We have conducted research in Bosnia and Herzegovina among 100 companies. Research was conducted online through Google Doc questionnaire. Analyzed companies included small businesses (1 to 49 employed), middle businesses (50 to 99 employed), large businesses (100 to 250 employed), very large businesses (250 to 499) and biggest businesses (from 1000 to 4999 employed). Companies were from public and private sector, different industries variating from education, agriculture, media, marketing and other services.

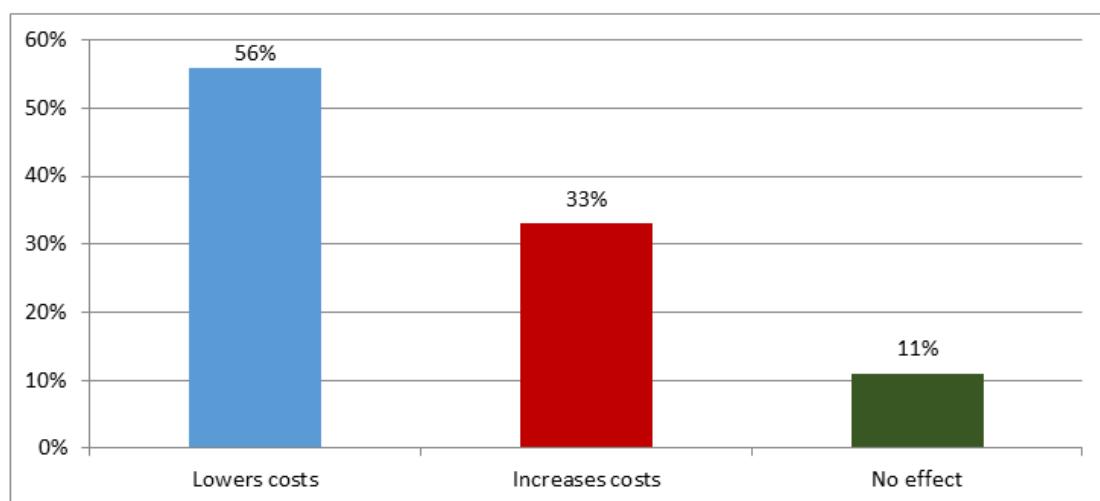
Many of the questioned companies have heared of some sort of virtualization (70%) while 10% of them doesn't even intend to use it. Also, 10% of audience doesn't even know what virtualization is.

Chart 3: Representation of virtualization knowledge and use in Bosnia and Herzegovina



Research showed that virtualization lowers costs in 56% of analyzed companies while it increases them in 33% of the anaylzed companies. Increased costs while using virtualization suggests bad managing of virtualization and insufficiency of skills and know-how.

Chart 4: How does virtualization affect costs in companies in Bosnia and Herzegovina



Conclusion

It's a fact that we all are functioning under some organization and they are changing over the time. Business concept in 21st century is very complex and it requires from organizations to respond to modern challenges. Globalization is strengthening communication and coordination through whole world. It is required minimal respond time on certain changes that are becoming norm and our reality. In that situation, information technology is coming to our aid, offering flexible business structure.

Information technology has evolved from being side kick to managing important processes such as transactions and other important business processes. There is increase in methods of how we store our data, which increased number of servers. Specialized applications for fields like accounting and finance almost always are done on separate, reliable servers with redundant hardware, ensuring business continuity. This combination of factors has transformed IT environment into a mess of isolated, specialized and not enough used servers. Rise of costs is getting bigger because of software complexity and need to manage all the time rising number of data.

Virtualization applicability allows easier managing of information system and enables savings that hasn't been provided by any other solution. IT infrastructure needs a change and virtualization can present one of the solutions. It has big influence on architecture, infrastructure, processes, operations, people and business in general. Therefore, virtual organizations lower costs through optimal use of resources.

What virtualization does? First and foremost, it decreases number of servers, lowering costs in many ways through electrical energy, physical space rents and other direct costs related to maintenance and work on servers. Lowering number of hardware, we are lowering number of personnel that was needed to manage and maintain hardware, lowering additional total costs. Virtualization can be achieved using free software, saving money on expensive licenses.

Constant reduction of budget while keeping expected quality of services is definition of efficient IT according to conducted studies. New technologies promise flexibility, that is, ability to adjust existing resources for operative needs. Most organizations use virtualization and cloud computing, figuring out balance between resource capacity and overload of applications. Research conducted in Bosnia and Herzegovina showed that biggest obstacles in virtualization process are transferring from physical to virtual environment, insufficient cooperation with users and problems with servers. In future years it is expected great increase in implementation of virtualization in Bosnia and Herzegovina. That is confirmed by facts that leading companies in Bosnia and Herzegovina have already recognised potential of virtualization and implemented it and even small and medium companies are going in that direction because they are having opportunities that they couldn't access before because of lack of resources.

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SECURITY IN EUROPEAN TOURISM WITH PARTICULAR ATTENTION PAID TO THE REPUBLIC OF CROATIA

Romina Alkier

Department of Tourism

University of Rijeka , Faculty of Tourism and Hospitality Management

Opatija, Croatia

rominaa@fthm.hr

Korana Radović Nimac

Department of Quality and Controlling

University of Rijeka, Faculty of Tourism and Hospitality Management

Opatija, Croatia

koranarn@fthm.hr

Sanja Lipovac

University or Rijeka, Faculty of Tourism and Hospitality Management

Abstract: Security and the sense of being secure represent an important component in choosing a tourist destination, but also the quality of life of domestic population and stay of tourists in a tourist destination. Therefore, in cooperation with participants in tourism, destinations must enable safe and adequate surrounding for its visitors, and encourage the coexistence with the domestic population. Protection and security in tourism are becoming complex multidimensional terms which cover a great number of components among which are political security, public security, health and sanitation security, protection of personal data, legal protection of tourists, protection of consumers, security in communication, getting authentic data, ensuring the quality of services, etc. Croatia is a member of the European Union, and it monitors trends in the development of tourism on the European Union level and Europe in whole. Personal safety is an important component of choosing Croatia as a destination, and is one of the advantages of Croatia in relation to the competitive countries. Within the research conducted in the paper the focus is on the analysis of safety in tourism of Europe and the Republic of Croatia. The goal is understanding the significance which "sense of safety" has on the choice of European destinations and the necessity of establishment of security measures and the protection of tourists during tourist travel on all levels. Based on the conducted analysis, measures of improvement of security and protection of tourists in European and Croatian tourist destinations will be suggested.

Keywords: Security, tourism, tourist protection, Republic of Croatia, Europe

JEL Classification: L83

Introduction

European Union, as an economic community of twenty-eight states, is the biggest tourist destination in the world. Tourism as a phenomenon which stimulates the development of various economic activities directly and/or indirectly connected with providing services in tourism, and the image of cities, can produce various forms of crimes. Destinations must, in cooperation with stakeholders in tourism, enable safe and appropriate surroundings for its visitors, and encourage coexistence with the

domestic population. As important factors in choosing a destination, safety and sense of security are crucial for the quality of life in tourist destinations. This was particularly visible after 11th of September in 2001 when there was a decrease of international tourist travels due to the terrorist attacks in the United States of America, and European tourists avoided distant destinations, respectively, travelling by plane. Besides that, the quality of life was disturbed in cities exposed to the terrorist attacks (New York, London, Madrid, etc.).

Croatian tourism also registered a decrease, and the drastic fall in tourist movements due to the warfare on the area of the Republic of Croatia, as well as the neighboring countries. But, apart from these extreme security problems which had negative consequences on tourism, there are various security problems in tourism such as various threats for life and health of tourists, threats conditioned by thefts, criminal acts, violence on cultural monuments in the tourist destination, threats due to the vessels, and some activities on sea and mainland, etc.

The subject of research of this paper is security in tourism of the European Union and the Republic of Croatia. The purpose and the goal of the paper are following: to present theoretical characteristics of tourists and security measures, to analyze security in tourism of the European Union with reference on the Republic of Croatia, and the effects which insecurity and sense of insecurity have on international tourist movements.

Safety and tourism development on the European Union level

Tourist policy of the European Union has a goal to maintain the position of the European Union as one of the leading world destinations and maximizing the industry contributes to the growth, employment and promotion of cooperation among European Union countries, particularly through exchange of good practice. The main challenges in tourism of the European Union have been identified among which security and protection have a special place. The challenges are following (Overview of EU Tourism Policy, European Commission):

1. Security and protection – environment, politics and social security, food and accommodation safety, and socio-cultural threats to sustainability;
2. Economic competitiveness – seasonality, regulatory and administrative obstacles, relation of tax system and tourism, difficulties in finding and keeping professional personnel;
3. Technological – keeping up with the information-technological development caused by globalization of information and progress of technology (IT tool for holiday reservation, provision of information through social networks about tourist services, etc.).
4. Market and competition – growing demand for individual experiences, new products, growing competition from other EU destinations.

In June 2010 the European Commission has launched an initiative for adoption of a new joint tourist policy in Europe under the name "Europe world tourist destination No.1". That initiative launched a new strategy and action plan of European Union tourism. Four priorities of actions have been identified (Overview of EU Tourism Policy, European Commission):

- encouraging competitiveness of European tourism,
- promotion of development of sustainable, responsible and quality tourism;

- consolidation of image of Europe as a collection of sustainable, high-quality destinations,
- maximizing potential of financial policy of the European Union for tourism development.

Safety of tourists is included in development of European brand "Quality tourism" in which increasing security of tourists and trust in a tourist product is pointed out as a value of brand. Necessity of further cooperation of the European Commission with state members, tourism industry and other stakeholders is especially pointed out in order to improve security in accommodation facilities, especially considering the fire risks (Overview of EU Tourism Policy, European Commission).

Previously mentioned indicates that the European Commission pays great attention to safety and protection in tourism, in order to improve quality of tourism on the European Union level.

Safety as a motive of arrival in the European Union

Motive is defined as a stimulation of a person on a certain activity due to the satisfaction of a created need (Pirjavec, 1998). From the stated definition it can be concluded that tourist motives are an internal stimulation to a person to include in tourist flows, so tourist motivation as well is an internal impulse for inclusion in tourist flows. One of the most numerous reasons for inclusion of a person in tourist flows is certainly a vacation. It is the most frequent motive. Besides this motive, motives that encourage people on temporary leave and stay outside domicile place are, i.e., hunting, navigation, sports show, visit to a sanctuary, congress, music events, exhibitions, gastronomy, entertainment, relaxing, etc. Motives for travel have changed its character throughout the history. However, security also has a greater significance as an element of tourist offer in motivation of tourist arrivals to a destination.

"Personal safety" and "sense of safety in a country" are not motives which trigger tourists on tourist travel, but can be sorted in key factors which influence tourist's decision about the choice of a tourist destination (Mansfeld and Pizam, 2006). Research conducted by the European Commission in 2005 has shown a decrease of crime, such as auto theft, burglary, robbery, sexual and other assaults in the period from 1995 until 2004 in the majority of the European Union member states, except Belgium, where the research registered growth of number of robberies and thefts (European citizens and the feeling of insecurity, 2006). Out of 15 "old" member countries, and Estonia, Poland and Hungary which were included in the research, 15% of the respondents claimed they were victims of a crime in 2004, which is a reduction in relation to 1995 for 21%. Furthermore, research has shown that the citizens of Great Britain, Estonia, Netherlands and Denmark have identified their countries as countries with higher crime rate for 30% than the European Union average. In the frame of countries of Eastern and Middle Europe, the report has shown high crime rate and bad opinion about the police and Estonia; three countries, Estonia, Hungary and Poland reported about a high number of pickpockets, robberies and auto thefts. Road safety is one of the causes for concern for about 30% of interviewed Europeans (European citizens and the feeling of insecurity, 2006). In 2015, Eurobarometer research has pointed out on safety challenges which the European Union is facing. Approximately half of the respondents (49%) identified terrorism as one of the most important security challenges. This is a substantial increase from 33% of respondents who mentioned terrorism in 2011 (Internal Security, 2011). Among the most significant security challenges the citizens of EU also pointed out economic and financial crisis (27%), organized crime (23%),

poverty (23%), corruption (23%) religious extremism (20%) and irregular immigration (19%) (European Commission, Europeans' Attitudes towards Security, 2015). Bearing in mind that in some European Union countries domestic tourists make over 90% of total tourist turnover, it can be concluded that is also the perception of tourists on the tourist travel within the European Union.

Terrorism as a security problem of tourists in the European Union

In the recent years terrorism has been profiled as one of the most difficult security problems in the European Union, but also around the world (Bilandžić, 2011). However, it is necessary to point out that this is not a new phenomenon in Europe. In the period from 2009 until 2013 in the European Union member states there was 1.010 of unsuccessful, disabled or conducted attacks in which thirty-eight people were killed (EU fighting against terrorism, 2014). Considering the threats which in terms of terrorism are present in the European Union, terrorism needs to be combated on the national and international level.

In 2005 the European Council has adopted strategy for fighting of European Union against terrorism. It is focused in 4 main directions of action: prevention, protection, prosecution and response. Prevention determines and solves factors which contribute to the radicalism and processes in which individuals are recruited with a goal of conducting terrorist actions. Protection of citizens and infrastructure is the second pillar in fighting against terrorism. It includes protection of external borders of the European Union, improvement of security in traffic, protection of goals of strategic importance and reduction of exposure of critical infrastructure. Third pillar on which fighting against terrorism in the European Union is based is prosecution. In order to reduce capability of terrorists in planning and organizing terrorist activities, European Union is working on bringing them to justice. In realization of these goals it is focused on strengthening capabilities of national institutions, improving cooperation among countries and information exchange between judicial authorities and the police, through Eurojust and Europol, fighting against financing terrorism and deprivation of terrorists of their financial funds for organization and conducting attacks and intercommunication. In 2014 Council and the Parliament of the European Union brought a set of rules about prevention of money laundry and financing terrorism. The fourth pillar of fighting against terrorism is preparation for managing and reducing consequences of terrorist attacks. It is operated in this direction by strengthening the capability to respond on consequences, by coordinating and satisfying the victim's needs. Priorities in this direction are developing an arrangement of the European Union for coordination of the response on crisis, audit of the mechanism for civil protection, development of risk assessment or exchange of the best practice in providing help for the victims of terrorism. Particular significance is given to the cooperation with the third countries, i.e. USA, and other international and regional organizations which act in fighting against terrorism.

Security and health of passengers in the European Union

UNWTO expressed its attitude about the safety of health of passengers in the manual "Tourist protection and safety, Practical measures for the destination" wherein the following is: "Health risks connected with travels are a problem of divided responsibility of all participants in tourism (health care, tourism industry and passengers)..." Key factors of health risks on a journey are: destination, duration of a visit, purpose of travel, traveler's behavior and reliability/local/health care and standards of accommodation, food and water quality, as well as sanitation and hygiene of the

destination's environment (Gotovac, 2007). In order to reduce health risks of tourists in the European Union, information is placed on national webpages of health institutions about possible health risks in the countries visited. For example, Croatian Institute for Public Health reported about risks of a disease of Ebola in Guinea, Liberia, Sierra Leone and Nigeria, and localized transmission of Ebola on the area of the European Union, in Spain and Great Britain.

European Union citizens and citizens of third world countries (if they have a right on health protection in the European Union countries) which travel to the European Union countries with the necessary certificate (European health insurance card and temporary substitute of a receipt) can get the necessary services directly without the compensation, except paying the administrative costs for public hospital protection in a private arrangement with national health services. Citizens which come from countries that are not included in the agreement about health protection must pay for health services in the European Union member countries according to the price list of health services.

Safety problems and security measures in the accommodation facilities

European Commission is trying to minimize security problems in the accommodation facilities with various measures. These measures include recommendation of the Council 86/666/EEZ about the safety of the existing hotels in terms of fire risks, Directive 90/314/EEZ about package travels, package holidays and package tours (in the process of the audit) and Directive 2008/122/EZ about using real estates for temporary lease (European Parliament, Sektorske politike - turizam).

Security measures in accommodation facilities also relate on the application of hotel standards during building the hotel facility, as well as standards related with accommodation services in a hotel, food services in a hotel, etc. In order to guest's health in a hotel facility, HACCP (Hazard Analysis Critical Control Point) is used, which implies the analysis of dangers and critical control points. It is a preventive and systematic system for ensuring food safety, based on the application of correct technological processes and their control and supervision of the whole system (Mogorović, 2005). It is about the system which enables managing food safety, and is based on control of the production process in order to reduce occurrence of risks to the lowest possible level, from which arises the purpose of this system.

Besides threats of guests safety which arise from the construction itself, equipment and providing food and beverage services in the accommodation facility, threats occur as criminal actions as well, such as thefts in accommodation facilities, assaults, etc. For this purpose security measures are undertaken, which are related with legislation and institutions in charge of safety in certain countries.

In 2014, the European Commission conducted a research about the safety of tourists in the accommodation facilities in the European Union (Green paper Safety of Tourism Accommodation Services, 2014). In the context of the existing instruments and implementation on the national level, when it comes to accommodation services in tourism in a wider sense, politics of certain countries significantly varies in terms of security. From twenty-four member states which delivered the data to the European Commission in 2014, twenty-one reported about the existence of the general law which covers services such as categorization of accommodation facilities (or general regulations about safety of services, or safety of products, or protection of consumers, or safety at work), and seventeen member states gave a thorough report about

sector regulations which refer to the accommodation services, supplemented with self-regulation in six cases (Green paper - Safety of Tourism Accommodation Services, 2014).

The obligation of the Member States is to provide information about the risks which are threatening health and safety (article 29.3). Considering the safety of tourist services, there is no comprehensive legislation on the European Union level. The only instrument related to safety in the accommodation facility is the recommendation of the Council of Europe 86/666 about the fire safety in the existing hotels which defines minimum security standards for all the hotels in the European Union (capacity of at least 20 rooms), and it is recommended that all member states undertake all the necessary measures of insurance and application of safety standards when the existing laws are not sufficient. Besides that, numerous instruments of the European Union and initiatives in the area of various politics (i.e. building products, safety on work place, professional qualification, environment and travel) can contribute directly or indirectly to the safety of services in the accommodation facilities.

In the context of monitoring and implementation, the unique existing European instrument which regulates fire protection in the tourist accommodation is not obligatory, so it is without the mandatory implementation. In the mid-year of 2011, the European Commission presented the report about the application of recommendations in the member countries. In the report it was concluded that, even though recommendations contribute to the increasing of the level of safety in hotels throughout the European Union, minimum security standards prescribed in the recommendation were not totally achieved.

Safety in tourism of the Republic of Croatia

As already pointed out in the paper, the element of safety is one of the most significant elements of the tourist offer which influences on the decision of tourists when choosing a tourist destination. The basic preconditions of appearance of tourist travels are undoubtedly a certain level of everyday settlement of basic physiological needs, and adequate level of safety. It is understandable by itself that the same level of settlement of these two basic needs in the place of temporary tourist stay must not be brought to question in any way, because that in the same extent reduces "space" for achieving all those needs whose satisfaction is the basic motive of a tourist travel.

In order to highlight the perception of tourists on safety as an element of tourist offer in a destination, in this part of the paper the authors will research the satisfaction of tourists with safety in the Republic of Croatia, and provide a comparative review with the competitive countries.

Satisfaction of tourists with the safety in the Republic of Croatia

With comparative advantages of the Republic of Croatia, such as: natural beauties of the Adriatic Coast, islands and tourist potential of a Continental part (thermal springs, castles, protected area, etc.), ecologically clean natural surroundings, geographical position, rich cultural-historical heritage, etc., personal safety also finds its place, as in accommodation facilities and in destinations (Strategy of Development of Tourism of the Republic of Croatia until 2020, 2013).

Results of the research Tomas indicate that in the period from 2004 until 2010 the level of satisfaction of guests with the element of personal safety was increased in coastal

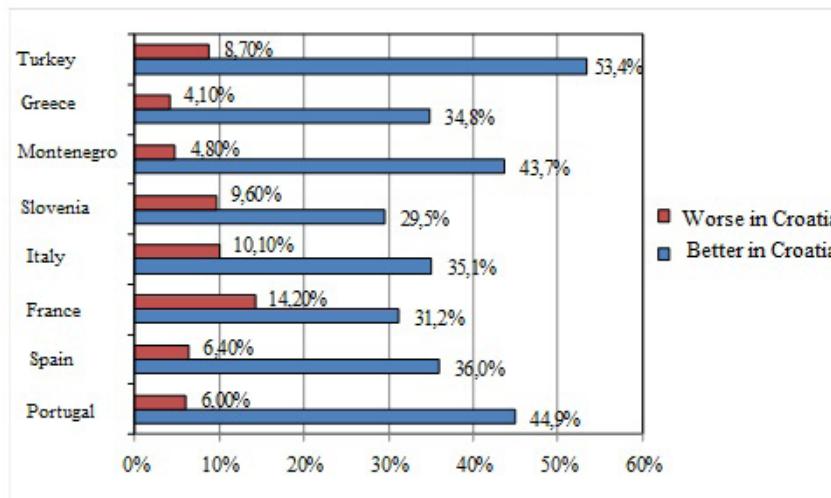
destinations of the Republic of Croatia (seven coastal counties). In 2004 the element "personal safety" was in sixth place, while in 2010 it took fourth place (Tomas - Attitudes and Consumption of Tourists in Croatia, 2004, 2007, 2010). It is also necessary to point out that in 1987 and 1989 this element of tourist offer of Croatia was in third place, while in 1994 it took sixth place (Tomas trends – Attitudes and Consumption of Tourists in Croatia 1987-2008, 2009). In 1994 "personal safety" was graded with a low level of satisfaction in the Republic of Croatia, which is understandable considering that war operations still lasted in its area. Improving the level of satisfaction of tourists with "personal safety" is an indicator that Croatia is working intensively on creating an image of a safe destination; it takes care about the safety of its visitors. The majority of guests in the Republic of Croatia separates the sense of safety as an element with high or very high influence when choosing a destination for spending a summer vacation (57,6% in the year 2010). Thereby the influence of this element on the majority of tourists was higher than the average. It has the highest impact on the guests from Poland (67,2%), followed by guests from Netherlands (64,6%), and the domestic guests (62,7%). Tourists from Serbia (41,7%) were the least influenced by the "sense of security" when choosing a destination. By analyzing the trends in the period from 2004 until 2010 it has been noticed that the "sense of security" became more important for almost all of the guests. In 2004 the "sense of safety" as an element of tourist offer has influenced the most on the choice of tourists who visited the Dalmatian counties: Zadar, Split-Dalmatia, Šibenik-Knin and Dubrovnik-Neretva. County of Dubrovnik-Neretva still has a high influence of "sense of safety" (63% in the year 2010).

Research of Institute for tourism Tomas Summer Attitudes and Consumption of Tourists 2014 has shown that in the Adriatic coastal destinations tourists' grade "personal safety" with a high grade. As an element of offer of a tourist destination, it is placed on the fourth place behind "beauty of nature and landscape", "kindness of personnel in the accommodation facilities" and "suitability for spending a family vacation". In relation to the researches which were conducted in years 2004, 2007 and 2010, satisfaction of tourists with this element of tourist offer hasn't changed. "Sense of safety" as an element of tourist offer of coastal destinations still has a high level of guest's satisfaction, and in 2014 it was placed on the very top of the elements of tourist offer that tourists were most satisfied with. 80,7% of tourists who stayed in Croatia in summer 2014 were satisfied with "personal safety" as an element of tourist offer. The most of them were satisfied in the County of Dubrovnik-Neretva (86,7%) and the least in the County of Šibenik-Knin (72,9%) (Tomas - Summer Attitudes and Consumption of Tourists, 2014).

Comparative review with the competitive countries

Safety in a country is one of the competitive advantages of Croatia, along with the beauty of landscape and cleanliness of place. By comparing tourist's grades of elements of tourist offer in Croatia with the competitive countries (picture 1) it has been registered that the sense of safety in the country was graded significantly better in 2010. For 31,2% of tourists this element is better in Croatia than in France, and for 53,4% of them it is better than in Turkey.

Picture 1: Grade of the element "sense of safety in a country" in relation to the competitive countries in year 2010



Source: Tomas Summer-Attitudes and consumption of tourists in Croatia, Institute for Tourism, Zagreb, 2010.

According to the results of Travel and Tourism Competitiveness Report (Strategy of Development of Tourism of the Republic of Croatia until 2020, 2013), in 2011 Croatian tourism took 34th place according to its international competitiveness in the world, wherein it significantly lags behind other developed tourist countries of the Mediterranean (France, Spain, Italy, Greece, Cyprus, Malta). Among other elements, Croatia also achieved average competitiveness in the quality of personal safety (range 33) (Strategy of Development of Tourism of the Republic of Croatia until 2020, 2013). This is also contributed by the measures undertaken by all the stakeholders in the tourist destination, and it relates on increasing the safety in the destination, from tourists themselves, hotel facilities, local government and state measures.

Security problems in Croatian tourism

Various security problems are present in Croatian tourism, which can be comprehensively divided on threats conditioned by thefts, felonies, and violence on cultural monuments. One of the negative phenomena in tourism is crime. Very often, tourists are victims of criminal acts conducted because of greed. I.e., in parallel with the growth of tourist turnover in coastal destinations of the Republic of Croatia also grew the problem of so called tourist crime, respectively, criminal acts in which the victims are mostly tourists. Tourists and their asset and destination in which they are spending their holiday become the place where forms of thefts connected to the tourist season manifest (Matika and Gugić, 2007) . It is important to point out that some forms of criminal acts, which are present during the whole year on a certain area, more frequently appear during the tourist season, so the growth of such criminal acts conditioned by the tourist season is called Seasonal crime (Matika and Gugić, 2007).

During the tourist season an increase of the number of criminal acts was registered against the assets, security in road traffic, in the area of the economic crime, against life and body, dignity of a person and moral, for example, indecent acts, rape, pedophilia, etc. Tourism creates a large number of opportunities for conducting criminal acts, but also in a large number of cases tourists themselves create "opportunities" of conducting such offenses, and the perpetrator in such case doesn't choose the way

how to commit the offense, but the way of committing is conditioned by the caught situation, or the situation is the consequence of the specific conditions brought by tourism.

There are no special statistics about tourist crime, so it is difficult to determine whether criminal acts committed during the summer were only on tourists. The data is sporadic and presented only in order to point out the problem of crime during the summer stimulated by the influx of a large number of tourists, but also the reduction of tourist's caution during the vacation. So in the County of Primorje-Gorski kotar during June and July in 2013 there was a significant growth of criminal acts of burglaries and thefts. Seventy-three thefts and burglaries were reported in residential buildings, which in comparison to the same period in 2012 is an increase of 64%. Burglaries occur mostly during the day, when there is no one in the residential building, and the object of thefts is mostly gold and jewelry (The Voice of Istria, 2013). Car burglaries were also increasing; twenty-six in relation to sixteen in June and July in 2012, which is a growth of 62,5%. The objects of car burglaries are handbags, cell phones and portable computers which the owners usually leave in a visible place. The burglar's targets are most frequently cars parked along the beach and public places. On the beaches in the County of Primorje-Gorski kotar in June and July in 2013 forty - one reported theft have occurred and in relation to the same period in 2012, that is an increase of 10% (The Voice of Istria, 2013). Based on the stated it is visible that during the tourist season in Croatian coastal destinations there is an increase of criminal acts, so it is necessary to increase security measures in that part of the year, especially in the context of creating an image of Croatia as a safe tourist destination.

Threats conditioned by violence of cultural monuments

As an example of tourist crime in Croatia criminal acts could be stated in which the victim is not a tourist, but in which artistic and cultural values are being attacked. Croatia is rich in monumental and cultural heritage, especially in its coastal area. This area registers a large number of immovable and movable cultural heritage, non-material cultural heritage, and archeological cultural heritage. The excavations of contractors in historical destinations are very frequently accompanied by the findings of old graves, the remains of stone walls, processed stone blocks or objects made of ceramic, copper and other materials, or materials which have a monumental value (Matika and Gugić, 2007). Numerous sites which are situated in the coastal area of the Republic of Croatia are partially explored, and they possess archeological and artistic value which is under the protection of the state, regulated by the law about protection of cultural monuments.

In towns and settlements there are numerous cultural monuments of high value: sacral objects, fortresses, summer houses, palaces, village houses and objects of everyday use, which provide tourists the local atmosphere, enable acquisition of historical findings about the destination they are visiting, and offer responses on numerous questions regarding the destination's history.

The desire of tourists for owning a little part of that history is completely understandable, the objects such as stone, ceramics, and similar archeological findings. Usually, the archeologists leave for the visitors something they can bring to their homes, which won't call in question the research or reduce archeological and artistic value of a particular archeological locality. However, usually it doesn't end with that, so small petty thefts turn into devastation, violence and crime. So, protection of monumental culture is a big problem. In favor of that, a fact can be stated that all objects of monumental

value are not registered in the registers, partially due to the number, and partially due to the negligence and disorganization (Matika and Gugić, 2007). Considering that monumental culture provides Croatia special value, it is an important component of its tourist development, attractiveness with individual tourists and positioning on the tourist market.

Characteristic forms of endangerment of cultural monuments are manifested in the following activities (Matika and Gugić, 2007):

1. Underwater activities on forbidden places where ship wrecks are situated, with the cargo from which various objects are extracted and illegally carried out of the country. These activities are usually lead by domestic people who know underwater and present themselves as guides or scuba-diving instructors;
2. Breaking into objects, of which the most endangered are churches, convents, chapels and similar objects, and the objects of theft are artistic pieces, paintings, sculptures, chalices, candlesticks, and similar.

The perpetrators of criminal offenses over cultural monuments are usually organized groups of foreign tourists who arrive to Croatia, with all the necessary equipment (i.e. for scuba-diving in great depths), then they associate with good connoisseurs of underwater archeological localities or art in churches and galleries, and jointly approach to their robbery. Even though the number of such criminal acts is not high, it causes priceless and irreparable damage to the Croatian cultural-historical treasure, especially since the experience shows that numerous desolations of underwater treasure (stealing of amphora, antique dishes etc. from underwater findings) were never revealed or the true extent of illicit activities is never determined. Even if the felony is discovered, its perpetrator usually stays unknown, and stolen art usually irretrievably end up in antique shops or private galleries abroad.

Statistical data point out on significantly smaller state than the real one. Namely, reviews of the collections are irregular, incomplete and imprecise. Detected thefts are often in a large time gap from their commission. A great number of accidentally discovered thefts show that there is a significantly larger number of those that are never discovered, and very often are not reported so unconcern of those who take care of the art would not be discovered. These cases are most frequent in the archives, galleries, holdings and other institutions. Lack or evasion is very often discovered after the implementation of the inventory which is, as it is already pointed out, irregular. Besides in the tourist season, more frequent are attacks on naval localities of sunken ships outside the tourist season, as well as stealing amphora and other objects from the Adriatic Sea (Matika and Gugić, 2007).

Based on the mentioned, it can be concluded that stealing of cultural asset is a frequent problem in the Republic of Croatia, and must be given an undivided attention.

Security measures in Croatian Tourism

Tourism crime present in Croatia effects negatively on the image of a tourist destination and has a negative promotion. So, various measures are undertaken in order to reduce it to the minimum, with a goal of protecting personality and tourist's asset. Preventive activities of the police, but also the local community and the tourists themselves have a special meaning.

Measures which the Republic of Croatia is conducting with a purpose of increasing safety of tourists consist of three elements: preventive security measures, providing help to the tourists and international cooperation in tourism. Within the frame of preventive security measures of Croatia, and according to the instructions of the World Tourism Organization, a whole set of projects was designed, which influenced on increasing the level of security during the tourist season (brochures about self-protective behavior for tourists, bicycle patrols, police water scooters, etc.). Units of traffic youth, contact police officers and complete police operating system in the field are trying to preserve a favorable state security within their regular tasks. Since 1994, an action Tours is continuously conducted in Croatia due to the raising of security during the tourist season, through prevention of crime and offenses, and increased security measures in traffic and on border crossings, in order to enable for tourists a safe arrival and stay in Croatia (Ministry of the Internal Affairs of the Republic of Croatia).

In 2006 this action was expanded by adding new contents, modeled by long-standing practice in the European Union countries, and a pilot project was started – International police cooperation "Police in uniform" which was during the time renamed into "Safe tourist season". During June in 2006 the Ministry of the Internal Affairs was the host of the meeting of principles of 12 European countries whose citizens are the most frequent and the most numerous tourists in the Croatian Adriatic. During that period of time, a Plan of measures and activities within the action Tours was presented, experiences were exchanged, police cooperation was concretized in order to enable top quality stay for tourists from the European countries, a Memo about understanding and cooperation was signed, and the right of pre-emption with the Croatia was shared by the Hungarian police. Considering the data which showed that the majority of Hungarian guests stayed in Zadar area, and based on the memo about the understanding between Hungarian and Croatian police, it was decided that during the summer season four Hungarian police-officers will stay in the area of police department of Zadar. Their role was to establish the highest quality communication with the Hungarian tourists. In 2007 an interest was shown by the Austrian, Italian, Czech and German police, so a memo about cooperation was signed with the police of these countries for that year. From year 2009 Ministry of Tourism was also included, and in 2012 it co-financed a project with 200.000 Croatian Kuna (Ministry of the Internal Affairs of the Republic of Croatia). The fact is, however, that security in tourism is not achieved only through activities of police officers, but it must also comprehend all participants in tourism, and especially tourist employees.

Conclusion

Independently whether it is about safety of tourists or service providers, safety in tourism is the basic need and assumption of an effective tourist activity. Even though it is not the primary, but the secondary motive of tourist arrivals in a certain tourist destination, it is one of the important elements of tourist offer, by which an image of a tourist destination is created, and competitiveness on the tourist market is achieved. So, tourist destinations are trying to ensure stay of tourists with a high level of security and create an image of a safe tourist destination. State takes over the obligation to protect the public good, to create general level of safety of population and tourists, and regulation of relations and conditions in the area of private protection. Responsibility for safety, however, is distributed on an individual, organizers and tourist employees, tourist communities, local and regional community. Only through systematic actions it is possible to act preventively and increase safety in the destination. Safety is an important factor of tourist development in the European Union. Special significance has been given to it in the proposition of the Strategy of development of the European

Union. European Union doesn't have a joint policy of security and protection of tourists in its area, it is mostly left to the individual states within their national legislation. The fact is, however that the European Union meets with numerous security problems, so various measures are undertaken in order to reduce these security problems to a minimum. This is particularly related to the problem connected with terrorism, on which area there is a joint policy of member countries in fighting against terrorism. In the area of Croatia significant measures are undertaken with a goal of tourist's safety, such as increased police patrols, participation of foreign tourists during the tourist season, printing flyers with warning, greater ensuring of forest protection, greater safety on the roads, etc. By increasing the level of safety, an image of a safe tourist destination, gladly visited by the tourists, will be formed.

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A HOLISTIC APPROACH TO INNOVATIONS IN TOURISM

Slobodan Ivanović

Faculty of Tourism and Hospitality Management in Opatija
University in Rijeka
Rijeka, Republic of Croatia
sivanov@fthm.hr

Vedran Milojica

Faculty of Tourism and Hospitality Management in Opatija
University in Rijeka
Rijeka, Republic of Croatia
vedran.milojica@gmail.com

Vasja Roblek

Fizioterapeutika College
Medvode, Republic of Slovenia
vasja.roblek@gmail.com

Abstract: This paper is focused on the importance and influence of the innovations in the time of the fourth industry revolution for the creation of value added in tourism industry. Innovative technology solutions solve problems in a tourist destination, as in the case of the effects of climate change as well as the revival of cultural heritage. New products that are connected with the Internet (e.g. Internet of things) and digital solution services invites small and medium sized firms, and other relevant actors, to apply for funding of co-operative tourism innovation projects. The proposals should primarily focus on the development of innovative products, services and concepts to accelerate the tourism sector. Innovative products and services form the framework of marketing efforts to encourage consumers to decide for the purchase and thus affect the sales success of tourist firms. Innovations that are intended to satisfy the wishes and needs of consumers, based on existing knowledge. Usually it is a technological innovation with features that provide additional solutions compared with the existing ones. Firms want to attract customers who have different needs from the existing customers. The contribution of the paper is mainly conceptual. With the development of the digital innovations (web 2.0., web 3.0., internet, the internet of things) that is central to the new industrial revolution, has led to "Industry 4.0" in tourism. The aim of this paper is to provide answers to RQ1: To present the known theory and practices of innovations in tourism; RQ2: To investigate the changes that will result from Industry 4.0 in tourism.

Keywords: innovations, tourism industry, industry revolution 4.0, digital technologies, internet

JEL Classification: O33, Z33

1. Introduction

The paper deals with the questions about the investments policies in the field of hospitality and indirectly tourism. First, it is necessary to explain the relation between tourism and the hospitality industry. Distinction between hospitality and tourism can be discussed with quantitative (the capacity of each hotel) and qualitative terms (standard of

arrangements, the diversity of services and products, additional services). Hospitality industry is a field within the service industry, and represents the economic benefit for tourism. It is connected to the environment and people traveling. Mass movements of people represent the importance of tourism. In the process of traveling tourists fulfil their needs through the use of hospitality. Thus, it can be said that the hospitality infrastructure represents a precondition for tourism. Thus, the economic effects of tourism reflect through the hospitality industry where technological innovations play a significant role in the creation of the value-added (Ivanović, 2012).

In a global and highly competitive tourism environment runs a tough battle for the favour of the customers and their purchasing power. Hospitality industry needs to ensure its strategic positioning. It is recommended that the hospitality companies grow on the basis of sustainable policies that include economical sustainable growth as well as organic and social perspective. Managers of hospitality companies must therefore be aware of the importance of managing growth, that must be sustainable (viable) and it should not fall into the trap of unsustainable growth (Bertoncelj et al. 2016). Sustainable growth rates are in fact those where companies provide long-term sustainable simultaneous growth in revenue, profits and returns.

Companies that operate under healthy corporate philosophy, follow the mission of creating sustainable value creation. They build their own sustainable development, balanced with the pressures of internal and external environment, mainly in core activities. Finding and creating opportunities for sustainable growth and corporate profitability are at the heart of reflections of every (pro) active management. Many companies do not create value for shareholders and stakeholders, often due to lack of emphasis on basic, core activities of businesses or inadequate diversification (Dominici and Roblek, 2016).

Business growth is derived from the fundamental bonding companies and should be planned and properly managed. The company must have a strategic business plan for sustainable growth, which is an excellent communication tool for the management of change at all levels of management. Under the concept of diversification, it is understood as a growth strategy while introducing new products or services and / or operating in new markets (Lockyer, 2013). Well-used potential of basic and supplementary activities creates market power in the strategic position they can form the basis for expansion into other products/services and geographical areas (Hollensen and Opresnik, 2015).

For the hospitality companies present the key growth projects that are related in creating a new (added) value. Hospitality companies can achieve new value with the transformation of potentials and expertise in institutional skills, by integrating the customer into the business processes, new patents, increased brand awareness, advanced information solutions, using all the available information and strategic alliances, which in the long term increase the yield of the company (Chathoth et al., 2013; FitzPatrick et al., 2013).

First, the hospitality companies shall consider and use their development as a way of internal growth (Murphy, 2013). Its intensity depends on the breadth and quality of the business program offered by the market, organizational structures and processes as a whole and managerial competence of the management team. The companies should be focused on their core business, which is due to rapid technological developments and the rapidly changing needs of customers at all times under severe competitive pressures (Mowforth, and Munt, 2015; Tarí, Heras-Saizarbitoria and Dick, 2014).

In the modern operating systems where people are the key creators and performers, the evolutionary laws are valid, independently of the degree of automation and computerization (Pfeffer and Sutton, 2013). Irrespectively of the forms of business systems, we encourage thinking about new opportunities towards the sustainable development of companies (Epstein and Buhovac 2014; Senge, 2014). Old paradigms and patterns of behaviour that were effective in the previous system are no longer appropriate.

Source of creating new value in the situation of the "innovation" economy becomes creativity, leverage for the creation of the winning factors in the market innovation and intuition (Kuula, Putkiranta and Toivanen, 2012). Developing skills, professional attitude towards work and conquest of modern Information and Communication Technologies (ICT) have become a stable basis for creativity and innovation processes as a way of increasing efficiency and effectiveness (Bisson, Stephenson and Vigurie, 2010; Kaplan and Mikes, 2012).

The innovative environments are a challenge of our time, leaders are increasingly concerned about the working environment and rules and less for the processes (Roblek et al., 2013). Only the effective use of intellectual resources allows continuous improvements. Therefore, the behaviour of business systems at all levels of leadership, management and implementation of changes to what is necessary to provide creative employees who are involved in the processes of strategic thinking and are able to compare values creativity and innovation. (Botha, Kourie and Snyman, 2014; North and Kumta, 2014). A human thus becomes the most important resource that must be managed effectively.

A characteristic of the present time is the innovation entrepreneurship, based on research and development, deregulation, increased funding with venture capital and international protection of intellectual property (Gummesson, 2014).

Innovation is a key lever for the emergence of economic trends and the impact on the dynamics of business cycles (Schumpeter, 1939). The ratio between the innovation and dynamism of economic development is known as a period of the long wave (Mensch, 1979; Freeman, 1984; Tylecote, 1992; Perez, 2002).

This period is characterized by profitable investments in research and development, which is the main part of the commercial success of the product. Keynes (Lawlor and Keynes, 2006) and Schumpeter agree that the decision to invest in economic patterns plays a key role. Keynes and his adherents emphasize in particular the role of investment as one of the most dynamic and volatile components of aggregate demand. Schumpeter and his followers believe that the nature of the investment is as important as the creation of economic trends. Freeman Schumpeter's economic theory was developed on the argument that the adverse economic environments due to lower margins and general pessimistic atmosphere investments decreased, while economic expansion offers opportunities for the development of new technological breakthroughs. Economic innovation system includes the critical factors, such as social capital and innovation as well as reverse innovation vice versa the globalization.

Innovative products and services framework of marketing is trying to encourage consumers to opt for the purchase and thus effect on the sales success of companies. Innovation is intended to ensure that the wishes and needs of consumers are based on the existing knowledge.

Usually it is going for the technological innovation with features that provide additional solutions compared with the existing ones. Companies want to acquire customers who have different needs from the existing or additional customers.

2. Innovativeness of Entrepreneurship Sector in Eastern European countries

Saving and decrease of government investment in research and development, education systems and infrastructure are leading to the deterioration of the national innovation system, and the final result is the reduction of economic growth. In micro and small enterprises, the success of innovation activities depends largely on innovation strategies, free cash flow, the development phase of business and relationship management to innovation (Bertoncelj et al., 2016).

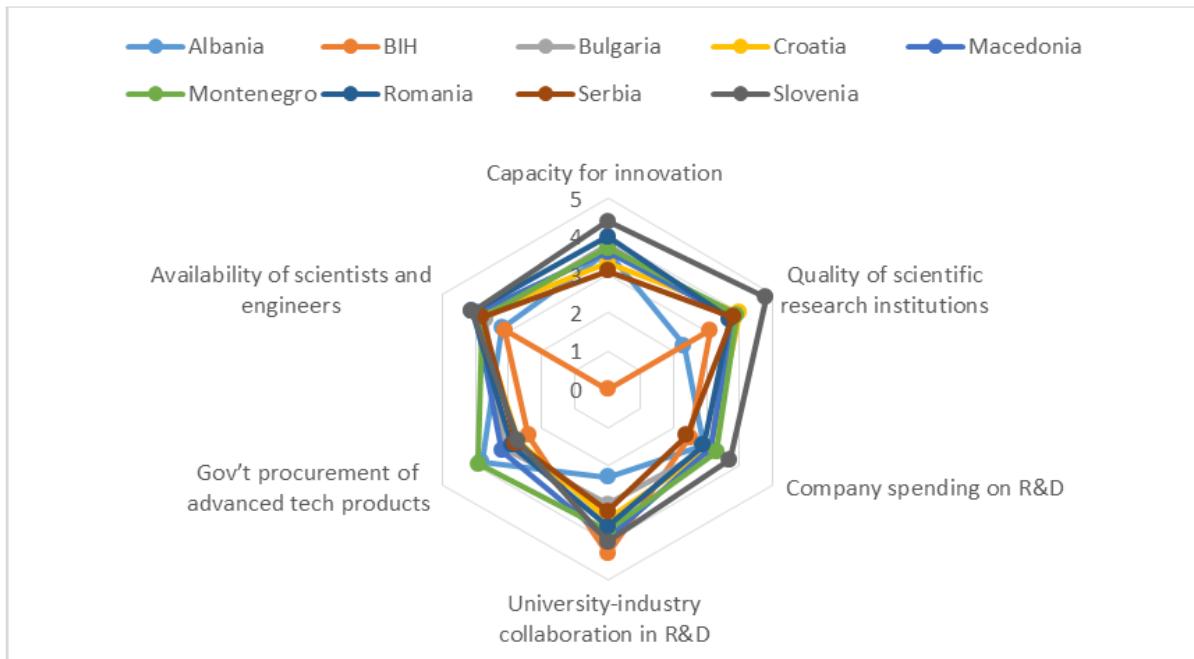
Following, table 1 and figure 1 presents six innovativeness indexes (scored from 1 to 7); these form the 12th pillar named Innovation in the The Global Competitiveness Report 2015–2016.

Table 1: Innovativeness indexes for nine South European countries

| | AL | BIH | BG | CRO | MK | MNE | RO | SRB | SLO |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Capacity for innovation | 3.6 | 3.0 | 3.8 | 3.3 | 3.6 | 3.7 | 4.0 | 3.1 | 4.4 |
| Quality of scientific research institutions | 2.3 | 3.1 | 3.7 | 4.0 | 3.8 | 3.9 | 3.7 | 3.8 | 4.8 |
| Company spending on R&D | 2.9 | 2.5 | 3.1 | 3.1 | 3.1 | 3.3 | 2.9 | 2.4 | 3.7 |
| University-industry collaboration in R&D | 2.3 | 4.3 | 3.0 | 3.4 | 3.9 | 3.7 | 3.6 | 3.2 | 4.0 |
| Government procurement of advanced tech products | 3.8 | 2.4 | 3.1 | 2.7 | 3.2 | 3.9 | 2.9 | 2.8 | 2.7 |
| Availability of scientists and engineers | 3.2 | 3.1 | 3.7 | 3.9 | 4.0 | 3.8 | 4.1 | 3.8 | 4.1 |

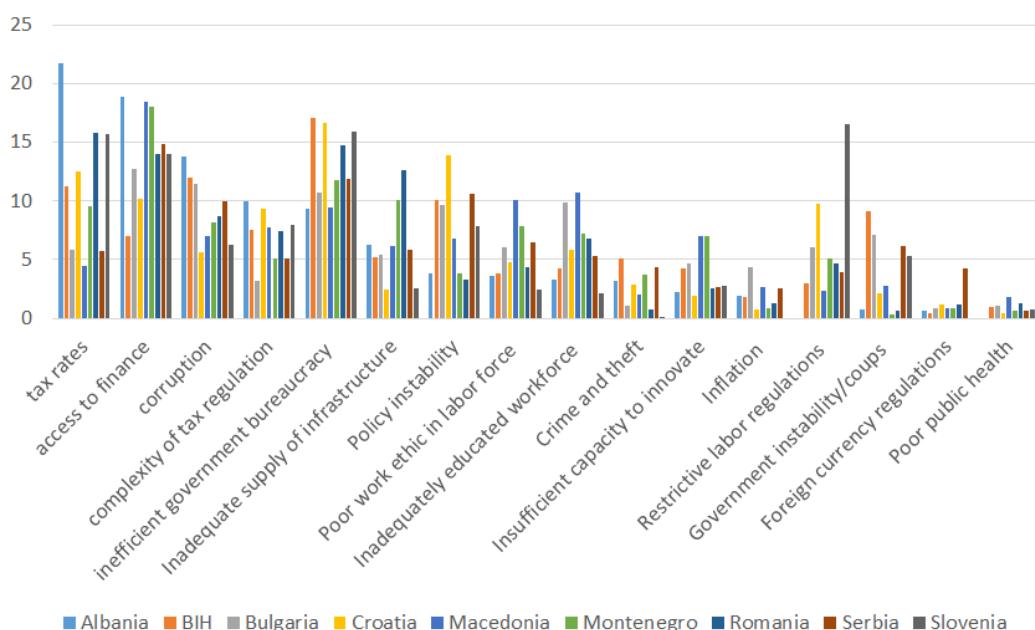
Source: *The Global Competitiveness Report 2015 – 2016 (2015)*.

Table 1, figure 1 as well as the information from *The Global Competitiveness Report 2015–2016 (2015)* show that Albania, Bosnia and Herzegovina, Bulgaria, Macedonia, Montenegro and Serbia are efficiency driven. Croatia and Romania are in transition from the efficiency driven into innovation driven. Slovenia is the only country in the region that is innovation driven.

Figure 1: Innovativeness indexes for nine South European countries


Source: *The Global Competitiveness Report 2015 – 2016 (2015)*.

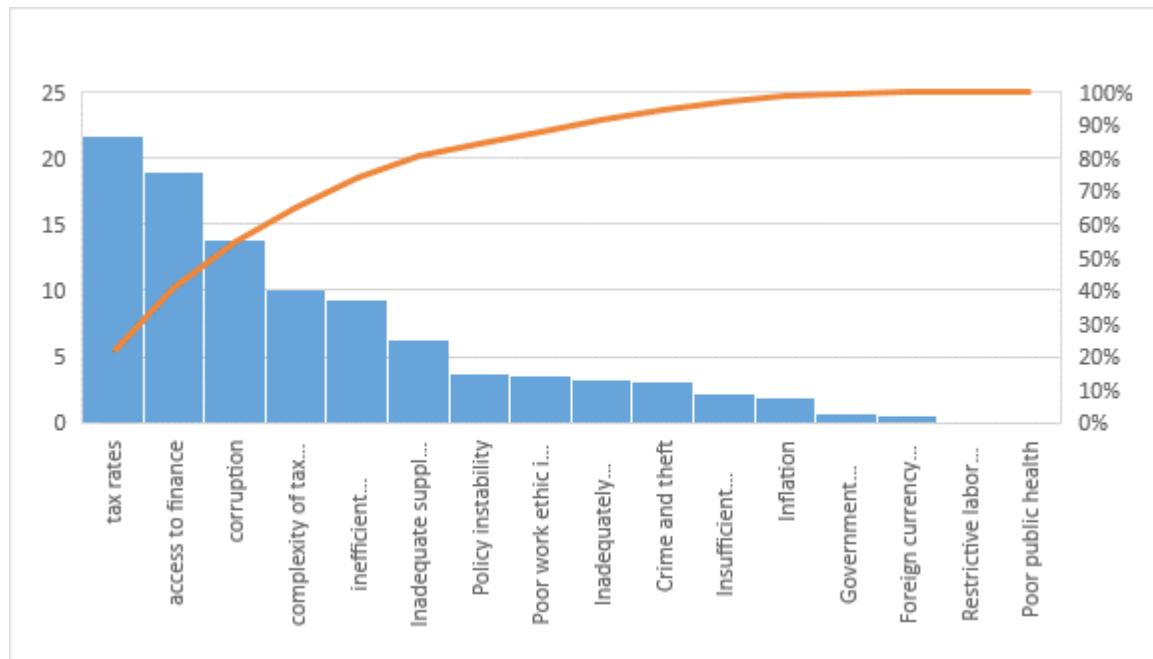
Figure 2 presents the most problematic factors that influence on development of a more innovative business environment in all nine countries. Respondents were asked to select from the list of factors five most problematic ones for doing business in their country and to rank them between 1 (most problematic) and 5 (the least problematic). The score corresponds to the responses weighted according to their rankings (*The Global Competitiveness Report 2015–2016, 2015*).

Figure 2: The most problematic factors for innovative environment development by the country


Source: Authors' analysis according to data available from *The Global Competitiveness Report 2015 – 2016 (2015)*

From the Pareto diagram (figure 3) it can be estimated which factors influence the most on development of a more innovative business environment in all nine countries.

Figure 3: The most problematic factors for innovative environment development



Source: Authors' analysis according to data available from *The Global Competitiveness Report 2015 – 2016* (2015).

It is visible from figure 3 that higher tax rates, complexity of a tax regulation, access to finance, endemic corruption and inefficient government bureaucracy contribute mostly to all nine countries poor business environment. All countries need to continue with the implementation of structural reforms. Governments have to increase the flexibility of their labour markets, develop the financial sector, and reduce red tape, which is reported as one of the most problematic factors for developing the business environment in South European Region (*The Global Competitiveness Report 2015 – 2016*, 2015).

3. The paradigms of the Innovations in Tourism and Hospitality Industry

In the 21st century innovation represents one of the key factors in ensuring competitive advantages in the field of tourism and hospitality industry. Only through innovative solutions tourism will continue to contribute to further sustainable regional development, which is reflected in the performance multiplier effect from tourism related industries (Haxton, 2015; Sloan, Legrand, and Chen, 2013). For tourism it is important that it is closely related to a number of other sectors and thus can generate positive externalities.

Tourism development requires moderate investment and has quick and immediate impact on regional economic growth especially in less developed regions (Seckelmann, 2002). Tourism tends to distribute development away from the industrial centres and towards undeveloped regions (Williams and Shaw, 1991). Less developed or rural regions have more intrinsic motivation to adjust the industrial structure: wider productivity disparities between industries and relatively low industrial switching cost (Alkier, Milojica and Roblek, 2015).

All nine south European countries are influenced by different sociological, cultural, political and economic characteristics. Their economies were influenced by the socialist economic system from 1945 to 1990. The former socialist economy in its economic doctrine was not aware of the concept of innovation. The consequences of socialist economy are still visible in a high level of centralisation, lack of proper regional policies and institutions and top-down planning approach employed for a long period (Alkier, Milojica and Roblek, 2015).

The tourism sector provides countless development opportunities for lower and middle income south European countries and has a significant positive impact on their GDP and national economies (table 2). The data in table 2 show that investments in tourism are an important factor for the economic growth. Countries with higher level of investment in 2014 (Croatia, Montenegro and Slovenia) have the highest GDP total contribution of tourism.

Table 2: Key facts about the importance of tourism for regional development - comparison of the nine south European countries

| Country | GDP direct contribution % | | GDP total contribution % | | Employment: direct contribution % | | Employment total contribution % | | Visitors exports % | | Investment % | |
|---------|---------------------------|------|--------------------------|------|-----------------------------------|------|---------------------------------|------|--------------------|------|--------------|------|
| | 2014 | 2025 | 2014 | 2025 | 2014 | 2025 | 2014 | 2025 | 2014 | 2025 | 2014 | 2025 |
| AL | 5.9 | 6.2 | 21 | 21.8 | 5.3 | 5.8 | 19.2 | 20.4 | 30.4 | 24.2 | 4.3 | 4.5 |
| BIH | 2.5 | 3.0 | 9.3 | 11.0 | 3.0 | 3.8 | 10.7 | 13.1 | 13.0 | 13.2 | 4.7 | 6.6 |
| BG | 3.7 | 3.9 | 13.1 | 12.9 | 3.4 | 4.3 | 12.1 | 12.9 | 12.3 | 9.6 | 6.1 | 5.8 |
| CRO | 12.5 | 16.8 | 28.3 | 36.2 | 13.6 | 16.3 | 30.2 | 35.3 | 43.7 | 48.3 | 10.2 | 10.4 |
| MK | 1.4 | 1.4 | 5.2 | 5.7 | 1.3 | 1.4 | 4.7 | 5.2 | 5.6 | 4.2 | 2.2 | 2.6 |
| MNE | 9.5 | 14.8 | 20.0 | 31.9 | 8.6 | 13.4 | 18.5 | 29.6 | 54.3 | 51.6 | 30.1 | 53.2 |
| RO | 1.6 | 1.6 | 4.8 | 5.1 | 2.4 | 2.5 | 5.5 | 5.9 | 2.5 | 2.6 | 7.3 | 7.6 |
| SRB | 2.1 | 5.2 | 6.1 | 7.2 | 2.6 | 3.2 | 6.4 | 7.5 | 6.5 | 7.0 | 4.4 | 4.2 |
| SLO | 3.5 | 3.8 | 12.7 | 13.8 | 3.9 | 4.5 | 13.0 | 14.6 | 8.0 | 8.8 | 9.4 | 10.0 |
| Europe | 3.4 | 3.6 | 9.2 | 9.8 | 3.6 | 4.1 | 9.0 | 9.9 | 5.6 | 5.8 | 4.7 | 5.0 |
| World | 3.1 | 3.3 | 9.8 | 10.5 | 3.6 | 3.9 | 9.4 | 10.7 | 5.7 | 5.6 | 4.3 | 4.9 |

Source: *Travel & Tourism: Economic impact 2015* (editions: Albania, BIH, Bulgaria, Croatia, Macedonia, Montenegro, Romania, Serbia, Slovenia).

The analysis of statistical data in table 2 indicates that for all nine countries tourism and travel industry represents an important segment of the economy. All countries have undergone a transition from socialism to a market economy system at the end of the 20th and in the beginning of the 21st century, after which tourism companies slowly started to reposition themselves. All nine countries are registering an increase in the number of international tourism arrivals and the total contribution of tourism industry to the GDP. According to these positive results, it can be agreed that all destinations have been effective in attracting tourists, but they fail to improve their competitiveness and therefore better transformation of tourism opportunities into economic benefits.

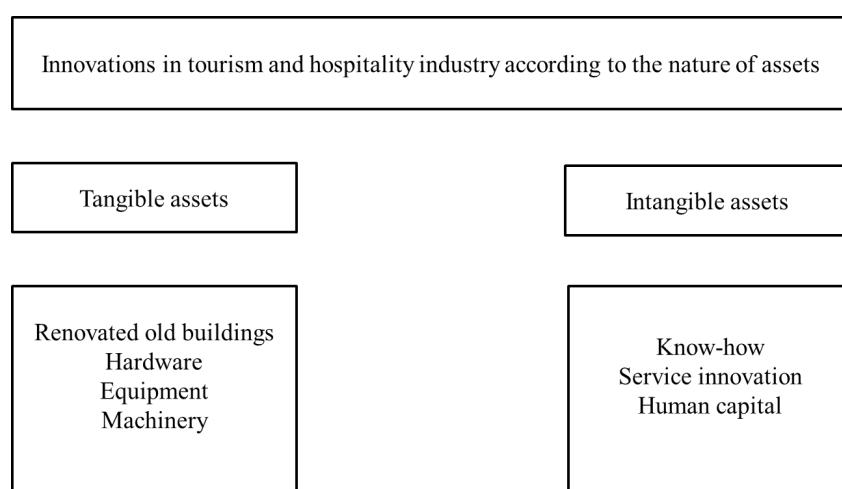
Innovation in the tourism sector includes the introduction of advanced technological solutions with a view to the implementation and promotion of tourism products and services. These solutions are used throughout the tourism sector, which covers the transportation, mobility, cultural heritage, hotels and other hospitality suppliers and promotion of destinations (Pechlaner and Innerhofer, 2016).

It should be noted that the development of innovation in the field of tourism should arise from perception of innovation, which has to strain the corporate sector and government regulation, which should be aimed at promoting innovation environments, tax exemptions and financial incentives (Kahn and Kawasaki, 2014).

Innovative solutions in the field of tourism include the creation or improvement of existing conceptual solutions in the areas of transport, hotel and other services, the development of new destinations, the use of Information and Communication Technologies, new forms of management and organizational activities (strategic alliances and networking and the development of tourism businesses) (Lordache, 2015). Inter-regional spill over effects occur through various channels such as technology, knowledge, investment, human capital and competition (Yang and Fik, 2014). Tourism may also generate demand-side spill overs (Yang and Wong, 2012). It should be noted that government policy is important in channelling spill over effect.

Innovations in tourism and hospitality can be divided with regard to the structure of investment (figure 2) and innovations that enable sustainable growth or classified as (i) technological or non-technological innovations, (ii) product or process innovation, (iv) organizational or market innovation, or "ad hoc" innovation (nature of the innovation), (v) radical, incremental or architectural innovation (innovation and intensity of discontinuity).

Figure 3: Innovations in tourism and hospitality industry according to the nature of assets



Source: Authors' analysis

The following chapters are focused on the importance of the development of information and communication technology solutions and influence of the innovations on the value added model in tourism and hospitality industry.

4. Characteristics of the Entrepreneurial Investments in Innovativeness of Information and Communication Technologies in Tourism and Hospitality

The development of the Information and Communication Technologies (ICT) in the second decade of the 21st century has enabled the creation of strong mutually cooperating web communities, which are peers sharing digital products and information.

The growth of small technology companies is extremely important for youth employment and development of the environment, so young technology companies are developing digital platforms and software and technological solutions that have a significant impact on changes in the marketing chain in tourism and hospitality industry. However, it is necessary to be aware that the rate of development of technological solutions depends on the development of both entrepreneurial culture and information society in each country. Table 3 presents the estimated ability of technological readiness of each analyzed country.

Table 3: Technological readiness

| Factors of the technological readiness | AL | BIH | BG | CRO | MK | MNE | RO | SRB | SLO |
|---|------|------|-------|------|------|------|-------|------|-------|
| Availability of latest technologies | 3.9 | 4.2 | 4.6 | 5.0 | 5.0 | 4.6 | 4.6 | 4.9 | 5.5 |
| Firm-level technology absorption | 4.1 | 4.4 | 4.4 | 4.6 | 4.2 | 4.4 | 4.4 | 4.7 | 4.9 |
| FDI and technology transfer | 4.5 | 3.3 | 4.4 | 3.8 | 4.4 | 4.0 | 4.7 | 4.2 | 4.1 |
| Individuals using Internet % | 60.1 | 60.8 | 55.5 | 68.6 | 68.1 | 61.0 | 54.1 | 54.3 | 71.6 |
| Fixed-broadband Internet subscriptions/100 pop. | 6.6 | 14.1 | 20.7 | 23.0 | 16.2 | 15.2 | 18.5 | 12.7 | 26.6 |
| Int'l Internet bandwidth, kb/s per user | 26.1 | 43.0 | 138.3 | 58.0 | 41.8 | 77.0 | 153.8 | 28.9 | 121.1 |
| Mobile-broadband subscriptions/100 pop. | 30.9 | 27.8 | 66.4 | 68.5 | 47.7 | 31.0 | 49.4 | 12.7 | 46.7 |

Source: *The Global Competitiveness Report 2015 – 2016 (2015)*.

Gaps are wide on technological readiness, with the Slovenian outperforming followed by Croatia and Romania in ICT adoption and innovation, with less promising trends in Albania and Bosnia and Herzegovina (table 3).

To achieve new technological solutions and consequently regional tourism development, governments of all nine countries should prepare concept of economy development according to the German phenomenon Industry 4.0., which is based on the implementation in industry, the human environment and scientific research. For all nine countries it is important that the German government stimulates the political-economic initiative to help industrial manufacturing keep its competitive edge against the labor-cost advantages of developing countries and resurgence in U.S. manufacturing (Weber, 2015). The European Union has therefore decided to encourage research into the field of smart technologies. The research program Horizon 2020 offers funding programs for research and development projects such as smart cities and communities' information, strategic roles of smart cities for tackling energy and mobility challenges, analyzing the potential for wide-scale roll-out of integrated smart cities and communities' solutions, etc., (European Commission, 2015). The role of Industry 4.0 in tourism and hospitality is increasing competitiveness through smart

equipment, making use of information about customer characteristics, resources, energetic efficiency and urban production – smart destinations/smart cities (Hecks and Rogers, 2014).

5. Influence of Innovations on the Value Added Model in Tourism and Hospitality Industry

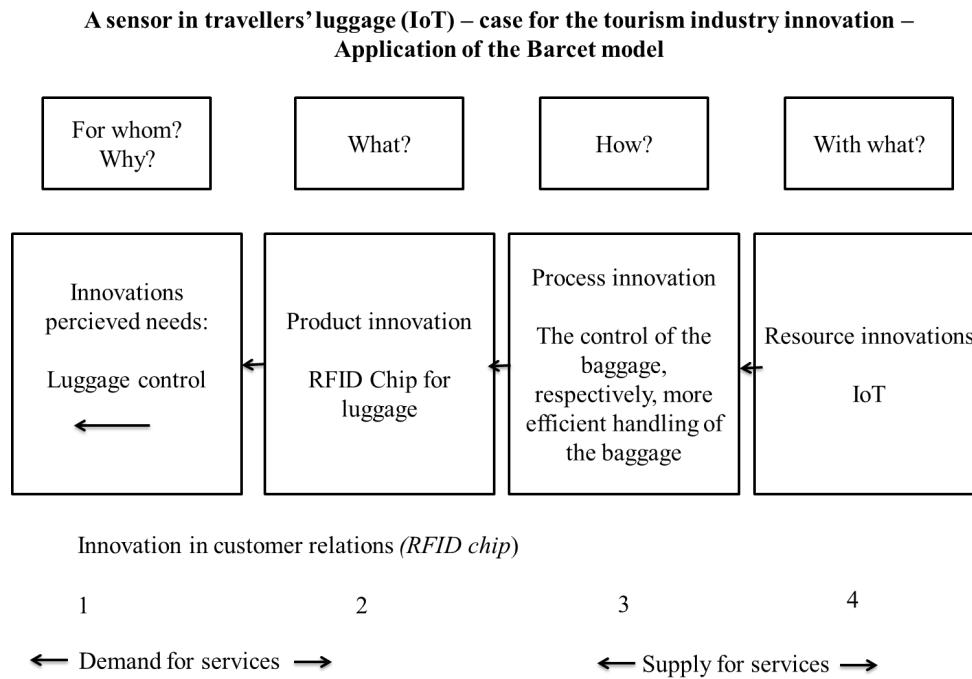
ICT innovation factors are changing customer behavior and the traditionally structured tourism supply chain, which is now forced to adopt a comprehensive infrastructure based on a more flexible organizational structure in order to implement on-demand marketing and technological innovations.

Information technology is becoming an important factor in companies' business models. With platforms like Airbnb the information technologies are competing with the hotel industry. Hotel managers need to be aware of the influence of ICT, including social media platforms that create opportunities for improvement of the entire value chain of the hospitality industry. New technologies create value added in terms of financial benefits and intangible assets such as improved networking, communication and customer services.

ICT innovations have to enable connection between a customer and a service provider. The process begins with customer expectations about the technology abilities that influenced on customer satisfaction which is reflected in customer retention (Roblek, 2015).

In regard to Industry 4.0, one cannot be thinking only about robotics and the automation of production, because it is a digitization of business processes as a whole; it involves the adoption of a contract over the procurement of materials and how the product "gets" through production and is finally delivered to the customer. In this area, we expect automating processes that will require a certain automaticity of the workers. People will still have to use their brains. Added value will be found in new products and new solutions - handling figures are not productive work (Kane et al., 2015; Schlechtendahl et al., 2015). Kagermann (2014) defined the Internet of Things and the Internet of service as parts of the manufacturing process that has ignited the fourth industrial revolution. The IoT includes "things" and "objects" like Radio-Frequency Identification (RFID), sensors that will send storage, processing and analysis information, and smart phones which interact with each other and cooperate with smart components (Dutton, 2014).

What can be done for regional technological entrepreneurship development and consequently for the tourism development is shown in the figure 4, which presents the innovation of a sensor in traveler's luggage by using the Barcet model that reflects a more synthetic vision of innovation for tourism and regional development (Barcet, 1996).

Figure 4: Barcet innovation model for a sensor in traveller's luggage

Source: Authors' adaptation of the Barcet model (1996)

Figure 4 shows the present (and future) importance of new technologies in enabling for tourism and hospitality industry to meet new tourist demand. RFID-chips will replace bar codes, and will play a large part in the upcoming wave of technology implementation at airports, and other service providers in the tourism industry. The present model is suitable for the tourism industry and includes all steps of organizational changes because all objects can be potentially connected and networked. This mode is coming to the step that "smartness economy" is going to change the way of creating value added (steps from 2 to 4 in the figure 4). The sources of services are changing, but all service process is accessible via the internet.

One of the most important roles of the IoT is changing the environment and launching new strategic choices. It is going for a new expression of the relations between customers and producers. The relation will include also the manufacturer of the product (e.g. chip) and multiple partners who will ensure the development of built-in components and software. This cooperation is influencing the rebuilding of the knowledge value chain (Porter and Heppelmann, 2014).

On the demand side customers will increase their awareness in regard to the importance of the quality and reliability of the acquired and given information and technical condition of the products and services. This will affect the accumulation and analysis of information in real time and consequently influence coming guidelines of value creation for the customers. It is opening a question of how will the customers adapt the new IoT and control over their private life? (Roblek, Štok and Meško, 2016).

6. Discussion and conclusion

The growing interest in development of the ICT and an increasing number of organizations which develop and adopt the new ICT into their business leads to the value added of society as a whole. The main challenge in an innovative country

towards the transition countries is equitable economic growth which is not being understood as an innovation only from an economic, but also from a social and environmental dimension. Countries and tourist organizations should be aware that only the investment in new innovative concepts or institutional, governance and organizational innovation are increasingly regarded as the markets and societies that move towards societal progress.

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